THE MONOPOLIES AND MERGERS COMMISSION

Insulated Electric Wires and Cables

A Report on the Supply in the United Kingdom and the Export from the United Kingdom of Insulated Electric Wires and Cables

Presented to Parliament in pursuance of Section 83 of the Fair Trading Act 1973

Ordered by The House of Commons *to be printed 27 March 1979*

LONDON
HER MAJESTY'S STATIONERY OFFICE

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Miss R Stephen MBE
Professor H Street CBE FBA
Miss Y Lovat Williams (*Secretary*)

[1] These members formed the group which was responsible for this report (see paragraph 3).

[2] *Note by the Department of Prices and Consumer Protection.* Since the report was signed, Professor Barna and the Lord Plant have ceased to be members of the Commission on the expiry of their terms of appointment, and Mr R G Smethurst has been appointed a member.

Note by the Department of Prices and Consumer Protection

In accordance with section 83(3) of the Fair Trading Act 1973, the Secretary of State for Prices and Consumer Protection has excluded from the copies of the report as laid before Parliament, and as published, certain matters publication of which appears to the Secretary of State to be against the public interest. Accordingly one sentence of the text and one appendix have been omitted. The omissions are indicated by a note (in italics) in square brackets.

No omissions have been made from Chapter 14, Conclusions.

Contents

List of Abbreviations

Companies:

AEI	Associated Electrical Industries Ltd
AWCO	Aluminium Wire & Cable Company Ltd
BICC	BICC Ltd (formerly British Insulated Callender's Cables Ltd)
British Driver-Harris	British Driver-Harris Co Ltd
Cables & Plastics	Cables & Plastics Ltd
Calflex	Calflex Cables Ltd
Concordia	The Concordia Electric Wire & Cable Co Ltd
Crompton	Crompton Parkinson Ltd (see also footnote (3) to paragraph 393)
Delta	Delta Group Cables Division Enfield Winding Wires Ltd
ERM	Enfield Rolling Mills Ltd
ESPC	Enfield Standard Power Cables Ltd
EWW	Enfield Winding Wires Ltd
EPD	Enfield Phelps Dodge Ltd
GEC	The General Electric Company Ltd
Greengate	Greengate Cables Ltd
Kent	Kent Electric Wire Ltd
LEW	London Electric Wire Company and Smith's Ltd
Rist's	Rist's Wires & Cables Ltd
Sims	F D Sims Ltd
Sterling	Sterling Cable Company Ltd
STC	Standard Telephones and Cables Ltd
TCL	Telephone Cables Ltd
Thames	Thames Wire & Cable Company Ltd
Ward & Goldstone	Ward & Goldstone Ltd

Other abbreviations:

Area Board	Area Electricity Board
CCA	Covered Conductors Association
CCEG	Covered Conductors Export Group
CEGB	Central Electricity Generating Board
CMA	Cable Makers Association
DG Ships	Director General, Ships (Ministry of Defence)
ECMC	Electric Cable Makers Confederation
Export Association	Export Association of the Electric Cable Making Industry
HTCMA	Home Telephone Cable Makers Association
ICDC	International Cable Development Corporation
IEC	International Electrotechnical Commission

IRC	Industrial Reorganisation Corporation
LME	London Metal Exchange
MCG	Mains Cable Group
NCB	National Coal Board
OECD	Organisation for Economic Co-operation and Development
OTCMA	Overseas Telephone Cable Makers Association
SCA	Switchboard Cables Association
STEA	Super Tension Cables Export Agreement
STCG	Super Tension Cables Group

Introduction

1. On 15 July 1974 the then Director General of Fair Trading sent to the Commission the following reference:

Fair Trading Act 1973
Reference to the Monopolies and Mergers Commission
Insulated Electric Wires and Cables

The Director General of Fair Trading, in exercise of his powers under sections 47(1), 49(1) and 50(1) of the Fair Trading Act 1973 hereby refers to the Monopolies and Mergers Commission the matter of the existence or possible existence of a monopoly situation in relation to—

(*a*) the supply in the United Kingdom and

(*b*) exports from the United Kingdom

of insulated electric wires and cables.

The Monopolies and Mergers Commission shall upon this reference investigate and report in each case on the questions whether monopoly situations exist in either case and, if so, as respects each situation—

(*a*) by virtue of which provisions of sections 6 to 8 of that Act that monopoly situation is to be taken to exist;

(*b*) in favour of what person or persons that monopoly situation exists;

(*c*) whether any steps (by way of uncompetitive practices or otherwise) are being taken by that person or those persons for the purpose of exploiting or maintaining the monopoly situation and, if so, by what uncompetitive practices or in what other way; and

(*d*) whether any action or omission on the part of that person or those persons is attributable to the existence of the monopoly situation and, if so, what action or omission and in what way it is so attributable; and

(*e*) whether any facts found by the Commission in pursuance of these investigations operate, or may be expected to operate, against the public interest.

The Commission shall report on this reference within a period of twenty-four months from the date hereof.

(*Signed*) JOHN METHVEN
Director General of Fair Trading
15 July 1974

2. On 13 July 1976 the Secretary of State for Prices and Consumer Protection, in accordance with section 55 (2) of the Fair Trading Act, gave a direction allowing the Commission an extended period to 31 December 1977 for reporting on the reference, because of the complexity of the cables industry and because the large amount of information sought by the Commission both on the home trade and on exports had not at the date when the extension was given all been obtained. On 20 December 1977 and again on 20 June 1978 the Secretary of State gave further directions allowing further extended periods to 30 June 1978 and 30 September 1978 respectively.

3. On 19 July 1974 the Chairman of the Commission, acting under section 4 of, and paragraph 10 of schedule 3 to, the Fair Trading Act 1973, directed that the functions of the Commission should be discharged through a group consisting originally of six members of the Commission. These included Mr J Crawford, Mr Lewis Robertson and Mrs P Thwaites, who retired from membership of the Commission on 10 April 1975, 31 January 1976 and 31 January 1975 respectively, and took no part in the investigation thereafter. On 27 March 1975 Mr R G Aspray and Mr T P Lyons and on 10 November 1975 Sir Max Brown and Mr J S Copp were appointed members of the group. The names of the seven members who formed the group from November 1975 onwards are indicated in the list of members which prefaces this report.

4. We received evidence, including oral evidence[1], from a number of companies manufacturing reference goods, in particular BICC, AEI, Delta and Pirelli General.[2] We also received evidence, including oral evidence, from trade associations, wholesalers, local authorities, electricity authorities, the Post Office, the British Railways Board, the National Coal Board, and other users of reference goods.

5. Members of the Commission visited the factories of BICC at Wrexham, of Pirelli General at Eastleigh, Hampshire, and of AEI at Birtley, Co. Durham.

6. On 10 September 1976 we informed BICC of our provisional conclusion that a monopoly situation, as defined in section 6(1)(*a*) of the Fair Trading Act existed in favour of that company. On the same date we informed BICC, Delta, AEI and Pirelli General and on 16 September we informed eight other companies (British Driver-Harris, Cables & Plastics, Concordia, Crompton, Greengate, Rist's, Thames and Ward & Goldstone)[2] of our provisional conclusion that a complex monopoly situation in relation to the supply of reference products in the United Kingdom, as defined in the Fair Trading Act, existed in favour of those twelve companies.

We also notified all twelve companies of an outline of the points which required consideration when assessing the effects on the public interest of the monopoly situation (monopoly situations in the case of BICC). We received written representations in reply to our letters of September 1976 from ten companies, four of which subsequently attended hearings with us.

7. On 6 January 1977, we informed BICC of our provisional conclusion that a monopoly situation as defined in section 8 (1)(*a*) of the Fair Trading Act existed in favour of that company. On the same date, we informed BICC and seven other companies (Concordia, Crompton, Delta, GEC, Pirelli General, STC and Thames) being parties to one or more export agreements, of our provisional conclusion that a complex monopoly situation in relation to exports as defined in the Fair Trading Act, existed in their favour; and we notified these companies of an outline of the points which required consideration when assessing the effect on the public interest of the monopoly situation. We received four separate replies to our letter of 6 January from different combinations of the eight companies concerned, according to their membership of various export agreements. The companies so replying subsequently attended five

[1] See also paragraph 7.

[2] The abbreviations used here and elsewhere in the report are explained in the List of Abbreviations on page vii and viii.

separate hearings with us. Between May 1977 and May 1978, we held ten public interest hearings in all.

8. We wish to record our appreciation of the assistance given to us by BICC, Delta, AEI, Pirelli General and all the others who have provided us with the information required in our investigation. Some of the information relates to confidential business matters and we have been careful not to disclose it in our report unless it is essential for a proper understanding of the issues.

CHAPTER 1

The Cable Industry

The product

9. The description 'insulated electric wires and cables' covers products ranging from the largest supertension cables used in the national grid, to the very fine wires used in hearing aids and electric watches. They are used for the transmission and distribution of electricity, for communication and as components in a wide variety of manufactures.

10. In essence insulated electric wires and cables consist of a copper or aluminium conductor together with an insulant.[1] Some types of cable are sheathed or armoured. There is a great variety of types and specifications, and the number of different items sold is vast, possibly of the order of 50,000.[2] The industry distinguishes five broad categories, defined as follows:

(*i*) *Mains cable* is power cable with loadings of up to and including 22 kilovolts (*kV*). It is used in the distribution of electricity by Area Electricity Boards (Area Boards) to industrial, commercial and domestic consumers and in the internal electricity supply systems of such large industrial enterprises as mines, oil refineries, power stations, steelworks and other large factories. We deal with mains cable in Chapter 5.

(*ii*) *Supertension cable* is power cable with loadings of 33 *kV* upwards. The higher voltages (132, 275 and 400 *kV*) are used for the transmission of power in the main arteries of the national grid in those areas where environmental considerations, whether aesthetic or physical, make it necessary to transmit electricity underground rather than by overhead conductors.[3] The lower voltage cable in this category, most of which is 33 *kV*, is used in grid circuits bringing power to large urban areas. 33 *kV* cable is also used for power supplies to British Rail and for the power requirements of large industrial complexes. We deal with supertension cable also in Chapter 5.

(*iii*) *General wiring cable* embraces all cable which does not fall into any other category. It includes general purpose cables for building, domestic and industrial purposes together with many types of special cables for cars, aircraft, computers, ships, locomotives and the mines. It also includes mineral insulated cable and types of communication cable not included in category (*v*). We deal with general wiring cable in Chapter 6.

(*iv*) *Winding wires and strips* are components used in the manufacture of transformers, generators, electric motors of all sizes and in a wide

[1] A brief description of the physical make-up of cables, and of their mode of manufacture, is given in Appendix 1.

[2] Delta reported the existence of about 40,000 different items of general wiring cable alone.

[3] Overhead conductors, being uninsulated, fall outside the scope of our inquiry.

variety of television, radio and electronic equipment. We deal with them in Chapter 7.

(*v*) *Telecommunication cable* in the broadest sense is cable intended for the transmission of messages or other communications by electricity. In practice, however, this description is customarily restricted to those types of communication cable which are sold to the Post Office, whether or not they are actually so sold. It excludes, for example, TV downleads and relay cables and railway signalling cables. We deal with telecommunication cable in Chapter 8.

11. Cablemaking in the United Kingdom is a substantial industry. In 1974, the year in which the reference to us was made, United Kingdom cablemakers' home and export sales amounted to rather more than £500 million,[1] and the industry employed some 45,000 workers. For some years the home market for most types of cable has in real terms declined, and export business has become more important relative to home business. The trade figures[2] show that in the four years 1973 to 1976 the value of exports increased by 2½ times, and that in the five years to 1977 it trebled. The value of United Kingdom cablemakers' home and export sales returned to us for the years 1973–76[3] was as follows:

TABLE 1.1

	1973 £ *million*	*1974* £ *million*	*1975* £ *million*	*1976* £ *million*
Home Sales	324·2	397·7	368·1	395·5
Exports	59·6	114·6	124·4	148·0
Total	383·8	512·3	492·5	543·5

Imports in the same period were:

1973 £ *million*	*1974* £ *million*	*1975* £ *million*	*1976* £ *million*
14·1	18·9	18·5	23·9

The manufacturers

12. Counting each interconnected group of companies as one, our enquiries revealed a total of 27 manufacturers of reference goods. Much the largest manufacturer is the BICC group of companies, which is the largest group in the world having cablemaking as its central activity. It produces a wider range of cable than any other British manufacturer. Its activities are described in Chapter 2. The three next largest groups producing cables in the United Kingdom are, in the order of the value of their total sales of reference products, AEI, Pirelli General, and Delta, whose respective activities are described in Chapter 3. In common with BICC, these three companies supply a comprehensive range of cables in all or most of the five categories. They are also distinct from other manufacturers in the United Kingdom in having within the group their own

[1] The value of cables sold is affected by the price of their copper or aluminium content and of other bought-in materials, such as pvc, which may be incorporated in them. Depending on their price, such materials typically account for more than half the price of most types of cable. At times, copper alone accounts for more than half the price, and the high value of sales in 1974 is in part a reflection of the high price of copper in that year (see paragraph 300).

[2] Paragraph 421 reproduces the export figures for the period 1961–77.

[3] Cablemakers supplied their sales figures to us in respect of their individual financial years. Thirteen cablemakers' financial years coincided with the calendar year. In other cases sales for the nearest financial year have been entered as sales for the calendar year.

facilities for refining and fabricating copper.[1] We refer to BICC and these three companies throughout our report as 'the four major manufacturers' although they are not the four largest suppliers of every category of cable.

13. We list below all the manufacturers of reference goods producing at least 1 per cent of all the reference goods produced in the United Kingdom in 1974, the year in which the reference was made, showing in respect of each (*a*) the value in 1974 of its home and export sales of reference goods and (*b*) the value of these sales as a percentage of the value in 1974 of the aggregate home and export sales of reference goods of all United Kingdom cablemakers:

TABLE 1.2 United Kingdom manufacturers ranked in order of the value in 1974 of their total home and export sales of reference goods

Name of manufacturer	*Value of home & export sales £ million*	*Percentage share of all manufacturers' sales Per cent*
BICC	187·3	36·6
AEI	81·6	15·9
Pirelli General	50·5	9·9
Delta	46·9	9·1
STC	33·2	6·5
Ward & Goldstone	27·6	5·4
Rist's	20·9	4·0
Sterling	10·2	2·0
Crompton	9·6	1·9
Ripaults	7·7	1·5
Concordia	7·4	1·5
AWCO	5·7	1·1
TOTAL:	488·6	95·4
Other manufacturers (15) (each having less than 1 % share of total home and export sales)	23·6	4·6
TOTAL:	512·2	(100)

[1] Wire drawing is often part of the process of cablemaking, but the boundary between what is and is not cablemaking is not easy to draw, and it is not always drawn in the same place.

14. The foliowing table gives manufacturers' home sales of reference goods in 1974 and 1976, manufacturers being ranked in the order of the value of their 1974 sales:

TABLE 1.3 **Value of home sales of United Kingdom manufacturers in 1974 and 1976 in £ million and as a percentage of total home sales of United Kingdom manufacturers**

Name of Manufacturer[1]	*Sales £ million*		*Percentage of total home sales*	
	1974	*1976*	*1974*	*1976*
BICC	143·7	129·0	36·1	32·6
AEI	63·4	61·9	15·9	15·6
Pirelli General	41·1	41·3	10·3	10·4
Delta	40·3	37·6	10·1	9·5
Ward & Goldstone	22·2	25·5	5·6	6·4
Rist's	20·6	22·5	5·2	5·7
STC	16·1	15·4	4·0	3·9
Crompton	8·4	10·8	2·1	2·7
Concordia	7·1	7·2	1·8	1·8
Ripaults	6·9	9·9	1·7	2·5
Sterling	4·1	5·8	1·0	1·5
Cables & Plastics	3·8	4·2	1·0	1·1
Greengate	3·4	5·1	0·9	1·3
Other manufacturers (14)	16·6	19·5	4·2	4·9
TOTAL	397·7	395·7	100[2]	100

15. It will be seen from Tables 1.2 and 1.3 that the scale of operation of many manufacturers is small. The manufacture of many types of cable does not involve difficult technology or expensive plant, and new manufacture on a small scale can be set up relatively easily. Large producers co-exist with small producers specialising in specific types of cable for limited markets. A small producer making a very limited range of cable can exploit to the full economies arising from long production runs. The comprehensive nature of the service and of the range of product which the large manufacturer can offer enables him to compete for business not open to the small manufacturer. However, because of the great variety of types of cable, a manufacturer who offers a comprehensive range must be very much larger than the small specialist if he is to obtain the benefits of long production runs over a wide field together with low marketing costs per unit of output. Although it is difficult for a small producer to make the transition from successful specialist to a supplier offering a comprehensive product range, the success of some smaller producers indicates that they can be fully competitive in their fields.

16. A number of cablemakers of all sizes are members of groups of companies in which cablemaking is only one of many activities carried on by the group and often constitutes only a relatively small proportion of the activities of the group as a whole.

[1] See note to Table 1.2.

[2] In this and some subsequent Tables containing rounded percentage figures the total is not exactly 100.

17. The number of manufacturers in different size bands and the number of cable categories they produced in 1974 is shown in the following table:

TABLE 1.4 **Number, size and product range of all United Kingdom manufacturers**

Size band (1974 sales in £ million)	*Number of manufacturers in band*	*Number of manufacturers producing: five categories*	*four categories*	*three categories*	*two categories*	*one category*
Over 100	1	1				
50–100	2	2				
25–50	3		1		1	1
10–25	2				2	
5–10	4				4	
below 5	15				6	9
	27	3	1	Nil	13	10

The customers

18. The following table shows for each of the five cable categories the principal customers, the number of United Kingdom manufacturers supplying each category and the value in 1974 of manufacturers' home sales and of imports:

TABLE 1.5 **Principal customers**

Cable category	*Principal customer(s)*	*No. of Suppliers*	*Home Sales £ million*	*Imports £ million*
Mains	Area Boards, electrical contractors	11	57.8	0·9
Supertension	Central Electricity Generating Board, Area Boards	4	8·8	Nil
General wiring	Electrical wholesalers, electrical contractors, industrial users	23	188·2	15·0
Winding wires	Manufacturers of generators, transformers, electric motors etc.	7	68.3	1·7
Telecommunication	The Post Office	10	74·6	1·3

Within each category, different types of cable are made by different combinations of manufacturers and often supplied to different kinds of customer. However, the table reveals the dominating influence of public sector buyers in three out of the five categories. Much of the recent history of the industry has been concerned with the relations with these buyers, often monopoly buyers in their field, and with their fluctuating requirements. We refer in the body of our report to these relations and to the views of many of the more important users of cable. Other views are summarised in *Appendix 2*.

Fluctuations in the demand for cable

19. The period since the war has seen marked fluctuations in the domestic demand for most categories of cable. These fluctuations have created severe problems of adjustment for the cable industry.

20. The demand for cable is a derived demand in that the cable characteristically forms a small, albeit essential, element of a much larger product, of a plant or a building or construction project. The total demand for cable is there-

fore almost completely unresponsive to changes in its price. This characteristic of the total demand for cable is combined with an almost complete interchangeability of the majority of different manufacturers' products so that, as far as the individual cablemaker is concerned, small differences in price are often decisive in obtaining business. At the same time, a larger proportion of the cablemaker's costs, other than bought-in materials, are fixed costs, and the level of his unit costs therefore depends crucially on the extent to which he uses his productive capacity. These characteristics of the demand for and supply of cable create conditions conducive to low prices whenever the demand for cable falls.

21. At the time of our predecessors' report in 1952[1] (referred to in this report as the *1952 Report*) the then Cable Makers' Association (CMA) and its affiliated associations operated an allocation scheme for their members' supertension cable business and much of their mains cable business, and a common price system for rubber (general wiring) cable. As a result of the 1952 Report, the market sharing schemes, and other restrictive arrangements, of the former CMA were terminated. In the case of mains and supertension cable, a minimum price scheme based on the costs of the lowest cost producer became operative under the detailed surveillance of the British Electricity Authority. Minimum price agreements were also inaugurated under Board of Trade supervision for rubber cable. These agreements, with some amendments, were registered under the Restrictive Trade Practices Act 1956 when that Act came into force.

22. In spite of the restrictions in competition in force between members of the CMA referred to in the 1952 Report, extensive price cutting occurred throughout the industry at the beginning of the 1950s, when the immediate post-war boom came to an end. In the late 1950s, the demand for mains cable from the Area Boards again fell sharply as a result of Government imposed restrictions on the capital expenditure of public authorities, including the electricity supply authorities. At the same time demand for rubber and plastic cable fell as a result of a slowing of housing and construction programmes. In spite of the new minimum price arrangements, intense price competition developed between the major manufacturers in 1958, and prices fell further in 1959. According to one account, the reductions were of the order of 20 per cent for mains cables, and 30 per cent for general wiring cable, and by 1960 a situation was reached when all companies were trading at a loss in these fields. The minimum price agreements became steadily less effective during 1958, and were formally abandoned in 1959.

23. We were told that, although a few small companies went out of business then, the price war of 1958–1959 acted more as a catalyst for mergers and rationalisation within the cable industry, than as a cause of bankruptcies. The principal acquisitions and exchanges of interests of the four major manufacturers since 1955 are given in *Appendix 3*.

24. After 1960 the volume of business in the United Kingdom market grew in almost all sections, and gradually increasing prices for mains and general wiring cable were obtained under the price leadership of BICC. In the mains and supertension fields demand was stimulated by major programmes of expansion

[1] Report on the Supply of Insulated Electric Wires and Cables, published in June 1952 (HC 209).

by the electricity supply industry, the Electricity Council forecasting the continuance, up to the end of the decade, of high or expanded levels of demand. In practice the mid-1960s proved to be the high water mark, and the domestic demand for both mains and supertension cable has, with little interruption, fallen at least until 1976.[1] The result has been a continuing process of factory closure, rationalisation and retrenchment. The collapse in the home market demand for supertension cable following substantial investment by the industry in new capacity in the 1960s, which is summarised in Chapter 5, was a particularly difficult episode for the cablemakers affected.

25. The home demand for general wiring cable generally also expanded in the early 1960s. Although there was some decline from the highest levels thereafter, associated with reductions in the rate of growth in the economy as a whole particularly in house building and construction work, the decline was relatively small. However the intense price cutting in the popular types of general wiring cable in the years 1971–72 which we describe in paragraphs 298 to 299 was probably attributable in part to the reduced level of demand in those years.

26. The home demand for winding wires has been in general decline for many years, and prices have been low.

27. In contrast to the general experience, the home demand for most types of telecommunication cable continued to grow after 1965 until about 1973. The level of prices for external telephone cable was not determined competitively during this period because of an unregistered agreement between the suppliers (see paragraph 364).

1948 and 1974: a comparison

28. The 1952 Report described the industry as it existed in 1948. In that year total home and export sales of United Kingdom cablemakers amounted to about £75 million compared with £512 million in 1974. Then, as now, BICC was the largest manufacturer, but with only about one-quarter of home and export sales compared with about 37 per cent in 1974. The four largest manufacturers in 1948 accounted for only 46 per cent of all sales, compared with 72 per cent in 1974. The remaining business in 1948 was divided between 56 smaller companies, whereas in 1974 there were only 23.

29. Some of the smaller companies in 1960 appear to have gone out of business, but many others have disappeared as separate entities as a result of acquisitions by the larger cablemakers, particularly BICC, AEI and Delta (see Appendix 3). In many cases the companies acquired have either lost their individual identities or closed. These acquisitions went hand-in-hand with a process of rationalisation in the course of which the number of factories has been substantially reduced.

Associations of cablemakers

30. Most, though not all, United Kingdom cablemakers are members of one or more of the following associations:

The Electric Cable Makers Confederation (ECMC)
The Cable Makers Association (CMA)

[1] 1976 is the last year for which we have obtained complete sales statistics for the industry as a whole.

The Mains Cables Group (MCG)
The Super Tension Cables Group (STCG)
The General Wiring Cables Group (GWCG)
Telephone Cable Makers Association (TCMA)[1]
Home Telephone Cable Makers Association (HTCMA)[1]
Switchboard Cables Association (SCA)
The Covered Conductors Association (CCA)

31. Almost every cablemaker who is a member of one or the other associations also belongs to the Electric Cable Makers Confederation (ECMC). ECMC was formed with a wider membership and with broader objectives than the CMA referred to in the 1952 Report and which, like ECMC now, had been the co-ordinating body for a number of autonomous affiliates. The CMA itself was reconstituted in 1966 when certain of its functions were embraced by the ECMC. It exists today solely for the protection of its trade marks. Similarly STCG, MCG and GWCG succeeded a number of earlier organisations which had been concerned with the interests of producers of respectively supertension, mains and general wiring cables. The membership of all these associations is given in *Appendix 4*.

32. Perusal of the constitution and objects of these home associations indicates that their function is to further members' interests in such matters as the promotion of research and development; training schemes; industrial relations, including supporting the principles established by the National Joint Industrial Council and studying and implementing legislation concerning the welfare of employees; and the collection and dissemination of statistics and technical information including formulation of national and international standards covering insulated electric wires and cables.

33. A number of the home associations used to operate price information services but, following the Restrictive Trade Practices Act of 1968, they abandoned them and adopted new constitutions. None of the above associations operates any agreement restrictive of competition in reference goods. This is not true of export associations which are the subject of Chapter 11.

[1] The distinction between these two associations, which are both concerned with external telephone cable, is that TCMA is concerned with cable supplied to the Post Office, whereas HTCMA is concerned with the same cable supplied to other users.

CHAPTER 2

BICC

Origins and development

34. British Insulated Callender's Cables Ltd, re-named BICC Ltd in 1975, was formed in 1945 by the merging of two companies, British Insulated Cables Ltd, and Callender's Cable and Construction Co Ltd, and their wholly and partly-owned subsidiaries. The merging companies were two of the largest and oldest established cablemakers in the United Kingdom. The companies' activities were not confined to cablemaking but included also the manufacture of bare conductors, constructional activities in the field of electrical engineering and, through subsidiary companies, copper refining and fabrication and the manufacture of industrial capacitors. The new company continued these activities and added to them. The BICC Group now makes electric wires, cables and accessories of all types; refines copper and fabricates copper and aluminium and their alloys for the electrical, electronics and engineering industries; produces low voltage switch-gear, lighting columns, communication and control equipment, industrial tapes, industrial plastics and capacitors; and is engaged in civil, mechanical and electrical engineering, including design and construction. BICC is the largest organisation in the world having cablemaking as its primary activity, and has comprehensive facilities for research, manufacture and contracting in transmission and distribution of electrical energy for power and communications purposes.

35. The extent of the growth of the Group and its business since 1945 is indicated by the following figures:

TABLE 2.1

Year	*Total Sales*	*Tangible Assets Employed*	*Pre-tax Profits*
1945/46	£30m	£16·4m	£1·7m[1]
1977	£998m	£310·0m	£47·1m

36. At the time of the 1945 merger the BICC Group was based substantially in the United Kingdom. In the intervening period the Group has become an international organisation whose primary activity is still cablemaking but whose other activities and products have accounted for an increasing proportion of its total sales in recent years. The percentage of total sales in 1974 attributable to other activities was 49 per cent; and this has risen to 60 per cent in 1977. While still extensively dependent on cablemaking, BICC is no longer heavily dependent on the United Kingdom market. Indeed, the larger part of the Group's business now lies outside the United Kingdom. In 1974 52 per cent of total Group sales (excluding sales by associated companies) of £782 million was contributed by overseas companies of the Group and by exports from the United Kingdom. Comparable figures for 1975 were 55 per cent of £758 million, for 1976 58 per cent of £898 million, and for 1977 58 per cent of £998 million.

[1] BICC estimate for 12 months.

37. With effect from 1 January 1975, the BICC Group was re-organised into four 'group companies' as follows:

BICC Cables Ltd (BICC Cables)
BICC Industrial Products Ltd
BICC International Ltd
Balfour, Beatty & Co Ltd (now Balfour Beatty Ltd)

The main object of this re-organisation was to decentralise management responsibility to operational level. As far as cablemaking was concerned, it brought under single operational control within BICC Cables all the United Kingdom cablemaking activities of BICC together with the metals units supplying them.

38. The relative importance of the four 'group companies' in the BICC Group as a whole can be readily gauged by the following table showing their respective sales and operating profits (ie before finance charges, taxation and minority interests) over their first three years on an historic cost basis:

TABLE 2.2 **Sales and profits of BICC Group companies**

	1977 £ *million*		*1976* £ *million*		*1975* £ *million*	
	Sales	*Operating profit*	*Sales*	*Operating profit*	*Sales*	*Operating profit*
BICC Cables	375·9	14·0	320·1	12·2	271·1	10·3
BICC International	295·6	26·4	301·2	31·9	265·1	30·6
Balfour Beatty	243·8	9·6	213·4	6·7	168·9	0·7
BICC Industrial Products	82·5	5·5	63·7	2·4	53·0	1·8
TOTAL:	997·8	55·5	898·4	53·2	758·1	43·4

39. Sales of reference goods manufactured in the United Kingdom expressed as a percentage of BICC total sales worldwide in the years 1974–1977 were:

TABLE 2.3 **Sales of reference goods**

	Sales worldwide £ *million*	*Reference goods made in UK* £ *million*	*Per cent*
1974	782·3	187·3	23·9
1975	758·1	170·5	22·5
1976	898·4	175·5	19·5
1977	997·8	209·9	21·0

40. BICC Limited has the following wholly-owned subsidiary companies engaged in the United Kingdom on the production and sale of reference goods as agents for the parent company and managed through BICC Cables:

BICC General Cables Ltd
BICC Power Cables Ltd
BICC Telecommunication Cables Ltd
BICC Connollys Ltd
BICC Pyrotenax Ltd
Reliance Cords and Cables Ltd
Fine Wires Ltd

The structure of BICC Cables as at 1 January 1978 is given in *Appendix* 5. It will be seen that there is a separate operating company for each main category of reference products, mains and supertension cables being taken together. BICC's activities in each of these individual categories are described later in this chapter.

Sales of reference goods

41. The following table shows BICC's home sales and total home and export sales of reference products for the years 1973 to 1976. These are expressed in sterling values and also as percentages respectively of total sales in the United Kingdom and of the total home and export sales of all United Kingdom cablemakers:

TABLE 2.4 **Home and export sales**

	Sales		*Market Share*	
	Home	*Home and Export*	*Home*	*Home and Export*
	£ million	*£ million*	*Per cent*	*Per cent*
1973	112·4	136·9	33·2	35·7
1974	143·7	187·3	34·5	36·6
1975	127·4	170·5	33·0	34·6
1976	129·0	175·5	30·8	32·3

42. As there is small fluctuation in the value of cable stocks relative to the value of sales, the value of BICC's home and export sales relative to total home and export sales constitutes a close guide to the value of BICC's production of reference goods relative to the value of total United Kingdom production of reference goods.

Production of reference goods

43. In the United Kingdom BICC Cables makes all categories of reference goods and within each category makes the widest range of any United Kingdom manufacturer. BICC Cables has factories in Northern Ireland, North-East England, South-East England and the Midlands but the largest concentration of production is in North-West England and North Wales. Some 10,800 employees were engaged in the manufacture of reference goods at the end of 1977.

44. Since 1945, BICC has acquired a number of cablemaking companies, closed some companies and merged others within the Group. These acquisitions and the other changes are set out in tabular form in *Appendix 6*. BICC has made a large investment in reference goods manufacture in the United Kingdom in pursuit of its policy of increasing the efficiency of its manufacturing operations and has carried out a number of major rationalisation schemes. Thus its investment expenditure, before deduction of Government grants, was £68.4 million between 1965 and 1976. BICC's stated objective is to secure that its operations are at least comparable with the best current standards anywhere in the world. This has involved the company, in addition to more routine aspects of plant replacement and modernisation, in a number of major investment projects both in building entirely new factories and the complete re-structuring of existing factories.

45. One of BICC's objectives is that 'our overall productivity per employee should be higher than that of our competitors at home and abroad and be increasing at a higher rate'. For example, the company estimates its productivity savings in respect of reference goods in the two years to December 1973 to have yielded some £3.3 million in cost reductions and some £6·1 million in respect of working capital employed. Over the two years from December 1973 to December 1975 BICC claims to have achieved further savings, estimated at some £2.4 million in cost reductions and some £4.7 million in respect of working capital employed. Between 1970 and 1976 BICC's estimated volume index per employee (1970=100) rose from 100 to 111 while the number of employees in its operating units fell from 14,500 to 11,100. In the same period BICC's volume of home and export sales fell by 15 per cent.

46. With regard to the acquisition of overseas manufacturing companies, BICC's underlying philosophy has been that since eventual local manufacture overseas is inevitable BICC should participate in it in order to offset loss of export business. The establishment of local connections overseas might also help BICC's exports of those more specialised products for the time being beyond the capability of local overseas factories. BICC International Ltd has interests in overseas cablemaking companies in 15 countries. In addition, BICC Cables is the largest United Kingdom exporter of reference goods and the Group is represented in 122 overseas countries, including those in which it carries out manufacture.

Research and development

47. Research and development in respect of reference goods is carried out by BICC Research and Engineering Ltd (a subsidiary company of BICC Cables) and by the individual cablemaking companies. As well as undertaking its own research, engineering and development projects BICC Research and Engineering Ltd serves as a centre and focus for research and technical advice throughout the BICC Group and also maintains close liaison with the cablemaking units. BICC's annual United Kingdom expenditure on R & D for reference goods in each of the six years 1972–77 was:

	£ million
1972	1·646
1973	1·751
1974	2·070
1975	2·605
1976	2·591
1977	2·894

Further substantial expenditure in this field is incurred by overseas subsidiaries in the BICC Group. BICC Research and Engineering Ltd has a large number of departments dealing with such subjects as metallurgy, chemistry, physics, corrosion, polymers, polymer process engineering, high voltage and other electrical engineering and project engineering. About two-thirds of its 1977 expenditure was devoted to reference goods. BICC cites a considerable number of product and process innovations resulting from its R & D work and claims to be in the forefront in the field of cable technology.

Pricing of reference goods

48. BICC's sales of supertension, mains and telecommunications cables are made by tender or quotation; its sales of general wiring cables and winding wires are usually made by reference to price lists. In determining its prices BICC currently pursues an overall target operating profit level of 25 per cent on historical capital employed. For high technology products such as supertension cables a higher return is sought. The figure which acts directly as a guide for specific pricing decisions is the BICC Cables budget figure which lays down a return on historical capital employed for the year. The budget figure represents the best judgment of management in the current cost and commercial situation, as to the rate of return that can in fact be achieved during the year. In practice the target rate of return has not in recent years been achieved either in respect of reference goods as a whole or of any individual category of reference goods.

49. Price decisions in respect of tenders are delegated to the Executive Director of the operating company concerned. Changes in list prices are made on the authority of the appropriate Executive Director after discussion with and approval by the Managing Director of BICC Cables Ltd. Price decisions are taken having regard to the Management Plan and Budget of the relevant operating unit, subject to the provisions of prices legislation.

50. In the case of sales by tender, BICC's first consideration is stated to be total costs. Other considerations, apart from statutory limitations and constraints, of which account must be taken, include the likely price to be quoted by competitors; the last established price to the buyer concerned; the importance of the business in relation to production loading; the possibility of meeting the delivery date set by the customer and the impact of the order on the company's cash flow position.

51. In determining list prices BICC's first consideration again is stated to be total costs. In addition the reaction of competitors and, since the effective price for goods sold with reference to list prices is the net price after discount, considerations of the extent to which the company needs to do business with a particular customer, will influence the effective price charged to him.

Profits and profitability

52. The following table shows BICC's profits[1] on reference goods in each of the years 1971–1976 expressed as a percentage of home sales, of total sales, and of capital employed (historic cost basis) together with the average profit as a percentage of capital employed for all manufacturing industry. BICC has given an estimate of the amount of its repayments to the Post Office (see paragraph 367) that should be set against the profits for the years 1971 to 1974 and the percentages of profit have been adjusted accordingly.

[1] Profits are before interest and taxation, and capital employed includes fixed and current assets less creditors and current liabilities other than bank overdrafts or any other borrowing on which interest is payable. Where allocations of costs or capital employed have been necessary, they have been made on conventional accounting bases and the results shown are therefore approximations.

TABLE 2.5 **BICC's profits on reference goods**

Year	*Per cent Home sales*	*Per cent Total sales*	*Per cent Capital employed*	*Per cent Capital employed—manufacturing industry average*
1971	10	9	18	13
1972	11	10	20	14
1973	9	8	17	17
1974	6	6	15	16
1975	7	6	13	15
1976	6	5	12	18
Simple average over period	8	7	16	16
Simple average 1973-76	7	6	14	17

53. In interpreting the changes in profits expressed as a percentage of sales or capital employed, account has to be taken of the effects of the fluctuating price of metals, and in particular of copper on the price of cable sold, and on the amount of capital employed. During the six years for which percentages are given above, the price of copper has fluctuated from under £400 a tonne to £1,400 a tonne. Profits expressed as a percentage of sales are decreased when the price of copper is high, and increased when the price of copper is low.

54. Some indication of the effect of fluctuating copper prices may be gauged by the following table which shows the average price for copper each year both absolutely, and in relation to the retail price index (RPI) and total material cost and profit as a percentage of sales:

TABLE 2.6 **Effect of copper price on profits**

	RPI[1]	*Copper price*[2]		*Total material cost as per cent of sales*	*Profit as per cent of sales*
		£ per tonne	*In relation to RPI 1971=100*		
1971	80·0	444	100	52	10
1972	85·7	428	90	49	11
1973	93·5	727	140	56	8
1974	108·5	877	146	62	6
1975	134·8	555	74	51	6
1976	157·1	782	90	51	5

Activities in the United Kingdom other than cablemaking

(*a*) *Copper and aluminium*

55. BICC has for long engaged in the refining of copper. Recent investments have included the building of a new electrolytic refinery for copper at a cost of £2·3 million in 1965 (further expenditure of £5·6 million was approved in 1976 to modernise and enlarge this refinery) and the investment of £4.1 million in the

[1] Average for year. 15.1.74=100.

[2] Average London Metal Exchange cash settlement price for electrolytic wire bar.

installation of a continuous copper rod production unit which came into production early in 1975. BICC Metals Ltd, a BICC Cables subsidiary, normally supplies almost all the copper rod and wire requirements for BICC companies making reference products in the United Kingdom. It also seeks business from other cable manufacturers, in competition with other United Kingdom rod rollers, including Pirelli General, Enfield Rolling Mills (a Delta Metal Company subsidiary), Frederick Smith & Sons Ltd (an AEI subsidiary) and Johnson & Nephew.

56. BICC has a joint equal share with Imperial Metal Industries Ltd and the Delta Metal Co Ltd in British Kynoch Metals Ltd, a company which while not itself supplying raw materials, acts on behalf of its shareholders as a focal point to seek out new sources of primary copper (and possibly later other metals) and to investigate projects for the production of primary copper from the point of view of investment.

57. Until 1975 there was a special link between BICC and Anglesey Aluminium Ltd, in which BICC had a 27 per cent shareholding from its inception in 1968 to 31 December 1972 and a 19 per cent shareholding thereafter. The other shareholders were Rio Tinto Zinc and Kaiser Aluminium. The 3 shareholders were required to take aluminium from Anglesey Aluminium in proportion to their shareholdings and Anglesey Aluminium was not permitted to sell its products to anyone else. BICC gave up its shareholding in November 1975 but retained an obligation to take supplies of aluminium from the smelter until the end of 1977.

58. BICC told us that its copper and cablemaking activities are each required to stand on their own feet. The cable companies do not acquire copper rod and wire at prices which are more favourable, as between themselves and their competitors, than the size of their purchases might be expected in any event to command.

(b) Electrical installation contracting

59. BICC also has interests in installation contracting through Balfour Beatty Ltd (see paragraph 37). BICC Cables has a close working relationship with the Balfour Beatty companies but accords them terms similar to those accorded to other electrical contractors of similar size. It says that to accord Balfour Beatty preferential treatment would imperil its relationship with other large contractors and upset the larger wholesalers. The principal benefit that BICC derives from Balfour Beatty's installation activities is that these complete the comprehensive range of goods and services which BICC can offer; in addition, the installation work which Balfour Beatty secures provides some volume for BICC Cables which that company might not otherwise obtain. BICC estimates that it has less than a 5 per cent share of the United Kingdom installation business in mains and general wiring cables.

(c) Other activities

60. BICC's other activities were brought together under BICC Industrial Products Ltd in the 1975 re-organisation, with the object of facilitating a more positive policy for Group diversification. While its sales are small relative to the rest of the Group this Group company covers a wide variety of products trading with many industrial sectors and is expanding.

Mains and supertension cable

61. In the six year period ending 31 December 1976, mains and supertension cable accounted for 16 per cent and 5 per cent respectively of BICC's total home and export sales of reference goods. BICC's share of the United Kingdom market for these two cable categories in 1965 and in each of the years 1970–1976 is shown in the following table (the figures in brackets are BICC estimates):

TABLE 2.7 **BICC's share of United Kingdom market**

Year	*Mains Cable Per cent*	*Supertension Cable Per cent*
1965	(36)	(36)
1970	(35)	(48)
1971	(34)	(53)
1972	(31)	(44)
1973	32	43·7
1974	32	42·1
1975	27	38·7
1976	26	58·6

62. The following tables show the value of BICC's home sales and total sales of mains cable and supertension cable 1971–1976 together with its total sales expressed as a percentage of the total sales of all United Kingdom manufacturers:

TABLE 2.8 **Mains cable sales**

	Home sales £ million	*Total sales £ million*	*Total sales Per cent*
1971	13·9	17·4	N/A
1972	11·9	16·2	N/A
1973	15·4	20·8	32·3
1974	18·9	31·7	35·5
1975	14·7	27·2	31·8
1976	15·3	30·0	31·0

TABLE 2.9 **Supertension cable sales**

	Home sales £ million	*Total sales £ million*	*Total sales Per cent*
1971	3·1	4·9	N/A
1972	3·2	5·5	N/A
1973	3·7	7·8	53·1
1974	3·8	8·8	52·8
1975	3·3	8·2	44·9
1976	5·9	9·2	48·5

63. For mains cable, BICC's principal customers, by category, and the approximate percentage of its total sales in 1977 made to each category are:

	Per cent
Area Boards	40
Industrial customers and other nationalised industries	23
Electrical contractors	22
Wholesalers	15

64. About 95 per cent of BICC's United Kingdom sales of supertension cable is currently made to CEGB and to the Area Boards, the former taking almost all

the pressure assisted cable of 132*kV* and above; the other 5 per cent is made to other nationalised industries and to large industrial users.

Production and investment

65. Since 1975 BICC's manufacture of mains and supertension cable has come under the operational control of BICC Power Cables Ltd, a subsidiary company of BICC Cables. At the time of its formation in 1975, mains cable was manufactured at its Wrexham and Renfrew works, of which the latter also manufactured solid supertension cable, and pressure assisted cable was manufactured at Erith. However, all production ceased at the Renfrew works at the end of 1977, so that mains cable production is now concentrated at Wrexham, and the production of all supertension cable, together with some specialised mains cable types, is at Erith.

66. The home demand for mains and supertension cables was at its peak in the mid-1960s, when further expansion of demand was forecast by the electricity supply industry. Construction of the Renfrew factory was authorised in 1964 at a cost of £2·4 million for the production of oil filled pressure assisted supertension cable. As the demand for supertension cable not only failed to increase but fell dramatically, this production ceased in 1969–70, and the buildings and plant were converted to other use. At the same time, as part of the industry-wide rationalisation of supertension cable production, BICC acquired AEI's pressure assisted cable manufacturing interests. Home demand for supertension cable has continued to fall, and in recent years the Erith works which alone remains has depended increasingly on exports for employment.

67. With regard to mains cable, BICC had in 1966 authorised investment of £8·1 million in a new mains cable factory on a green field site at Wrexham I in the light of the forecast increased demand. The building of the new factory was seen by BICC as providing the opportunity of achieving significant savings in operational costs, with production under one roof, modern flow lines and special purpose automated plant. Another factor was the expected increase in demand for supertension cable; moving mains cable production to Wrexham I would leave the Erith factory to develop as a specialised unit for the production of supertension cable. Although it became apparent before the construction of the new factory was begun that neither the increased demand for mains nor that for supertension cable was likely to materialise, BICC continued with its plan but modified it to provide only for the same volume of lower voltage mains cable as had been manufactured at Erith in 1965. The new factory was brought into operation in 1970, and was an important factor in increasing the profitability of BICC's mains cable production which, by 1969, had fallen to a very low level. BICC considers that its planning concept of cost savings has been completely fulfilled and regards the factory as being the most cost-effective plant anywhere for the types of cable it produces.

68. In view of the continued low demand for, and poor profitability of, mains cable BICC in 1969 began taking steps to rationalise its production by concentrating production at Wrexham I and at one other site. It terminated production at Iver by Britannic General Cables Ltd, which it had acquired only in

[1] This works was known as Wrexham I after the second works (Wrexham II) was built for general wiring cable.

the previous year before the downturn had become fully apparent to it. In late 1970 it closed down W T Glover's factory in Manchester on which it had recently spent £1 million for modernisation and expansion and terminated mains cable production at Connolly's (Blackley) Ltd, leaving that company's Blackley factory to concentrate on the production of telecommunications cables. BICC's mains cable manufacture was thus by the end of 1970 concentrated at Renfrew and Wrexham I when the capacity of the two factories was utilised to the extent of an estimated 82 per cent and 84 per cent respectively. In 1973–74 £14 million was invested in the Renfrew mains cable plant, equipping it to make the full range of the newer designs of lower cost cable developed by the company initially in addition to and eventually in place of the older types of mains cable. The investment did not add significantly to BICC's overall capacity for mains cable manufacture but provided a second source of production for major products in this sector. At Wrexham an investment of £3·1 million was approved in order to expand production of the newer cable types in the light of projections of a high volume of exports in the period up to 1978. Although increased export volume was achieved the domestic market continued to be depressed and at the end of 1977 it became necessary to close the Renfrew factory (see paragraph 65).

Prices and pricing policy

69. Until the end of 1972 BICC published price lists for mains cable up to 22*kV*. It states that it began to do so in 1960 in an attempt to restore more stable conditions in a market in which the termination of minimum pricing agreements in a situation of excess manufacturing capacity had resulted in price reductions of 20 per cent for mains cable, with all manufacturers trading at a loss (see paragraph 22). However, increasingly rapid cost-inflation since 1972 had caused it to base its tender prices upon the current level of costs rather than to try to achieve its pricing objectives by adjustments to a list price. Between 1960 and 1972 some other manufacturers used BICC's mains cable price lists as a reference point to which they related their own competitive quotations but this was no longer possible after BICC ceased to publish lists.

70. When BICC published a mains cable price list its sales of mains cable were made at list prices less discount where appropriate. Since the discontinuation of published price lists, sales have been made by tender or by quotation in response to specific enquiries.

71. In arriving at prices to be tendered or quoted for mains cable, BICC says that it first has regard to its costs and the contribution required to achieve budgeted profitability. The latest up-dated costs and the required contribution are used to calculate a basic selling price. To arrive at the net selling price BICC makes deductions, in the case of certain categories of large customers, in accordance with the category of customer; and, based on the company's assessment of the customer's purchasing potential, allowance is made (by deduction or surcharge) for anticipated volume of purchases and distance of delivery, according to BICC's commercial judgment and the competitive environment. An addition to the net selling price is made to Area Boards requiring cut lengths delivered to sites.

72. To some Area Boards and to the National Coal Board BICC may offer discounts for one or more of the following reasons:

(*a*) a promise of a given proportion of the Board's requirements or of a given quantity of cable;

(*b*) better payment terms;

(*c*) acceptance of prices variable by a cost price adjustment formula;

(*d*) standard drum lengths;

(*e*) forward ordering/programmed deliveries;

(*f*) deliveries in bulk as opposed to cut lengths to site;

(*g*) discontinuation of consignment stocks.

73. Prices tendered or quoted are subject to adjustments, in accordance with BICC's Conditions of Sale, for variations in the price of copper, aluminium and where applicable lead. BICC's standing contractual arrangements with copper producers provide for the daily pricing of a limited amount of copper at LME prices and BICC's Conditions of Sale provide that prices will be adjusted by reference to the LME price of copper ruling when the order is received. The copper required to fulfil the order can then be matched by BICC's Metals Purchasing Department on a 'back-to-back' basis with a pricing under a contract with a copper producer at the day's price. Similar arrangements obtain in the case of lead. Aluminium producers, however, will only sell by reference to the price obtaining at the date of delivery. Accordingly BICC's Conditions of Sale for cables incorporating aluminium normally provide that the aluminium content will be priced at the producers' rate ruling at a given number of weeks prior to the delivery of the cable.

74. In accordance with BICC's terms of trading published to electrical contractors and wholesalers, prices quoted to those customers are subject to a rebate or, in the case of wholesalers, to a face of invoice discount. Wholesalers receive a discount, and large and medium-sized electrical contractors a rebate, of 7½ per cent in the case of copper conductor cables and 10 per cent in the case of those with aluminium conductors. Small contractors receive 5 per cent and 7½ per cent. BICC's experience is that many contractors prefer to receive a rebate rather than a discount off invoice but in recent years at least, the larger contractors have preferred to receive, and have received, a face of invoice discount rather than a rebate paid in arrears.

75. BICC's sales of supertension cables also are made by tender or by quotation in response to specific enquiries. There are no discounts or rebates off list or other fixed prices. In determining its prices BICC says that it takes into account such factors as: the likely prices of its competitors; the extent to which the current volume of orders received is above or below budgeted volume; the price level needed to produce budgeted levels of return having regard to costs, delivery required and the capacity of the production unit to meet that delivery; and the design of the cable and the type approval tests which may be required. Because of the high technology involved, a higher than average return of profit on capital employed is aimed at for supertension cables (see paragraph 48).

76. Adjustments are made to tendered or quoted prices for variations in the price of copper, aluminium or lead. Such adjustments are similar to those made to mains cable prices described in paragraph 73 above. In addition, contract

price adjustment has been accepted by the CEGB and the Area Boards for variations in the costs of other materials and of factory labour.

77. Virtually all supertension cable of 132*kV* and above supplied to the CEGB is installed by the manufacturers as is much of the supertension cable of 33*kV* and upwards supplied to Area Boards (though some Area Boards do install such cable). BICC's installation of supertension cable is carried out by the company's supertension cable works in conjunction with Balfour Beatty Ltd.

Stockholding policy and cutting charges

(*a*) *Area Boards*

78. It is BICC's policy to be able to meet Area Boards' mains cable requirements from stock. In general some six weeks' estimated requirements are held in stock. Where Boards require cut lengths delivered to site to meet their daily schedules a charge is made to take account of the extra costs involved.

(*b*) *Other customers*

79. BICC maintains stocks at Wrexham, Renfrew, Erith and at its sales branches of the most commonly ordered types of cable. BICC's policy is to have 10 weeks' requirements of these cables either in finished stock or under manufacture, which in effect means that some 5-6 weeks' estimated requirements are normally held in finished stock.

80. In the case of the faster moving types and sizes of mains cable (mainly low voltage PVC insulated and armoured) and where the customer requires less than a drum length, the cable is cut to exact length for which a cutting charge is made to cover the additional costs of handling, cutting and drumming and the risk of unsaleable lengths. In other cases (mainly paper insulated cable) where the length ordered is less than a drum length, a short length extra is charged to cover the cost of short length manufacture or (if the cable is a stock item at works) to cover the cost of handling, cutting and drumming and the risk of unsaleable lengths. No stocks of finished supertension cable are held since there is little, if any, repetition business, conductor sizes and cable lengths being specially designed to meet the needs of each new contract.

Profits and profitability

81. The following tables give BICC's profits[1]/[losses] expressed as a percentage on its home sales and total sales of mains and supertension cable for each of the years 1971–1976 on an historic cost basis:

TABLE 2.10 **Profits on mains and supertension cable**

	Mains cable		*Supertension cable*	
Year	*home*	*total*	*home*	*total*
	Per cent	*Per cent*	*Per cent*	*Per cent*
1971	12	10	8	[5]
1972	14	13	17	6
1973	8	7	18	8
1974	9	8	16	6
1975	10	6	15	5
1976	2	2	22	13
Simple average over period	9	8	16	6
Simple average 1973-1976	7	6	18	8

[1] See note to paragraph 52.

Profits/[losses] as a percentage of capital employed for mains and supertension cable are given in the following table with the average of all manufacturing industry for comparison:

TABLE 2.11 **Return on capital—historic cost basis**

	Mains cable	*Supertension cable*	*All manufacturing industry*
	Per cent	*Per cent*	*Per cent*
1971	16	[4]	13
1972	20	7	14
1973	12	11	17
1974	18	9	16
1975	12	8	15
1976	4	24	18
Simple average over period	14	9	16
Simple average 1973-76	11	13	17

BICC also provided figures of profits/[losses] as a percentage of capital employed on mains and supertension cable adjusted for inflation in accordance with the principles of current cost accounting, as shown by the following table with the comparative figures for all manufacturing industry:

TABLE 2.12 **Return on capital—current cost basis**

	Mains cable	*Supertension cable*	*All manufacturing industry*
	Per cent	*Per cent*	*Per cent*
1973	5	5	7
1974	6	1	2
1975	Nil	[1]	3
1976	6	6	2
Simple average 1973-1976	4	3	4

General wiring cable

82. In the six year period ending 31 December 1976, general wiring cable accounted for 45 per cent of BICC's total home and export sales of reference goods. BICC's share of the United Kingdom market for general wiring cable in 1965 and in each of the years 1970–1976 is shown in the following table (the figures in brackets are BICC estimates):

TABLE 2.13 **Share of United Kingdom general wiring cable market**

Year	*Per cent*
1965	(27)
1970	(35)
1971	(34)
1972	(31)
1973	32·5
1974	33·2
1975	33·2
1976	30·2

83. General wiring cable covers a great variety of different types of cable and BICC's share of different sectors of the market varies. Thus, BICC is the only manufacturer of mineral insulated cable, and it does not supply vehicle wiring harnesses at all (though it supplies small quantities of cable for making up the harnesses). BICC's share of the market in booklet cables[1] is rather less than one-quarter (see paragraph 279) and its larger share of the general wiring cable market as a whole reflects in part its relative strength in specialised products.

84. The following table shows the value of BICC's home sales and total sales of general wiring cable 1971–76 together with its total sales expressed as a percentage of the total sales of all United Kingdom manufacturers:

TABLE 2.14 **General wiring cable sales**

	Home sales *£ million*	*Total sales* *£ million*	*Home and export sales* *Per cent*
1971	43·8	51·5	N/A
1972	40·4	47·1	N/A
1973	51·2	58·7	36
1974	67·6	80·9	36
1975	66·5	80·1	36
1976	67·7	81·8	33

85. BICC estimates the percentages of its 1977 sales by customer category as follows:

	Per cent
Wholesalers	41
Electrical contractors	4
Industrial customers	34
Nationalised industries and Government departments	21

BICC's booklet cables are mainly sold to electrical wholesalers, though they are also sold direct to large contractors and industrial companies.

Production and Investment

86. BICC's manufacture of general wiring cable came in 1975 under the operational control of BICC General Cables Ltd, a subsidiary company of BICC Cables. Its principal works are at Leigh, Helsby, and Wrexham, but special types of general wiring cable are also manufactured at Melling, Leyton and Belfast.[2] Mineral insulated cable is manufactured at Hebburn-on-Tyne and at Prescot.

87. The two largest works, at Leigh and Helsby, were already part of BICC when it was formed in 1945, but the Wrexham factory (Wrexham II), built on a green field site at a cost of £4·6 million, first came into production in 1970–71. The Leyton and Belfast factories originally belonged to Reliance-Clifton Cables Ltd which was acquired by BICC in 1969.

88. Leigh is basically a jobbing factory, with 18,000 live manufacturing specifications, serving the electronics, aerospace, mining, railway signalling, oil rig and ship wiring fields. Its products are largely confined to cable made with

[1] This term is explained in paragraph 276.

[2] The Belfast works is part of BICC Telecommunications Cables Ltd.

rubber, synthetic rubber and special high performance insulants. Helsby, also a jobbing factory, manufactures some 6,000 live specifications, and the markets served include the industrial building, domestic appliances, automobile, petrochemical, telephone cords, television and radio, electronics and computer fields. Its products are mainly plastic insulated. Up to 1971, Helsby had also manufactured the popular types of general wiring cable for which there is a high demand, and which are sold from stock; but when BICC brought into operation Wrexham II, which like the Wrexham mains cable factory (Wrexham I), uses high-speed automated production methods, production of the types of cable involved was transferred to the new factory leaving Leigh and Helsby to concentrate on more specialised types of general wiring cable. This transfer was followed by an extensive programme of modernisation and investment at the two older factories.

Plastic and elastomeric insulated cables

89. The following table lists BICC's factories making plastic and elastomeric insulated general wiring cable, and shows in respect of each in 1977, the products made and the numbers employed at the end of the year:

TABLE 2.15 **General wiring cable factories**

Factory	*Products*	*Employees on 31 December*
Helsby	mainly plastic-insulated other than those made at Wrexham I	1,971
Leigh	mainly rubber, synthetic rubber—and special high performance (eg PTFE) insulated	2,323
Wrexham II	building wires and small conductor PVC-insulated, steel wire—armoured cables only	389
Melling[1]	equipment wires, glass-insulated cookers wires, heat-resisting cables, ribbon and flat form cables, glass/silicone high temperature appliance wires, miniature cables	441 general wiring cable plus winding wires
Leyton[1]	miscellaneous products notably plastic and rubber insulated leads with integrally moulded terminations	591 general wiring cable plus telecommunication cable
Belfast[1]	rubber and plastic insulated leads with integrally moulded terminations	235 telecommunication cable plus general wiring cable
Renfrew[2]	building wires and PVC-insulated wire armoured cables only	133 mains cable plus general wiring cable

Prices

90. BICC publishes price lists for some 8,500 different items (excluding items which are separate only because of colour or other non-technical differences)

[1] Factory also manufactures other reference goods.

[2] Renfrew factory was in course of closure at the end of 1977.

with a wide range of differing cost structures. The most important list is its trade price list for 'booklet' cables (see paragraph 276), but it also produces price lists for most specialised cables comprising items such as aircraft cables, radio and television cables, heating cables, railway signalling cables, mining cables and X-ray cables, on which it gives a variety of discounts to customers, including wholesalers, according to the company's judgment of the customer's potential annual purchases. Sales to some large users, such as British Rail and the National Coal Board, are made by competitive tender at net prices. Prices are arrived at by reference to cost and to the competitive situation in such cases, and these arrangements generally cover the supply of cable over a period with provision for automatic adjustment in respect of the price of copper.

91. BICC's price lists had to be entirely re-cast with the adoption of metrication on 1 January 1970. Between that date and December 1977, BICC issued 33 new price lists for booklet cables. Changes in the list prices were mainly occasioned by changes in the price of copper (though changes in other costs were also taken into account), but three successive reductions in some list prices in 1971–72 were made in response to price cutting (see paragraph 298).

92. When changes in list prices are occasioned by increases or decreases in costs, BICC's policy is to apply those increases or decreases to the individual products that those cost changes affect, rather than apply an overall percentage increase or decrease to products with very different cost structures. But the exercise is described as not being a simple one of cost recovery, but one requiring the consideration and balancing of a number of factors, the relative impact of which will not be constant, of which the following are cited as examples: profitability either overall or in respect of particular products or product groups; the state of demand and the competitive situation; pre-existing price relationships; the need to have a structure which is rational and acceptable; and the provisions of prices legislation.

93. In the case of the standard types of general wiring cable manufactured at Wrexham II, the effect of cost changes on individual products is continuously monitored, with extensive use being made of computer programmes. Account is taken of factory costs (which are affected by volume loading, product mix and productivity) as well as of alterations in raw material costs, and in addition the profit contribution of individual products is kept under review.

94. In the case of general wiring cable manufactured at the 'jobbing' factories, such continuous monitoring of costs does not take place, but every three months a review is made of the profit contribution rates of individual product groups. This review is made on a fairly broad basis, with not all costs being assessed product by product; for instance, overall scrap rates for the factory as a whole are used. However, the review enables BICC to see whether its list prices are broadly in line with costs. In addition, special cost reviews are undertaken on an *ad hoc* basis where the three-monthly reviews lead BICC to suppose that the level of price of a particular product group is seriously out of line with costs; and when new products are introduced a detailed review of their costs is undertaken.

95. In taking account of changes in the price of copper incorporated in general wiring cable, BICC adopts a FIFO (first in first out) policy. In this connection BICC expressed the view that its copper pipeline was probably longer than that of some of its competitors. The effect of changes in the price of copper on BICC's list prices is discussed further in paragraphs 285 and 300–302.

96. When issuing new price lists BICC used to send copies of them to some other cablemakers at the same time as it sent them to its customers, but it has not done this since 1974.

Discounts and rebates

97. BICC's effective price for goods sold by reference to price lists is the price after deducting discount and any additional rebate. The list price is seldom, if ever, charged, but is a datum point from which net prices are calculated. While discounts off list prices are invariably given, the rates are not, save in the case of mineral insulated cable, published.

98. BICC generally gives the highest rates of discount to wholesalers, though very large industrial buyers may be able to obtain comparable rates. Wholesalers are given higher rates for booklet than for non-booklet items reflecting the services they normally provide in respect of booklet, but not of non-booklet, items by way of stockholding, distribution and the provision of credit to customers. BICC also has a preference for dealing with the ultimate customer when supplying non-booklet items. The rates of discount to wholesalers range from 30 per cent to 34 per cent for booklet items, and from 25 per cent to 29 per cent for non-booklet items, the highest rates of discount in each case being generally accorded to the largest wholesaler customers.

99. Before 1974, the same ranges of discounts had been given to wholesalers for booklet and standard non-booklet[1] items. The present two-tier system was introduced in January of that year by BICC after having made known to the wholesale trade through the Electrical Wholesalers Federation, its intentions of introducing it, its policy in this respect being in the event accepted by both wholesalers and other cablemakers. BICC told us that its initiative was taken in accordance with its aim of preventing excessive 'drift' in the rates of discount given, and of bringing actual prices nearer to those dictated by costs. In this case the latter objective was uppermost in that the differential was achieved by increasing the rates of discount given in respect of booklet items, not by reducing those in respect of non-booklet items. The net prices to the larger wholesalers qualifying for the highest rate of discount were little affected by the change, because rebates were reduced to offset the increase in discounts, but wholesalers qualifying for the lowest rate of discount obtained an advantage, because they were mainly not in receipt of rebates.

100. Most of the relatively small amount of general wiring cable which BICC sells to contractors is sold to large contractors who are offered terms comparable with the best that BICC thinks they would be likely to be offered by a wholesaler. BICC offers low discounts to small contractors reflecting the additional costs and risk of bad debts which it would incur if it were to deal direct with a larger number of small contractors. The following discounts are offered by BICC to customers other than wholesalers:

Customers	*Discount (per cent)*
Contractors	5 to 27½ (inclusive of standard rebate of 5 per cent)
Industrial buyers	up to 24
Very large industrial buyers	up to 32½

[1] See paragraph 276 for explanation of this term.

101. A cash discount of 2½ per cent is given for all general wiring cable, for payment by the 20th of the month following invoice. Longer periods for settlement are sometimes agreed.

102. BICC told us that the ranges of discount it offers to wholesalers and the larger contractors reflect its need to attract appropriate volume and a reasonable share of the market so as to enable its general wiring business to be conducted profitably. The level of discount allowed is based on BICC's estimate of the customer's purchasing potential and the need for BICC to offer terms that are at least comparable with those of its competitors. There is no direct link between the level of the discount allowed and the cost of supply.

103. BICC offers rebates additional to discounts, to a small number of wholesalers and a few of its other large customers. These rebates differ from discounts in that they are invariably the subject of personal negotiation at senior level, and they are paid periodically, in arrears, to head offices. Unlike discounts, which are expressed on the face of the invoice, the rates agreed are not readily ascertainable, though BICC said that it does not attach any pledge of secrecy to the rates which it offers. The rebates are calculated by applying the agreed rate to the net invoice price. They are volume-related only in the sense that the amount payable varies with the actual amount of the customers' purchases. In the ordinary way only the wholesaler's purchases of booklet and standard non-booklet items qualify for rebate, not his purchases of specialised general wiring cable or mains cable. However, a few very large wholesalers receive from BICC rebates in respect of a wider range of products including some non-reference goods. Cables constitute 95 per cent of all such wholesalers' purchases from BICC and most of the cable is general wiring cable. According to BICC higher rates would have to be given if they were calculated by reference to a narrower range of products.

104. Electrical contractors receive a basic rebate (or 'deferred discount') of 5 per cent though this is often given in the form of a face of invoice discount. The range of discounts for contractors quoted in paragraph 100 is inclusive of this rebate. Some industrial customers expect rebates. For example, tender documents issued by the British Railways Board and the National Coal Board make provision for rebate to be offered.

Mineral insulated cable

105. BICC's production of mineral insulated cable began in 1953 and its first sales were made in 1955. Its principal United Kingdom competitor, Pyrotenax Ltd, already well established in this field, was acquired by BICC in 1966[1]. Another company, Glynwed Ltd, began to make mineral insulated cable in 1962 but ceased manufacturing at the end of 1969. After the merger, until July 1976, BICC and Pyrotenax carried on separate businesses though their published list prices and discounts were identical, but from July 1976 following a consultant's report the two companies have been operated as a single autonomous

[1] The merger with Pyrotenax Ltd was referred to this Commission which recommended that it should be allowed to proceed subject to certain assurances given to them by BICC. These assurances, which are listed in Appendix 5 to the Commission's report (British Insulated Callender's Cables Ltd and Pyrotenax Ltd. A report on the proposed merger), are reproduced in appendix 7 hereto.

unit, BICC Pyrotenax Ltd. The new arrangement was expected to effect savings in administration, and in the sales and distribution of the product. After about a year's experience BICC told us in June 1977 that estimated annual savings of some £500,000 from the new arrangements were being achieved.

106. The following table shows the value of BICC's total sales of mineral insulated cable 1972–77:

TABLE 2.16 **Mineral insulated cable**

Year	*Total sales £ million*
1972	10·6
1973	13·5
1974	16·3
1975	15·9
1976	18·0
1977	20·5

107. Mineral insulated cable is made at Hebburn (the former Pyrotenax Ltd factory) and Prescot. The total number of employees on 31 December 1977 was 1,067.

108. BICC states that the majority of its mineral insulated cable sales are made to wholesalers.

109. BICC publishes price lists for mineral insulated cable, from which it gives the following discounts:

Customers	*Discount (per cent)*
Wholesalers	15 plus up to a further 12½
Contractors	Up to 23
Trade users	Up to 20, based on annual turnover
Other cable manufacturers	25 to 28
Public bodies and nationalised industries	12½ to 20

110. In accordance with the assurances[1] given by BICC when the BICC/Pyrotenax merger was being considered by this Commission, BICC makes available to each category of customer its terms (including terms and conditions as to discounts, rebates and credit) for mineral insulated cable appropriate to that category.

111. BICC does not in general give rebates on purchases of mineral insulated cable but it does give to a small number of wholesalers rebates based on their purchases of a range of BICC products including mineral insulated cable.

Profits and profitability

112. The following table gives BICC's operating profits[2] on general wiring cable, for each of the years 1971–76 on an historic cost basis expressed as a percentage on home sales, on total sales, and on capital employed, together with the average profit as a percentage of capital employed for all manufacturing industry:

[1] See Appendix 7.
[2] See note to paragraph 52.

TABLE 2.17 **Profits on general wiring cable**

Year	*Home sales Per cent*	*Total sales Per cent*	*Capital employed Per cent*	*Capital employed—manufacturing industry average Per cent*
1971	12	11	23	13
1972	10	10	21	14
1973	9	9	19	17
1974	7	7	17	16
1975	8	8	18	15
1976	7	7	15	18
Simple average over period	9	9	19	16
Simple average 1973–1976	8	8	17	17

113. General wiring cable includes a great number of cables which may have different margins and give different returns on capital. We have not investigated costings for individual cable types except that we obtained separate figures for the return on capital of mineral insulated cable of which BICC is the only producer and which is produced in separate works. In certain years the return on mineral insulated cable was very different from that on other types of general wiring cable but the simple averages were as follows:

	Return on capital 1971–76 Historic cost basis
All general wiring cable (as above)	19%
Mineral insulated cable	26%
Other general wiring cable	17%

The return on mineral insulated cable is increased because exports are more profitable than home sales which is not the case with some other categories of general wiring cable.

114. BICC provided figures of profits as a percentage of capital employed in general wiring cable, adjusted for inflation in accordance with the principles of current cost accounting, as shown by the following tables with comparative figures for all manufacturing industry:

TABLE 2.18 **Return on capital—current cost basis**

Year	*All general wiring cable Per cent*	*Average of all manufacturing industry Per cent*
1973	2	7
1974	7	2
1975	8	3
1976	1	2
Simple average 1973–1976	4	4

Winding wires

115. In the period 1971–76 BICC's total home and export sales of winding wires amounted to 17 per cent of its total home and export sales of all reference goods. The following table shows the value of BICC's home sales and total sales

in 1971–76 together with its total sales expressed as a percentage of the total sales of all United Kingdom manufacturers[1]:

TABLE 2.19 **Winding wires sales**

Year	*Home sales £ million*	*Total sales £ million*	*Home and export sales Per cent*
1971	17·1	19·9	N/A
1972	17·1	19·8	N/A
1973	23·0	27·0	45·1
1974	30·3	36·3	46·3
1975	21·6	25·1	44·3
1976	23·6	26·9	41·2

116. BICC estimates its market share in volume terms of enamelled and textile covered wires as follows:

TABLE 2.20 **Share of United Kingdom winding wires market**

Year	*Enamelled*	*Textile*
1965	46	32
1970	42	33
1971	42	33
1972	43	36
1973	44	35
1974	44	32
1975	41	38
1976	33	36

Sales of both types of wire declined over this period, but textile covered wires declined much more steeply and by 1976 accounted for only about one-ninth of the total market.

117. BICC has over 1,000 customers for winding wires, all of them industrial manufacturers.

Production

118. Since 1975 BICC's manufacture of winding wires has been under the operational control of BICC Connollys Ltd, a subsidiary of BICC Cables. The most important factory is Kirkby, at which a full range of winding wires is made, and which accounts for over half of BICC's production. Huyton Quarry and Melling, part of BICC General Cables, produce a complementary range of types, and together account for about a further third of BICC's winding wire output. The small factory of Fine Wires Ltd at Nottingham produces specialities. A factory at Bessbrook in Northern Ireland was closed at the end of 1976 because of falling demand, and production at Kirkby was reduced at the same time.

Prices

119. BICC's sales are made at list prices, less discount and rebates, and not by tender.

120. The level of discount off list prices given to a customer is based on BICC's estimate of his annual potential purchases ('status') (see paragraph 339).

[1] BICC's home sales as a percentage of all sales in the United Kingdom are given in paragraph 332.

121. BICC gives rebates in addition to discounts to a small number of its customers, but they are mainly its largest customers and they account for well over half BICC's sales. However, no precise pattern is followed, and rebates are given to some customers who qualify for only a low 'status' discount.

Profits and profitability[1]

122. The following table gives BICC's operating profits [losses] on winding wires for each of the years 1971–76 on an historic cost basis expressed as a percentage on home sales, on total sales, and on capital employed, together with the average profit as a percentage of capital employed for all manufacturing industry:

TABLE 2.21 **Profits on winding wires**

Year	*Home sales Per cent*	*Total sales Per cent*	*Capital employed Per cent*	*Capital employed—manufacturing industry average Per cent*
1971	6	4	9	13
1972	8	5	12	14
1973	6	5	12	17
1974	4	3	8	16
1975	Nil	[2]	[4]	15
1976	Nil	[2]	[5]	18
Simple average over period	4	2	5	16
Simple average 1973–1976	2	1	3	17

BICC also provided figures of profits/[losses] as a percentage of capital employed on winding wires adjusted for inflation in accordance with the principles of current cost accounting as shown in the following table with the comparative figures for all manufacturing industry:

TABLE 2.22 **Return on capital—current cost basis**

Year	*Winding wires Per cent*	*All manufacturing industry Per cent*
1973	6	7
1974	[0·5]	2
1975	[8]	3
1976	[10]	2
Simple average 1973–1976	[3]	4

Stockholding

123. BICC holds stocks, mainly at local sales branches, for those of its customers who have a regular demand for particular sizes and types of winding wire. A base stock of items sold by two or more stockholding branches will usually be held at the factories. Subject to cash flow considerations, about 9 weeks' total sales are held in stock at any one time.

[1] See note to paragraph 52.

Telecommunication Cable

124. In the period 1971–76 BICC's total home and export sales of telecommunication cable amounted to 17 per cent of its total home and export sales of all reference goods. The following table shows the value of BICC's home sales and total sales of telecommunication cable in 1971–76, together with its total sales expressed as a percentage of the total sales of all United Kingdom manufacturers[1]:

TABLE 2.23 **Telecommunication cable sales[2]**

Year	*Home sales £ million*	*Total sales £ million*	*Home and export sales Per cent*
1971	17·7	21·4	N/A
1972	17·1	20·8	N/A
1973	19·2	22·7	28·2
1974	23·2	29·5	27·8
1975	21·3	29·9	27·4
1976	16·4	27·6	23·8

125. Most of BICC's United Kingdom sales of telecommunication cable are to the Post Office but a significant amount of business is done also with public utilities and major industrial organisations which operate their own telecommunication systems. The appropriate percentages are as follows:

Post Office	92½ per cent
Industrial customers and public utilities	7½ per cent

Production

126. Since 1975, BICC's manufacture of telecommunication cable has been under the operational control of BICC Telecommunication Cables Ltd which manufactures all types of telecommunication cable except submarine cable. In 1975 its external telephone cable[3] was manufactured at Prescot, Belfast, Blackley, Leyton and Renfrew, but manufacture of external telephone cable at the last named works ceased during 1976 as a consequence of reduced demand. Blackley, Leyton and Belfast also make switchboard cable.

127. Prior to 1975 BICC had committed substantial sums to expanding and modernising its production. In 1961 it re-located and modernised the Prescot facilities at a cost of £1·5 million, and since 1961 a further £4·8 million was spent in extending and modernising the Prescot plant for the purpose of coping with increasing demand and the increasing sophistication of the product. In 1968, BICC purchased Reliance-Clifton Cables Ltd, with cablemaking factories at Leyton and Belfast at a cost of some £13·3 million, and during the period 1972–74 some £1 million was spent in improving the Blackley plant.

128. All sales are made by reference to tenders or quotations at net prices and no rebates are offered or granted. Until December 1974, BICC was party to an

[1] BICC's home sales as a percentage of all sales in the United Kingdom are given in paragraph 355.

[2] Sales of internal telephone switchboard cables manufactured at Helsby, in 1974 worth £6·1 million, have been counted as sales of general wiring cable.

[3] See paragraphs 356–358 for a description of this cable.

agreement with other cablemakers on prices to be tendered or quoted to the Post Office for external telephone cable (see paragraph 364).

Profits and profitability

129. The following table shows BICC's profits[1] on telecommunication cable for each of the years 1971–76 on an historic cost basis expressed as a percentage on home sales, on total sales, and on capital employed together with the average profit as a percentage of capital employed for all manufacturing industry:

TABLE 2.24 **Profits on telecommunication cable**

Year	*Home sales Per cent*	*Total sales Per cent*	*Capital employed Per cent*	*Capital employed—manufacturing industry average Per cent*
1971	11	11	36	13
1972	12	13	41	14
1973	10	10	34	17
1974	5	4	14	16
1975	7	4	16	15
1976	11	8	29	18
Simple average over period	9	8	28	16
Simple average 1973–76	8	6	23	17

The profits have been adjusted to take account of payments to the Post Office (see paragraph 52).

130. BICC also provided figures of profits as a percentage of capital employed on telecommunication cable adjusted for inflation in accordance with the principles of current cost accounting as shown by the following table with the comparative figures for all manufacturing industry:

TABLE 2.25 **Return on capital—current cost basis**

Year	*Telecommunication cable Per cent*	*All manufacturing industry Per cent*
1973	16	7
1974	1	2
1975	Nil	3
1976	5	2
Simple average 1973–76	6	4

Stockholding

131. BICC does not stock finished products but arranges production programmes to meet Post Office and other customers' requirements.

[1] See note to paragraph 52.

CHAPTER 3

AEI, Delta and Pirelli General

132. In this chapter we describe the other three major manufacturers, namely AEI, Delta and Pirelli General.

AEI

133. Within the General Electric Company Ltd (GEC) group of companies reference goods are made by five companies all of which are subsidiaries of Associated Electrical Industries Ltd (AEI). These are AEI Cables Ltd (AEI Cables) manufacturing general wiring cable, mains cable, some telecommunication cable and some solid supertension cable; Telephone Cables Ltd (TCL) manufacturing telecommunication cable; and the London Electric Wire Company & Smiths Ltd (LEW), with its subsidiaries Kent Electric Wire Ltd (Kent) and FD Sims Ltd (Sims), manufacturing winding wire and strip. In this report, except where the context requires us to do otherwise, we refer to these five companies jointly as 'AEI' and use 'GEC' to denote the wider group of GEC cablemaking and non-cablemaking companies. TCL and LEW were subsidiaries of AEI when it was acquired by GEC in 1967. AEI had engaged in cablemaking since the 1920s. From 1955 onwards it expanded its cablemaking activities through the acquisition of a number of manufacturing companies. One of these brought into AEI ownership a 46 per cent interest in TCL and this was later increased to its current 74·5 per cent interest partly as a result of an exchange of holdings with BICC over the period 1958–61[1]. LEW was acquired in 1959. In 1960 a separate trading division was set up, known as the AEI Cable Division, incorporating the various cable activities of AEI into one division under central management control. In 1968 AEI Cables Ltd was set up as a management company and selling agent for the AEI general wiring cable interests based at Birtley and power cable interests based at Gravesend.

134. GEC Telecommunications Ltd, makes telecommunication cable for incorporation in equipment which it manufactures, that is to say it produces but does not supply, except that it supplies small amounts of telephone cord to the Post Office. Vactite Ltd, a LEW subsidiary, makes resistance wires and PTFE insulated cable among its other products but these represent only a small proportion of its total turnover. We have not included these companies' sales in our estimates of the supply of reference goods as they are insignificant.

135. The current management organisation of GEC as it affects cablemaking is shown in Appendix 8.

136. AEI is the largest United Kingdom manufacturer of reference goods after BICC and also the largest manufacturer, after BICC, of mains cable, winding wire and land telecommunication cable (that is to say telecommunication cable other than submarine cable). It makes cable in six factories with a total workforce of 4,342.

[1] The remaining 25·5 per cent of the equity is held by Delta.

137. Another AEI subsidiary, Frederick Smith & Co (FS), buys copper on behalf of the AEI cablemaking companies as well as for its own use. In 1973–74 FS supplied a total of 42,700 tonnes of copper rod, wire and strip to United Kingdom cable and covered wire manufacturers, of which 22,500 tonnes were supplied to AEI companies other than LEW and its subsidiaries and 15,200 tonnes to LEW companies. FS supplies the bulk of AEI Cables' copper requirements in the form of copper rod on terms negotiated from time to time. There is no agreement or mandate compelling either party to act other than at arm's length. Sales are at market prices. There is no exclusive buying agreement. TCL obtains its requirements of drawn copper (and some aluminium) wire from AEI Cables and also from Enfield Rolling Mills Ltd (ERM), a Delta Metal Group subsidiary. The latter arrangement stems from the terms of an agreement dated 14 May 1962 under which TCL originally obtained its requirements of drawn copper (but not aluminium) wire from AEI Cables and also from ERM, in shareholding proportions (see paragraph 133), as long as they were able and willing to supply. Under a memorandum of agreement dated 5 August 1975, the clause of this agreement giving effect to the split of purchases between shareholders was determined and these restrictions ceased to apply. TCL purchases aluminium alloy wire from whatever source is able to offer the best quality and delivery taking due account of price.

138. The following table show AEI's home sales and total home and export sales of reference goods for the years 1971–76. They are expressed in sterling values and also as percentages respectively of total sales in the United Kingdom and of the total home and export sales of all United Kingdom cablemakers:

TABLE 3.1 **Home and export sales**

	Sales £ million		*Market share per cent*	
Year	*Home*	*Home and export*	*Home*	*Home and export*
1971	46·6	54·2	N/A	N/A
1972	46·5	53·9	N/A	N/A
1973	55·0	65·9	16·3	17·2
1974	63·4	81·6	15·2	15·9
1975	52·6	68·9	13·6	13·9
1976	61·9	82·1	14·8	15·1

139. AEI suggested that 25·5 per cent of TCL sales and profits, corresponding to Delta's minority shareholding, should be excluded from AEI's figures. As TCL is controlled by AEI we consider that the whole of TCL's figures should be included with those of AEI and we have done this throughout our report.

140. The following table shows AEI's profits on reference goods in each of the years 1971–76 expressed as a percentage of home sales, of total sales, and of capital employed (historic cost basis):

TABLE 3.2 **Profits on reference goods**

Year	*Home sales Per cent*	*Total sales Per cent*	*Capital employed Per cent*
1971	12	12	27
1972	11	11	26
1973	6	6	17
1974	5	6	19
1975	8	10	24
1976	7	8	23
Simple average for six years	8	9	23

AEI has given an estimate of the amount of its repayments to the Post Office (see paragraph 367) that should be set against its profits for the years 1971–1974 and the percentages of profit have been adjusted accordingly.

Research and development

141. The company's research and development activities are divided into fundamental investigations into material properties and processes, and product development.

142. Research projects are undertaken by the GEC Hirst Research Centre into a wide range of matters concerning cablemaking. Utilising fundamental knowledge obtained from that research, the company has been engaged in developing and enlarging the range of power cables employing synthetic insulation and claims to hold a leading position in the export sales of these products, particularly in the range $11kV$ to $33kV$, although the use of these cables is negligible. The company also claims that its research centre has provided optical fibres for incorporation in new designs of telecommunication cable which are of outstanding quality in their low level of attenuation.

143. In the field of conventional paper insulated power cable, development has been and is still being carried out into problems involved in the use of aluminium sheathing and low voltage and $11kV$ as a replacement for lead sheath. At $33kV$ a new type of paper insulated cable has been developed which iscapable of a higher current carrying capacity than the standard cable and which does not require the special pressurisation accessories of oil-filled cable.

144. Expenditure (revenue and capital) on research and development in 1974 amounted to some £499,000. The figure for 1976 was £752,000.

Pricing policy

145. Within AEI the responsibility for fixing prices rests with the Managing Director of the profit unit concerned. In the case of major tenders and long-term contracts pricing proposals are reviewed by GEC headquarters to ensure that the inherent risks have been fully evaluated and are duly reflected in the proposed tender price and the terms of contract.

146. AEI told us that in general terms its profit objective is to obtain the maximum use of capital and manpower resources to achieve the best return on capital employed while having regard to the need to maintain acceptable quality, long-term customer relationships and a socially responsible salary and wages policy.

Mains and Supertension Cable

147. In the six-year period ending 31 March 1977, mains and supertension cable accounted for 19 and 1 per cent respectively of AEI's total home and export sales of reference goods.

Principal customers

148. The percentages of AEI's home sales of mains cable to different categories of customer are:

Customers	*Per cent*
Area Boards	46·9
Contractors	29·8
Industry	11·8
Wholesalers	8·7

Almost all AEI's home sales of supertension cable are to Area Boards.

Price lists, discounts and rebates

149. There are no price lists for supertension cables. Until August 1973, AEI Cables published price lists for mains cable up to 22*kV*. The company now uses internal working documents dated April 1974, which, after appropriate adjustments for cost increases, form the basis of its prices for current tenders to Area Boards. A similar document is used for calculating prices for customers other than the Area Boards. Deductions are made from the standard prices in the working document for different classes of other customers, and discounts, where applicable, are quoted off these prices separately. (Unless specifically requested by a customer, the company does not quote a net price.) Some electrical contractors are offered a quarterly rebate as a purchasing commission. Quantity discounts are sometimes offered in addition to rebates to a few large customers who have major contracts to place or a substantial annual turnover.

Production and stockholding

150. AEI told us that it had derived considerable benefits from an extensive programme of reorganisation of its manufacturing facilities during the late 1960s. At this time production at 11 locations, 5 of them making a variety of products, was reduced to 6 locations each of which now only manufactures a specialist range of products. The benefits extended to all the cable products manufactured by AEI. Mains and supertension cable are made by AEI Cables at Gravesend. AEI Cables holds stocks of mains cable up to and including 11*kV* for all Area Boards with which it has contracts to await customer call-off. The size of stock is largely determined by the contracts on hand, the forecast rate of call-off by the various Boards and the number of Boards involved. Separate stocks are held of mains cable up to and including 11*kV* supplied to industrial customers, wholesalers and contractors, which tend to be of different design from Area Board cables. Mains cables above 11*kV* and supertension cables are custom-designed and are not stocked.

General Wiring Cable

151. In the six-year period ending 31 March 1977, general wiring cable accounted for 20 per cent of AEI's total home and export sales of reference goods.

Principal customers

152. AEI's principal customers, by category and the approximate percentages of its home sales made to each category are:

Customers	*Per cent*
Wholesalers	39
Electrical contractors	4
Industrial users (other GEC companies)	37
National Coal Board	8
Railways	3
Government departments	2
Area Boards	2
Other	5

Price lists, discounts and rebates

153. AEI Cables publishes price lists for booklet cable. Its list prices normally follow those of BICC. For other than booklet cable AEI Cables either uses BICC's published list prices as a basis for its tendered or quoted prices or calculates selling prices based on its own costs. More detailed information about general wiring cable prices, discounts and rebates is given in Chapter 6.

Production and stockholding

154. Production of general wiring cable benefited equally with production of mains and supertension cable from the reorganisation of AEI's manufacturing facilities described in paragraph 150. It is AEI Cables' policy to hold 4 to 6 weeks' stock at 16 depots throughout the country, backed by 2 weeks' stock at Birtley. Stocking of specialised wiring cable is geared to customers' requirements.

Winding Wires

155. In the six-year period ending 31 March 1977 winding wires accounted for 28 per cent of AEI's total home and export sales of reference goods. Winding wires are made by LEW at Leyton and by Kent and Sims at Bracknell and Ramsbottom (Lancs) respectively.

Principal customers

156. Sales of winding wires are made direct to industrial manufacturers for use in the manufacture of transformers, generators, electric meters and other products. Some 31 per cent of AEI's home sales are made to companies within the GEC Group. Users of winding wires within the GEC organisation are free to buy from other sources if LEW is not competitive and do in fact do so but the company told us that everything else being equal there was a preference for obtaining supplies from within GEC. Sales are made on an arm's length basis.

Prices

157. Detailed information about winding wires prices, discounts and rebates is given in Chapter 7.

Telecommunication Cable

158. In the six-year period ending 31 March 1977 telecommunication cable accounted for 32 per cent of AEI's total home and export sales of reference goods. Telecommunication cable is made by TCL at Dagenham and by AEI Cables at Birtley.

Principal customer

159. AEI's principal customer is the Post Office to whom approximately 75 per cent of its total sales of telecommunication cable are made.

Prices and pricing policy

160. Telecommunication cable is sold by tender or quotation and no discounts or rebates are given. Until December 1974 TCL was a party to an agreement with other cablemakers regarding prices tendered or quoted to the Post Office for external telephone cable (see paragraph 364).

DELTA

The Delta Group

161. The Delta Metal Company Limited with its six United Kingdom Divisions and one Overseas Division (the Delta Group) is a leading British manufacturer of brass rod and wire and a major supplier of building products, electrical equipment and non-ferrous metals. Its range of products includes electric cables, switchgear and accessories, water fittings, gas controls, central heating and refrigeration equipment, engineering valves and components, marine fittings, garden-care equipment, castings, pressings and turned parts for a wide variety of applications. The six United Kingdom manufacturing Divisions (Rod, Components, Building Products, Electrical, ERM and Cables) had sales in 1977 (including inter-group sales) of £474·3 million of which Cables Division sales accounted for £90·3 million. The Group's United Kingdom employees in 1977 averaged 23,800 of which Cables Division employed 2,600 (average). Within the Delta Group reference goods are made in the Cables Division (Delta Enfield Cables (Holdings) Ltd) and by Enfield Winding Wires Ltd (EWW), a subsidiary company of the ERM Division referred to in paragraphs 162 and 163. In this report we refer to the Cables Division and EWW jointly as 'Delta'.

Manufacture of reference goods: origins and development

162. The core of the Cables Division is Delta Enfield Cables Ltd which had its origins in the Enfield Electric Cable Manufacturing Co Ltd founded in 1913. In 1959, as Enfield Cables Ltd, it was acquired by Enfield Rolling Mills Ltd (ERM) and a new company, Enfield Standard Power Cables Ltd (ESPC) was formed jointly owned with Standard Telephones & Cables Ltd (STC). The new company combined Enfield Cables Ltd activities with STC's cable activities other than telephone cable. In 1961 ESPC acquired the cable business and assets of Mersey Cable Works Ltd from Tube Investments Ltd (TI), for which TI received a 12 per cent share in ESPC. In 1963 the Delta Group acquired ERM together with its interest in ESPC, and in 1964 it acquired STC's and TI's interest in ESPC, which then became a wholly-owned subsidiary. Also in 1964 it acquired the considerable business of Johnson and Phillips Ltd whose cable activities were subsequently merged with those of ESPC. In 1971 ESPC broadened its field of activities to include more specialised types of cable by the acquisition of The Saxonia Electrical Wire Co Ltd and Wandleside Warren Wire Co Ltd (now Wandleside Cables Ltd). In 1973 the Delta Metal Company acquired Aerialite Ltd, whose cablemaking activities were subsequently merged with those of ESPC, the names ESPC and Aerialite being dropped in 1974 and the company renamed Delta Enfield Cables Ltd.

163. The present activities of Enfield Winding Wires Ltd originate in the small business which Enfield Cables Ltd had in the manufacture of textile-covered winding wires and strips prior to 1946. This manufacture was taken over by ERM at the time of the Enfield-Standard merger in 1959. Enfield Cables Ltd had begun to make enamelled wires in the late 1940s but had ceased production of these in the early 1950s. In 1963 ERM entered into an agreement with the Phelps Dodge Corporation of America (Phelps Dodge) to set up a new jointly-owned company, Enfield Phelps Dodge Ltd (EPD) to manufacture and sell enamelled wires and to sell ERM's textile-covered wires. In 1971 ERM bought

out the Phelps Dodge interest in EPD which was later renamed Enfield Winding Wires Ltd. ERM's winding wire business was completely merged with that of EWW which now manufactures and sells both enamelled and textile-covered winding wires.

164. The present organisation of the Cables Division within the Delta Group is set out in Appendix 9.

165. Delta manufactures mains cable, solid supertension cable, general wiring cable and winding wires. Although it does not manufacture telecommunication cable it has a 25½ per cent shareholding in Telephone Cables Ltd (see paragraphs 133, 137 and 139). Delta is the fourth largest United Kingdom cable manufacturer after BICC, AEI and Pirelli General measured in terms of the value of its total home and export sales but it is second only to BICC in the important general wiring cable sector and, within this sector, the largest supplier of booklet cables. It currently produces reference goods at nine factories.

166. The Delta Cables Division normally purchases the whole of its United Kingdom requirements for copper rod from ERM. ERM also supplies most of the copper wire required by those factories in the Cables Division which do not have their own wire-drawing facilities, and the bare copper wire and strip requirements of EWW. The Cables Division obtains virtually the whole of its supplies of aluminium wire (about 90 per cent of ERM's total production) from ERM. ERM undertakes to supply rod and wire to the Cables Division at prices which are no less favourable than it would charge to its other customers or than the Cables Division would be able to obtain from other suppliers were it to purchase its requirements on the open market. The Cables Division is required to conform to the same terms and conditions of supply as ERM's other customers. It does not normally buy from other sources so long as ERM is competitive in price and delivery. The Cables Division sometimes buys small quantities of copper rod from other suppliers when ERM cannot supply it. If ERM cannot supply wire the shortfall can usually be met by wire mills within the Cables Division, which seldom purchases wire outside the Delta Group. EWW purchases its bare copper wire and strip requirements from ERM at normal published list prices. Small quantities of bare copper wire are sometimes purchased from outside sources at list prices.

167. The following table shows Delta's home sales and total home and export sales of reference goods for the years 1971–76. They are expressed in sterling value and also as percentages respectively of total sales in the United Kingdom and of the total home and export sales of all United Kingdom cablemakers:

TABLE 3.3 **Home and export sales**

	Sales £ million		*Market share per cent*	
Year	*Home*	*Home and export*	*Home*	*Home and export*
1971	20·1	22·1	N/A	N/A
1972	18·0	19·8	N/A	N/A
1973	30·8	34·6	9·1	9·0
1974	40·3	46·9	9·6	9·1
1975	34·4	41·6	8·9	8·5
1976	37·6	44·0	8·9	8·1

168. The following table shows Delta's profits on reference goods in each of

the years 1971–76 expressed as a percentage of home sales, of total sales, and of capital employed (historic cost basis):

TABLE 3.4 **Profits on reference goods**

Year	*Home sales Per cent*	*Total sales Per cent*	*Capital employed*[1] *Per cent*
1971	16	16	34
1972	12	12	26
1973	Nil	Nil	Nil
1974	10	11	34
1975	9	10	27
1976	2	2	7
Simple average for six years	8	9	21

Delta provided figures on a current cost accounting basis for 1974, 1975 and 1976, the simple average profit for those three years being about 12 per cent instead of the 23 per cent on an historic cost basis for the same period.

Research and development

169. Basic research in the types of cable that Delta makes arises largely in respect of new materials, especially polymeric materials. This research is expensive and is mainly undertaken by the large petrochemical groups with whom Delta works closely.

Pricing policy

170. The Delta Group's overall target profit rate is 23 to 25 per cent on total capital employed on book values before interest and tax, although this is not considered sufficient in present circumstances. Delta told us that in pursuit of that objective it was necessary for the Group to seek a higher or accept a lower rate of profit on particular Group operations but that in the cable industry competitive pressures set an effective ceiling to the prices that could be sought consistently with Delta's retaining customer goodwill and its market share.

171. Ultimate responsibility in the Delta organisation for determining the prices of all cables (but not winding wires) lies with the Chairman of the Cables Division. For winding wires the general pricing policy of EWW is reviewed by the EWW Board.

Mains and Supertension Cable

172. In the six-year period ending 31 December 1976, mains and supertension cable accounted fo 29 per cent and 2 per cent respectively of Delta's total home and export sales of reference goods.

Principal customers

173. The percentages of Delta's home sales of mains cable up to but excluding $33kV$ to different categories of customer were, in 1973, as follows:

Customers	*Per cent*
Area Boards	47·4
Electrical contractors	26·2
Wholesalers	11·5
Others	14·9

[1] The return on capital employed includes some non-reference products.

174. For supertension cables the percentages were:

Customers	*Per cent*
Area Boards (cable only)	67·7
Supply and install contracts for Area Boards, CEGB and private sector	32·3

Price lists, discounts and rebates

175. Delta has no price lists for supertension cable.

176. Until the end of 1972 when BICC was still publishing price lists for mains cable up to $22kV$, Delta used these lists as a reference point to which its competitive quotations to Area Boards and other customers were related in terms of discounts, rebates and allowances off the list price to reach the net price to be quoted. Since 1972, for customers other than Area Boards, Delta has related its quotations to notional 'list' prices subject to discount and rebates.

177. Delta does not publish list prices for mains cable. It stated that there was no demand for this from customers and to do so would be expensive. Delta offers discounts to wholesalers, rebates to contractors and quotes a net price to industrial users of mains cable. These discounts/rebates (trade terms) are known to the wholesalers/contractors and are subject to change from time to time, infrequently, when terms are re-negotiated. When an enquiry is received the quotation is based on the notional 'list' price and the trade terms are shown as a separate item. Discounts are normally shown on the face of the invoice, but rebates are granted by way of credit notes.

Production and stockholding

178. Delta makes mains and supertension cable at two factories in Brimsdown (Enfield) and Cambuslang (Scotland). A small amount of armoured general wiring cable is also made at Brimsdown. Supertension cable is made to individual customer orders and stocks are not held. For mains cable which is in regular demand Delta budgets to hold between 6 and 10 weeks' stock. Some 80 per cent of the company's United Kingdom sales of mains cable is delivered from stock, the remainder consisting of cable made to the customer's orders.

General Wiring Cable

179. In the six-year period ending 31 December 1976, general wiring cable accounted for 61 per cent of Delta's total home and export sales of reference goods.

Principal customers

180. Delta's principal customers, by category, and the approximate percentages of its home sales made to each category in 1973 were:

Customers	*Per cent*
Wholesalers	54·4
Electrical contractors	14·5
Industrial users	16·6
Nationalised industries and Government departments	13·5
Shipbuilders	1·0

Price lists, discounts and rebates

181. Delta publishes a trade price list for booklet cable and separate lists for certain non-booklet items—TV downleads, relay cable, aircraft cable and PTFE cable. More than three-quarters of the company's total sales of general wiring cable are of products appearing in its trade price list. More detailed information about general wiring cable prices, discounts and rebates is given in Chapter 6

Production and stockholding

182. Delta makes general wiring cable in six factories at Charlton, Llanelli, Stalybridge (Cheshire), Greenwich, Dunmurry (N. Ireland) and Brimsdown, each specialising in particular cable types. Delta aims to hold 4–6 weeks' stocks of the most popular items of general wiring cable, such as cable for domestic and industrial wiring, at branches in 20 locations with back-up stocks held at two main warehouses. Most general wiring cable is delivered from stock but some special cables are made to customers' requirements.

Winding Wires

183. In the period 1971–76 Delta's total home and export sales of winding wires amounted to 8 per cent of its total home and export sales of all reference goods.

Principal customers

184. Delta's principal customers for winding wires and strips include manufacturers of electric motors, repairers of electrical equipment, and manufacturers of transformers.

Price lists, discounts and rebates

185. Delta produces textile covered wires to customers' orders, and no price lists are published for this type. The customer is quoted a net price.

186. For enamelled wires Delta publishes price lists. It normally follows the list prices of one or other of the major suppliers (BICC and AEI).

187. Detailed information about winding wires prices, discounts and rebates is given in Chapter 7.

Production and stockholding

188. Winding wires are made at two factories at Brimsdown. Users of enamelled wires are anxious to avoid holding stocks of such high value items themselves and look to suppliers to replenish their stocks at a few days' notice. Delta reckons to provide a virtually immediate delivery ex-stock of any of its standard enamelled conductors. It holds large stocks at Brimsdown and distributes through Delta Group depots in Yorkshire, Birmingham, Manchester and Gateshead. As a service to some large customers Delta holds consignment stocks at the customer's works, financed and owned by Delta until required for use by the customer. Seventy per cent of Delta's sales of enamelled winding wires are from such stocks. No stocks of textile covered wires are held.

PIRELLI GENERAL

Organisation

189. Pirelli General Cable Works Limited (Pirelli General) is the British cable making member of the Pirelli-Dunlop Union which has world-wide interests in rubber, plastics, electrical engineering and their related industries. Pirelli General was formed in 1914 as a company held in equal shares by Pirelli & C, an Italian limited partnership, and the General Electric Company Limited (GEC). In 1920, Pirelli & C transferred its industrial activities to Pirelli SpA of Milan and Société Internationale Pirelli SA (SIP) of Basle. Pirelli General now falls within the SIP Group but Pirelli SpA also has a shareholding in it. GEC's 50 per cent shareholding in Pirelli General continued until 1962 when Pirelli acquired most of the GEC shares, following a major reorganisation within GCE. The original trading agreement ended in January 1962[1] and in March 1969 SIP acquired GEC's remaining 5 per cent shareholding. In 1971 the operating activities of Pirelli SpA and SIP were brought together with those of Dunlop in the Pirelli-Dunlop Union. As a consequence Dunlop also now has shares in the company. The inter-company structure is set out in the form of a chart in Appendix 10.

Production, sales and profits

190. Pirelli General's first factory was at Southampton and its production is still concentrated in the Southampton area. By 1926 increased demand for the company's products led to the building of a new factory at Eastleigh (Hants). In 1965 a new supertension oil-filled cable factory at Eastleigh, built in response to Central Electricity Generating Board (CEGB) forecasts of increasing demand for supertension cables, came into operation.[2] In 1967 a new factory at Bishopstoke, near Eastleigh, was opened as the first phase of a 3 phase plan to increase Pirelli General's telecommunication cable production capacity and to bring within one unit all the company's production of telecommunication cables. The second phase of the plan was completed in 1970–71 and the third in 1973. In 1971 Pirelli General acquired an existing cable manufacturing company, Aberdare Cables Ltd, in Glamorgan.

191. Pirelli General now makes a comprehensive range of general wiring, mains, supertension and telecommunication cables and winding wires and strips. It is the third largest United Kingdom manufacturer of reference goods after BICC and AEI. It is the second largest manufacturer of supertension cable after BICC and the third largest manufacturer of mains cable (after BICC and AEI) but is smaller in the general wiring cable, telecommunication cable and winding wire categories. The company employs some 4,200 personnel of whom approximately 3,500 are engaged in the business of reference goods. It has cablemaking factories at Southampton, Eastleigh, Bishopstoke and Aberdare.

[1] Until this date Pirelli General's general wiring cable was distributed through the GEC branch network. Pirelli General's current distribution arrangements are described in paragraph 206.

[2] In 1969 a new company, Pirelli Enfield Supertension Cables Ltd (Pirelli Enfield) in which Pirelli General had a 74½ per cent and Enfield Standard Power Cables Ltd (Delta) a 25½ per cent shareholding (see paragraph 266) was set up to supply and install certain types and voltage ranges of supertension cables and accessories and associated products made by Pirelli General and Delta. Pirelli General acquired Delta's shareholding in Pirelli Enfield in 1977.

Also situated at Eastleigh are Pirelli General's copper rod rolling mill, the company's major wire-drawing facilities which feed its other factories, and the production unit for the manufacture of cable accessories.

192. The following table shows Pirelli General's home sales and total home and export sales of reference goods for the years 1971–76. They are expressed in sterling values and also as percentages respectively of total sales in the United Kingdom and of the total home and export sales of all United Kingdom cable-makers:

TABLE 3.5 **Home and export sales**

	Sales £ million		*Market share per cent*	
Year	*Home*	*Home and export*	*Home*	*Home and export*
1971	27·0	30·5	N/A	N/A
1972	27·8	31·0	N/A	N/A
1973	32·5	37·6	9·6	9·8
1974	41·1	50·5	9·9	9·9
1975	39·9	50·1	10·3	10·2
1976	41·3	53·0	9·8	9·8

193. The following table shows Pirelli General's profits on reference goods in each of the years 1971–76 expressed as a percentage of total sales and of capital employed (historic cost basis):

TABLE 3.6 **Profits on reference goods**

Year	*Total sales Per cent*	*Capital employed Per cent*
1971	15	20
1972	12	16
1973	6	9
1974	4	7
1975	11	16
1976	7	10
Simple average for period	9	13

Pirelli General gave us figures for return on capital employed on a current cost accounting basis for the five years 1971–75 which averaged about 6 per cent less than on the historic cost basis suggesting a current cost return of about 7 per cent for the six-year period. Pirelli General has given an estimate of the amount of its repayment to the Post Office (see paragraph 374) that should be set against its profits for the years 1971–74 and the percentages of profit have been adjusted accordingly.

Research and development

194. Under a technical guidance agreement between Pirelli General and its Italian associate, the company on payment of a fee calculated by reference to its sales has access to the extensive research relating to cables and cable accessories carried out by that associate in Milan. In addition the company conducts research concerning all types of reference products. Those activities are not confined solely to Pirelli General's own operations but to some extent are carried out as part of the Pirelli-Dunlop Union research programme. Annual expenditure by

Pirelli General on research and development (including technical guidance fees) amounted to about £1 million in 1974, £1·25 million in 1975 and £1·5 million in 1976.

Pricing policy

195. Pricing decisions are made within the framework of the objectives of the current management plan. Responsibility for determining specific prices is taken by management within the division in question, though pricing policy is the subject of regular discussion between divisional and corporate management.

196. The company told us that in determining its prices it must bear in mind *inter alia* the need to secure and maintain an adequate level of remuneration and good working conditions for its employees, as well as to recover other costs many of which are wholly or partly outside its control, whilst at the same time seeking to obtain a level of profit which will permit capital reinvestment and adequate dividends for shareholders.

197. The management plan prepared in 1974 set for the company's activities in reference goods a 1975 target return of 16 per cent profit before interest and tax on average net funds employed. This level was considered inadequate but was felt by the company to be the best that could be looked for in prevailing conditions. Currently no specific target has been set, due, it says, to the continuing adverse conditions in which it has to operate.

198. The extent to which the company is able to attain its objectives and the constraints placed on management in setting price levels vary with the different types of products and, in particular, with the different types of customers buying those products.

Mains and Supertension Cable

199. In the six-year period ending 31 December 1976 mains and supertension cable accounted for 28 per cent and 13 per cent respectively of Pirelli General's total home and export sales of reference goods.

Principal customers

200. Pirelli General's principal categories of customer for mains cable and the approximate percentage of its home sales to each category are:

Customers	*Per cent*
CEGB and Area Boards	37
National Coal Board	8
Contractors	32

About 95 per cent of Pirelli General's home sales of supertension cable is made to the CEGB and Area Boards.

Price lists, discounts and rebates

201. Mains and supertension cable is sold by tender. Pirelli General has no price lists for supertension cable and gives no discounts or rebates off list or other fixed prices.

Production and stockholding

202. Pirelli General makes mains cable at Eastleigh and Aberdare and supertension cable at Eastleigh. It holds stocks of low voltage and $11kV$ mains cable to service annual contracts awarded by individual Area Boards. Stocks of low voltage cable are also maintained to service the requirements of electrical contractors and large industrial users. The policy generally followed is to maintain the minimum volume of stock consistent with the provision of an efficient service in line with the anticipated market demand. Pirelli General states that it is required by some Area Boards to hold stocks on consignment and by some other Boards to supply either on a standard drum length or cut length basis. The only supertension cables Pirelli General holds in stock are for essential maintenance requirements.

General Wiring Cable

203. In the six-year period ending 31 December 1976, general wiring cable accounted for 31 per cent of Pirelli General's total home and export sales of reference goods.

Principal customers

204. Pirelli General's principal categories of customer and the approximate percentage of its home sales to each category are:

Customers	*Per cent*
Wholesalers	55
Contractors	10
National Coal Board	8
Manufacturers	25

Price lists, discounts and rebates

205. Most general wiring cables are sold by reference to price lists. Pirelli General issues its own lists for booklet cables in which its prices closely follow those published by BICC. For those types of general wiring cable for which it does not itself issue lists, Pirelli General uses the lists issued by BICC as a basis for its quotations. More detailed information about general wiring cable prices, discounts and rebates is given in Chapter 6.

Distribution

206. Pirelli General states that in the case of its wholesaler customers it seeks to ensure a geographically balanced national distribution network for its products. Pirelli General seeks to concentrate its sales efforts on a limited number of customers (to whom it gives deferred discounts) in order to make the maximum use of the more limited resources (such as distribution depots and sales representatives) that are available to the company as one of the smaller manufacturers of general wiring cable. It is part of Pirelli General's marketing strategy to supply direct only to a few major contractors and instead to use fully the distribution facilities of electrical wholesalers. Pirelli General has therefore aimed to develop closer ties with a few major national wholesalers whose distribution networks can best supplement the company's limited depot facilities on a national basis, and to give those wholesalers preferential terms.

Production and stockholding

207. Pirelli General makes general wiring cable at Southampton and Aberdare. It holds stocks of those cables for which there is a continuing but fluctuating demand or a demand for frequent small deliveries. The size of the stock is related to the expected market demand; the need to maintain production on as even a level as possible is also taken into account.

Winding Wires

208. In the period 1971–76 Pirelli General's total home and export sales of winding wires amounted to 10 per cent of its total home and export sales of all reference goods.

Price lists, discounts and rebates

209. Pirelli General sells winding wires generally by reference to list prices which follow those of the market leaders (BICC and the AEI companies). Detailed information about winding wires prices, discounts and rebates is given in Chapter 7.

Production and stockholding

210. Pirelli General makes winding wires at Southampton. It holds stocks of those winding wires for which either there is a continuing but fluctuating demand or there is a demand for frequent small deliveries.

Telecommunication Cable

211. In the period 1971–76 Pirelli General's total home and export sales of telecommunication cable amounted to 18 per cent of its total home and export sales of all reference goods.

Principal customers

212. Some 80 per cent of Pirelli General's home sales of telecommunication cable is made to the Post Office. A further 7 per cent goes to the British Railways Board.

Prices and pricing policy

213. Almost all cable sold by Pirelli General's Telecommunication Cables Division is sold by tender, the majority of it to the Post Office. Pirelli General tenders to the Post Office on the basis of the tender prices for previous contracts adjusted according to its estimate of the competitive market situation. No discounts or rebates are given. Until December 1974 Pirelli General was a party to an agreement with other cablemakers regarding prices tendered or quoted to the Post Office for external telephone cable (see paragraph 364).

Production and stockholding

214. Pirelli General makes telecommunication cable at its factory at Bishopstoke. Such cable is generally made to order and no stocks of finished products are held.

CHAPTER 4

Other Cablemakers

215. In this chapter we describe the activities of a number of cablemakers which, although smaller in 1974 than the four major manufacturers in terms of their total sales of reference goods, are nevertheless significant in the market sectors they serve. Their shares of total and home sales of reference goods are given in Tables 1.2 and 1.3 in Chapter 1.

STC

216. Standard Telephones and Cables Limited (STC) is a wholly-owned subsidiary of International Standard Electrical Corporation (ISEC) which is a company incorporated in the United States of America. ISEC is in turn a wholly-owned subsidiary of the International Telephone and Telegraph Corporation (ITT).

217. STC formerly had an interest in the manufacture of mains as well as of telecommunication cable and between 1959 and 1964 was equal joint owner with Enfield Cables Ltd of Enfield Standard Power Cables Ltd (see paragraph 162). Since 1964 its 'reference' activities in the United Kingdom have been confined to the manufacture of land and underwater (submarine) telecommunication cable. Since 1970, when it acquired Submarine Cables Ltd from AEI, STC has been the sole United Kingdom manufacturer of submarine cable. If its sales of submarine cable are included STC is the largest United Kingdom manufacturer of telecommunication cable: if they are excluded it is the third largest after BICC and AEI. STC manufactures reference goods in the United Kingdom at Newport (Gwent) and Southampton. Production of reference goods at other factories at Woolwich and Greenwich ceased in 1977 as part of a rationalisation programme under which work previously done at such factories was transferred to Newport and Southampton.

218. The following table shows STC's home sales and total (home and export) sales of reference goods for the years 1971–76:

TABLE 4.1

Year	**Home sales** *£ million*	**Total sales** *£ million*
1971	16·4	24·4
1972	16·5	25·2
1973	18·6	23·5
1974	16·1	33·3
1975	17·8	42·1
1976	15·4	47·5

Land Telecommunication Cable

219. With BICC, Pirelli General and TCL, STC is one of the four principal suppliers of land telecommunication cable in the United Kingdom. STC's principal

customer is the Post Office to which some 81 per cent of its home sales of such cable was made in 1974 and 56 per cent in 1976.

220. The company describes as relevant, considerations in pricing land telecommunication cable the overall commercial situation and in particular the need to keep specialised plant fully occupied, the available manufacturing capacity, the level of raw materials and other costs, the anticipated rate of inflation and experience with the customer on previous sales. In addition regard is had to the desirability of achieving business and financial targets.

221. ITT is said to have some influence in the company's pricing process in that it agrees financial targets with the company and, in respect of major contracts, may review the inherent risks associated with them before those contracts are finalised, but this latter aspect does not apply to sales to the Post Office of equipment and cable which is in regular production.

222. Until December 1974 STC was a party to an agreement with other cablemakers regarding prices tendered or quoted to the Post Office for external telephone cable (see paragraph 364).

Submarine Cable

223. STC is one of only a small number of manufacturers world-wide with the capability of supplying a complete submarine cable system, including both reference goods and the necessary supporting electronic equipment. Most of its production of submarine cable is exported. Further information is given in paragraph 370.

WARD & GOLDSTONE

224. Ward & Goldstone Limited has been in the business of cable manufacture since the early years of the century. The company was founded in 1892 by the present Chairman's father and has progressively expanded since that time; it began making wiring harnesses as early as 1910. Its business in other types of general wiring cable sold through wholesalers began in the mid 1950s. As well as vehicle harnesses the company now makes flexible harnesses for electrical appliances, such as refrigerators. The company is now organised into five main Divisions, of which the Wires and Cables Division is the largest, currently having some 675 employees.

225. The following table shows Ward & Goldstone's home and total (home and export) sales of reference goods in the years 1973–1976:

TABLE 4.2

Year	**Home sales** *£ million*	**Total sales** *£ million*
1973	16·9	19·8
1974	22·2	27·6
1975	22·2	27·7
1976	25·5	32·2

General wiring cable accounts for over 90 per cent of Ward & Goldstone's sales of reference goods and of this about one-third is vehicle wiring made up in harness

form. Ward & Goldstone is the third largest manufacturer, after BICC and Delta, of general wiring cable.

226. Ward & Goldstone generally adopts for general wiring cable the trade list prices of the price leader. It told us it granted discounts to its customers of between 30 and 40 per cent off the list prices. Discounts were subject to negotiation and contingent upon competition and the potential purchasing power of particular customers. A small number of customers also received rebates. Sales were made to Area Boards, nationalised industries and Government Departments as well as to wholesalers but very little business was done with electrical contractors. It made a special point of retaining and developing its business with smaller wholesalers.

RIST'S

227. Rist's Wires and Cables Limited, a subsidiary company of Lucas Industries Ltd, is one of the principal United Kingdom manufacturers of automotive and aircraft cable assemblies, leads and components. Rist's also makes a comparatively small amount of booklet cable and of telephone cords. The company's main outlet for service cable assemblies and leads (automobile wiring harnesses) is Lucas Electrical Ltd, Parts & Service Division.

228. The following table shows Rist's home and total (home and export) sales of reference goods in the years 1973–76:

TABLE 4.3

Year	**Home sales** *£ million*	**Total sales** *£ million*
1973	16·4	16·7
1974	20·6	20·9
1975	20·1	20·5
1976	22·5	22·9

Almost the whole of Rist's sales of reference goods are of general wiring cable of which over 80 per cent are sold as vehicle wiring harnesses.

229. Its booklet cable is sold by reference to price lists in which it follows the market leader. It offers its wholesaler customers discounts which range between 30 and 41 per cent off list prices.

STERLING GREENGATE

230. Since we began our inquiry, Greengate Cables Limited has been acquired by Raytheon Co, a US company which, through its subsidiary A C Cossor Ltd, already owned Sterling Cable Company Limited. Both companies make mains and general wiring cable.

231. The following table shows each of the companies' home and total (home and export) sales of reference goods in 1973–76:

TABLE 4.4

	Sterling		*Greengate*	
Year	*Home sales £ million*	*Total sales £ million*	*Home sales £ million*	*Total sales £ million*
1973	3·8	7·5	2·5	2·9
1974	4·0	10·1	3·4	4·7
1975	5·0	13·0	4·1	5·1
1976	5·8	14·0	5·1	5·9

Some 80 per cent of Greengate's sales of reference goods and about 60 per cent of Sterling's is accounted for by general wiring cable.

232. Most of the general wiring cable made by Sterling is specialised cable made to the customer's requirements and is not sold by reference to price lists. Greengate specialises in the manufacture of welding types of booklet cable. Normally it follows other manufacturers' list prices for this cable but competes on discounts and rebates.

CROMPTON

233. Crompton Parkinson Limited (Crompton), a member of the Hawker Siddeley Group of companies, has been in the cable manufacturing business since 1929. The company makes mains and general wiring cable. About 70 per cent of its general wiring cable output consists of building wire and flexibles. The rest is made to National Coal Board, Oil Companies' Material Association and other specifications.

234. The following table shows Crompton's home and total (home and export) sales of reference goods in the years 1973–76:

TABLE 4.5

Year	**Home sales** *£ million*	**Total sales** *£ million*
1973	6·7	7·6
1974	8·4	9·6
1975	9·5	11·0
1976	10·8	13·3

Rather more than half of Crompton's sales of reference goods is of general wiring cable.

235. Crompton told us that it usually followed the market leaders in determining and publishing list prices for general wiring cable. It gave discounts to wholesalers of between 30 and 34 per cent and to electrical contractors of up to 27 per cent. In addition to these discounts the company may also give some large wholesaler customers additional discounts, rebates or extended credit. Crompton said that its size precluded it from supplying more than a limited number of wholesaler customers. In these circumstances it gave some priority to, for example, wholesalers carrying other Crompton Parkinson products (eg lamps) though the company's discounts and rebates to wholesalers for cables were not related to wholesalers' sales of such other products.

RIPAULTS

236. Ripaults Limited is one of the principal United Kingdom manufacturers of automobile wiring harnesses. The company also makes a comparatively small amount of telephone cords and cordage. The following table shows Ripaults' home and total (home and export) sales of reference goods in 1973–76:

TABLE 4.6

Year	**Home sales** *£ million*	**Total sales** *£ million*
1973	5·9	6·4
1974	6·9	7·7
1975	8·2	9·2
1976	10·0	11·2

237. Sales are usually by tender, to the motor industry and to the Post Office.

CONCORDIA

238. The Concordia Electric Wire & Cable Co Limited (Concordia) was founded in 1902. The company manufactures winding wires and strips and some general wiring cable. About 32 per cent of Concordia shares is held by Thorn Electrical Industries Ltd to whom Concordia supplies reference goods on terms at least equal to those which Concordia gives to any of its other customers for the particular product involved. Rather less than half of Concordia's total home sales are made to Thorn Electrical. Winding wire accounts for about 70 per cent of Concordia's sales of reference goods. Concordia's home and total (home and export) sales of reference goods in the years 1973–76 were:

TABLE 4.7

Year	**Home sales** *£ million*	**Total sales** *£ million*
1973	5·8	6·0
1974	7·1	7·4
1975	5·9	6·3
1976	7·2	7·6

239. Concordia's sales of general wiring cable are made mainly to the consumer durable industry mostly on bespoke orders which are priced on a day-to-day basis. The company does not itself issue price lists for such cable or refer to other companies' list prices. For winding wire it issues price lists which follow those of the major manufacturers and from which Concordia may grant discounts. A very small number of its customers are given rebates in addition.

AWCO

240. The Aluminium Wire & Cable Company Limited (AWCO) owned jointly by Tube Investments Ltd, Hawker Siddeley Group Ltd and The British Aluminium Co Ltd, makes aluminium conductor mains cable and a comparatively small amount of general wiring cable. It is a fairly new entrant into insulated wires and cables having begun manufacture in 1961 though its other activities (including the manufacture of uninsulated aluminium conductors) are of longer standing.

241. The following table shows AWCO's home and total (home and export) sales of reference goods in 1973–76:

TABLE 4.8

Year	**Home sales** *£ million*	**Total sales** *£ million*
1973	3·2	3·9
1974	3·7	5·7
1975	4·2	6·1
1976	3·3	7·2

CHAPTER 5

Mains and Supertension Cable

MAINS CABLE

242. Mains cable is used in the local distribution networks for the public supply of electricity by Area Boards. These networks comprise high tension or primary networks (with cables operating between 3·3*kV* and 22*kV*); medium voltage or secondary networks (with cables operating at 240*v* or 415*v*); and service connections (at 240*v* or 415*v*) to connect individual domestic, commercial, and small industrial consumers to the distribution cables. Mains cable is also used in the internal electricity supply systems of mines, oil refineries and power stations, and of a variety of large industrial and commercial establishments.

243. During the period 1973–76, about 14 per cent by value of all reference goods sold in the United Kingdom were of mains cable. Mains cable constituted about 17½ per cent by value of United Kingdom cablemakers' combined home and export sales of reference goods.

244. The course of home demand for mains cable in volume terms since 1962 is shown in the form of an index (1965=100) in the following table:[1]

TABLE 5.1 **Volume index of United Kingdom demand**

Year	
1962	79
1963	85
1964	97
1965	100
1966	88
1967	86
1968	80
1969	74
1970	72
1971	62
1972	59
1973	65
1974	63
1975	55
1976	54

245. The above table indicates that the demand for mains cable in 1976 was little more than half what it had been in 1965. The next table, which gives the value of mains cable sales by Mains Cables Group members in the years 1965–1976 to different customers or classes of customer, indicates that Area Board and CEGB purchases, which in 1965 accounted for about 70 per cent of the domestic

[1] The volume index is based on statistics of sales, submitted to the Mains Cables Group by its members, of mains cable expressed in terms of the weight of conductor metal used. For the purpose of compiling the index, the conductor metal weight of cable sold is aggregated in terms of aluminium equivalent, one tonne of copper conductor metal being treated as equivalent to two tonnes of aluminium conductor metal.

market for mains cable, have come to account for only about 46 per cent[1] of it. The decline in demand was therefore due to the contraction in the requirements of the Area Boards and of the CEGB.

TABLE 5.2 **Value and destination of mains cable sales 1965–1976**

£ million

Year	*Area Boards and CEGB*	*NCB, BTC and Govt Depts*	*Electrical Contractors*	*Industrial Users*	*Wholesalers*	*Total*[2]
1965	34·2	2·8	5·8	4·9	1·1	48·8
1966	31·9	2·9	6·8	5·5	1·3	48·4
1967	27·7	2·3	6·9	4·5	1·1	42·5
1968	26·0	1·5	7·6	5·0	1·2	41·3
1969	24·3	1·4	8·0	5·9	1·3	40·8
1970	24·3	1·8	9·1	5·3	1·6	42·1
1971	22·4	1·9	7·8	4·6	1·4	38·1
1972	21·1	1·8	7·4	4·3	1·6	36·2
1973	22·2	2·4	9·6	4·8	2·8	41·8
1974	25·8	3·1	13·3	5·3	5·0	52·5
1975	22·2	4·1	11·4	4·5	4·8	47·0
1976	22·0	4·0	11·4	4·8	5·9	48·1

246. During the early 1960s the electricity authorities were concerned to build up the national generating capacity and transmission network for the avoidance of winter power shortages at peak periods and to provide for the estimated growth in the demand for electricity. Electricity Council forecasts issued up to 1965–66 continued to indicate sustained or expanding levels of demand. The cablemakers responded to this expectation of a continuing or increasing demand for mains cable by expanding their capacity. However, the increase in the demand for electricity forecast by the Electricity Council did not materialise and the large programme of extension and replacement undertaken by the Area Boards in the first half of the 1960s was followed by a sharp and continuing fall in the rate of this activity thereafter. In spite of their reduced purchases, however, the Area Boards' requirements for mains cable for the replacement, reinforcement and expansion of the main electricity supply network remain the largest single influence on the level of home demand.

247. The sharp fall in the electricity authorities' requirements for mains cable since the mid-sixties left this part of the cable industry with difficult problems of adjustment (see paragraph 24). One consequence of the decline in the home market has been an increased dependence on exports.

248. The total value of mains cable supplied in the home market in the years

[1] A volume analysis would probably indicate a slightly higher percentage, because of generally lower prices obtained by cablemakers in some recent years for their sales to Area Boards compared with those obtained from other customers.

[2] The sales values are not necessarily representative of volume on a year-on-year basis. They do, however, illustrate comparative volume of sales by customer category taking each year separately. They exclude sales by companies not belonging to the Mains Cables Group, and imports; and for this and other reasons do not correspond precisely with the figures given in paragraph 248 and elsewhere in this report.

1973 to 1976 together with the principal suppliers' shares are given in the following table:

TABLE 5.3 **Home market shares**

	1973	*1974*	*1975*	*1976*
	£ million	*£ million*	*£ million*	*£ million*
Sales in United Kingdom	48·0	58·6	54·1	58·1
	Per cent	*Per cent*	*Per cent*	*Per cent*
BICC	32·1	32·2	27·1	26·4
Pirelli General	18·4	18·4	17·9	17·8
Delta	15·3	16·1	15·2	15·8
GEC	12·9	12·0	12·2	14·7
Crompton	5·9	5·7	7·2	7·3
AWCO	6·5	6·2	7·6	5·5
Sterling	3·9	3·5	4·6	3·9
Other[1]	4·2	4·4	5·8	6·6
Imports	0·8	1·5	2·4	2·0
TOTAL	100	100	100	100

Pricing

249. Mains cable is sold by tender or quotation in response to specific enquiries. The price of the copper content of the cables is fixed by reference to the London Metal Exchange (LME) price ruling on the day after the order is received.

250. Between 1960 and 1972 the price lists for mains cable published by BICC (see paragraph 69) were widely used by other manufacturers as a basis for tendering and for the calculation of any discounts and rebates that were offered. BICC published one price list for Area Boards and another for its other customers. The basic list price was the same for all customers other than Area Boards but different selling terms in the form of percentage deductions from the basic price and discounts or rebates were given to electrical contractors, wholesalers, large industrial customers including Government Departments, nine named large electrical contractors and their subsidiaries, the British Railways Board, very large industrial customers (ICI and the British Steel Corporation) and the general trade.

251. BICC ceased to publish mains cable price lists at the end of 1972. AEI last published a price list in August 1973. However, internal price lists are maintained by several cablemakers which like BICC's former published lists differentiate between the basic prices offered to different types of customer.

252. Sales to Area Boards are made by tender. Occasionally manufacturers may offer them discounts or rebates off tendered prices, usually related to the achievement of a stipulated volume of business.

253. Prices to other large industrial and public sector users result from individual quotations, often of a basic price from which discount and rebate is deducted. The evidence we received from these buyers indicates that prices are competitively determined.

254. When quoting to contractors, the major cablemakers allow a minimum discount or rebate of 5 per cent for copper cable and 7½ per cent for aluminium

[1] Ward & Goldstone, Greengate, Cables and Plastics, Permanoid and Calflex.

cable. Larger rebates or discounts are offered to large contractors. Large contractors may also be quoted a more favourable basic price than small contractors.

255. Wholesalers do not normally stock mains cable. However, they occasionally receive orders, usually from small contractors, which are for mains as well as for general wiring cable. In such cases the wholesaler, where he does not stock the cable, orders it from the manufacturer for delivery direct to the customer, after requesting quotations. Some manufacturers give wholesalers the same discount/rebate for the mains cable business as they would give to the contractor but others may give better terms.

Relations with Area Boards

256. None of the Area Boards or their Scottish or Northern Ireland counterparts expressed any criticism to us of the cable manufacturers' service, the quality of the products, the terms and conditions of contract or the extent of competition. One Area Board praised the cablemakers' willingness to produce new or different types of cables at the Board's request and commented that the British companies compared favourably in terms of technical progress with their overseas competitors, adding that where British companies had not appeared to be ahead of the rest of the world the cause had often been the unwillingness of the United Kingdom electricity supply industry to accept system security risks rather than any lack of enterprise by the cable industry. The Electricity Council on behalf of Area Boards in England and Wales commented that manufacturers had a responsibility to provide Area Electricity Boards with cost-related prices rather than market-related prices particularly in the case of those products where the Boards were the predominant purchaser in the home market, so that decisions could be based on facts rather than market forces; otherwise incorrect investment decisions could well be taken. In the past cost-related prices had not always been provided by manufacturers.

257. Area Boards at present enjoy a considerable degree of autonomy. There are twelve Area Boards in England and Wales, each of which, like the North of Scotland Hydro-electric and South of Scotland Electricity Boards and the Northern Ireland Electricity Service, makes its own cable-purchasing arrangements with manufacturers and specifies the types of cable it requires. The general practice of the Area Boards is to go out to tender annually. The cablemakers said that competition for the substantial volumes involved was very keen and that a small percentage difference in price might influence a Board to switch its business to another supplier for a whole year, even after years of satisfactory trading. Although the Boards do not all go out to tender at the same time, an unsuccessful tenderer might have to wait months before he had the opportunity to obtain replacement business, and meanwhile the continuity of his production was interrupted. Long tender periods at a time of inflation also caused hardship when the contractual terms, as was often the case, made inadequate provision for cost/price adjustments.

258. Cablemakers complained that some Area Boards took unfair advantage of their powerful market position in the following ways:

(*a*) they negotiated prices on a 'Dutch auction' basis;

(*b*) they disclosed to one another confidential information about manufacturers' prices;

(*c*) they have operated a 'reverse John Lewis' clause requiring a manufacturer who has obtained a contract to meet competitors' subsequent lower offers within 21 days or lose the business;

(*d*) they have refused to negotiate mid-term price increases during the period of a 12-month contract or to accept periodic cost/price adjustments.

They argued that beating down cable prices to a level which put the continued existence of the suppliers in jeopardy was a short sighted policy by the Area Boards which benefited no one in the longer term.

259. These matters appear recently to have become less contentious. We understand, for example, that some Area Boards have re-scheduled their contract starting dates so that there is now a reasonable 'spread' throughout the year, that the majority of Boards now accept contract price adjustment clauses, and that the practices mentioned in (*a*) and (*b*) of paragraph 258 are no longer operated by the majority of Area Boards.

260. A further criticism advanced by cablemakers was the proliferation of cable types specified by Area Boards. One manufacturer told us by way of example that the inability of the Boards to agree on standards for 11 *kV* aluminimum sheathed cable, faced the cablemakers with the need to manufacture 24 different cable designs and conductor sizes where three would suffice. Different machinery was needed to manufacture some alternative cable specifications and manufacturers had to choose whether to install two types of machinery, knowing that neither was likely to be used to capacity, or to install one type only, knowing that they would then be precluded from tendering to some Boards altogether.

SUPERTENSION CABLE

261. Supertension cable is used for the distribution and transmission of electricity at voltages of 33 *kV* and above. At 275 *kV* and 400 *kV*[1] the cable forms important links in the national grid system, and is designed to match the current carrying capability of overhead lines to which it is often connected. These grid circuits bring power from generating stations into or from ring circuits round large urban areas. The CEGB is the main[2] United Kingdom purchaser of cable at voltages higher than 132 *kV*, but the Area Boards as well as the CEGB are purchasers of 132 *kV* cable. Cable operating at 33 *kV* is purchased by the Area Boards and also used for supplies to British Rail for railway electrification and for the power requirements of large industrial complexes such as the British Steel Corporation and oil refineries. The lower voltage cables are mainly solid (that is having a paper insulation impregnated with oil, wax, or resin), whereas at the higher voltages, 132 *kV* and above, the paper insulation is either oil or, less frequently, gas-filled,[3] pressure assisted. A recent development has been the introduction of plastic/elastomerics insulated cables to replace paper insulated cables at the lower voltages. These cables have not as yet been used, except experimentally, in the United Kingdom and are made primarily for export.

[1] The maximum voltage manufactured is 750 *kV*.

[2] The Scottish Boards also have some requirements in this category.

[3] Gas-filled cable has a limited application in the range between 33 *kV* and 132 *kV*. It is manufactured only by BICC.

262. During the period 1973–76, a little over 2 per cent by value of all reference goods sold in the United Kingdom was supertension cable, but it constituted about 3½ per cent by value of the United Kingdom cablemakers' combined home and export sales of reference goods.

263. The course of home demand for supertension cable in volume terms since 1965 is shown in the form of an index[1] (1965=100) in the following table:

TABLE 5 4 **Volume index of United Kingdom demand**

Year	
1965	100
1970	39
1971	35
1972	34
1973	30
1974	29
1975	27
1976	32

264. The demand for supertension cable, like mains cable was affected by the expansion plans of the electricity authorities inaugurated in the early 1960s (see paragraph 246). We understand from the cablemakers concerned[2] that the CEGB continued to issue forecasts up to 1966 of high and increasing requirements of supertension cable. For the purpose of encouraging the expansion of the manufacturing capacity for pressure assisted cables, in 1962 it made agreement with the four companies, BICC, AEI, Delta[3] and Pirelli General, which at that time manufactured these cables, on the proportions in which future business was to be allocated. Following this agreement, and in the light of CEGB forecasts, the four companies made major investments to expand their production of pressure assisted cable. Thus, in 1964 BICC approved the building of a new pressure assisted cable factory at Renfrew at a cost of £2·4 million. Delta invested nearly £2 million in additional supertension facilities at its Brimsdown factory as well as diverting much development effort into this field. Pirelli General built a new factory at Eastleigh.

265. Demand expanded in the early 1960s, but the longer term forecasts of the electricity supply industry proved to be completely wrong. After 1965, when the new capacity was becoming effective, sales fell rapidly and, by 1967, the bottom had dropped out of the market. The newly expanded capacity of the industry could not be employed, the agreement between the CEGB and the four manufacturers lapsed, and severe losses were incurred by the companies concerned.

266. Advice was sought from the Industrial Reorganisation Corporation on how the situation might be dealt with. As a result of this body's report, in 1969 BICC acquired from AEI that company's interests in supertension cable manufacture and Delta agreed to cease manufacture of pressure assisted cable in exchange for a minority interest in a new company, Pirelli Enfield Supertension Cables Ltd, formed in conjunction with Pirelli General[4]. At about the same time BICC ceased the manufacture of pressure assisted supertension cable at Renfrew.[5]

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[1] Based on an index supplied by BICC.

[2] The CEGB records no longer exist.

[3] Enfield Standard Power Cables Ltd (see paragraph 162).

[4] Pirelli General acquired Delta's shareholding in 1977.

[5] The factory was later shut down (see paragraph 65).

Although only two factories continued to manufacture pressure assisted cable in the United Kingdom, both BICC and Pirelli General continued to incur loss in supertension cable production up to and including 1971. AEI and Delta continued to manufacture a limited amount of solid cable at 33 *kV*.

267. Home demand continued to decline and, by 1975, as *Table 5·4* shows, it was little more than one-quarter of what it was in 1965. There was some recovery in 1976 owing to the coincidence of two large CEGB projects, but even so sales were less than one-third of the 1965 level. The two remaining factories manufacturing pressure assisted cable have become increasingly dependent on exports for their continued viability.

268. The total value of all types of supertension cable supplied in the home market in the years 1973 to 1976 together with the four suppliers' shares is shown in the following table:

TABLE 5.5 **Home market shares**

	1973 *£ million*	*1974* *£ million*	*1975* *£ million*	*1976* *£ million*
Sales in the United Kingdom	8·5	8·9	8·4	10·0
of which	*Per cent*	*Per cent*	*Per cent*	*Per cent*
BICC	43·7	42·1	38·7	58·6
AEI	4·8	2·9	9·3	3·1
Pirelli General	42·8	46·5	42·7	34·4
Delta	8·7	8·5	9·3	3·9
TOTAL	100	100	100	100

269. The CEGB told us that European cablemakers have not had the manufacturing experience of the types of copper conductors of large cross-section which the CEGB have employed on the vast majority of their 275 *kV* and 400 *kV* transmission cable circuits, and neither CEGB nor the Area Boards have purchased supertension cable from abroad. Separate statistics of supertension cable imports are not available, but they are almost certainly negligible.

270. The CEGB said that in general it was well satisfied with the quality, service and technical co-operation it received from its suppliers.

271. Sales of supertension cable are by tender. There are no list prices, discounts or rebates.

CHAPTER 6

General Wiring Cable

272. As we explain in Chapter 1, general wiring cable is essentially a residual category, and covers a great variety of cable types. Most of these are plastic or elastomeric insulated, and are sufficiently similar in their basic physical characteristics to make it practicable and convenient to manufacture them in the same works. Mineral insulated cable is the principal exception to this generalisation. A further characteristic common to most general wiring cable (including mineral insulated cable) is that it is usually sold by reference to published list prices, whereas in all other categories save winding wires, prices are determined by invitations to tender, quotation or negotiation. The list prices are copper inclusive, whereas in all other categories of cable the copper (or other metal) is priced separately from the rest of the cable, the buyer usually paying the market price of the copper (or other metal) at the time of the acceptance of his order.

273. Regarded as a single category, general wiring cable is the most important in terms of the value of sales. Moreover, its relative importance has recently increased. About half of all sales of reference goods in the United Kingdom are of general wiring cable of one kind or another, and about 45 per cent of United Kingdom cablemakers' total production of reference goods is of general wiring cable.

274. The course of home demand for general wiring cable since 1965 in volume terms is shown in the form of an index[1] in the following table (1965=100):

TABLE 6.1 **Volume index of United Kingdom demand**

Year	
1965	100
1970	94
1971	89
1972	90
1973	94
1974	100
1975	92
1976	90

The index indicates cyclical changes in the level of demand but no marked overall decline. However, there are substantial variations within the general wiring category, and, while the category as a whole tends to be affected by the general level of activity in the economy, a decline in one sub-category can often be offset by expansion in another. Thus in recent years the low level of construction activity has had an adverse effect on the demand for building wires, but electronics and North Sea oil have been expanding areas of demand. Exports of general wiring cable are dealt with in Chapters 11 and 12.

275. Altogether we found 23 manufacturers in the United Kingdom which supply general wiring cable of one kind or another. No single manufacturer makes every specification of general wiring cable, but BICC makes the widest

[1] Based on BICC estimates of the value of total sales in the United Kingdom adjusted to constant prices.

range. Altogether ten sub-categories of plastic or elastomeric insulated general wiring cable can conveniently be distinguished. Mineral insulated cable constitutes a further sub-category. The ten sub-categories of plastic or elastomeric insulated cables are as follows:

fixed wiring circuits incorporated in buildings;
fixed supply wiring for industrial installations;
flexible supply, control and instrument wiring for industry;
'flexibles' for domestic appliances and general purpose building applications;
electronics and avionics;
automobile wiring;
mining;
railway signalling and locomotive wiring;
ship and oil rig wiring; and
radio and television transmission.

276. Of these sub-categories, the first four are generally made to standard specifications, whereas cables in the other sub-categories are mainly specialised, often purpose designed. The popular types of building wires, household flexibles and certain industrial cables falling in the first four groups, are widely known in the trade as 'booklet' items, because they appear in BICC's trade price booklet. Standard cables falling in the first four sub-categories which do not appear in BICC's booklet are often referred to as 'standard non-booklet cables', though this term is less well defined than the term 'booklet cables'.

277. The total value of general wiring cable supplied in the home market in the years 1973 to 1976 together with the principal suppliers' shares are given in in the following table.

TABLE 6.2 **Home market shares**

	1973	*1974*	*1975*	*1976*
	£ million	*£ million*	*£ million*	*£ million*
Sales in United Kingdom	157·3	203·3	200·1	224·5
	Per cent	*Per cent*	*Per cent*	*Per cent*
BICC	32·5	33·2	33·2	30·2
Delta	12·7	13·2	11·2	10·9
Ward & Goldstone	10·4	10·4	10·4	10·6
Rist's	10·4	10·0	9·9	9·9
Pirelli General	6·5	6·8	7·5	6·9
AEI	6·6	6·1	6·5	7·2
Ripaults	3·1	2·9	3·4	4·0
Crompton	2·5	2·5	2·8	2·9
Others	8·3	7·5	7·9	9·2
Imports	7·0	7·4	7·2	8·2
TOTAL	100	100	100	100

278. Market shares vary greatly as between the different sub-categories. For example, BICC is the only manufacturer of mineral insulated cable,[1] which accounts for about 20 per cent of BICC's home sales of general wiring cable, and about 7 per cent of the total home market. Further information about mineral insulated cable is given in paragraph 105–111. An even more important item is vehicle wiring harnesses[2] which BICC does not supply though it supplies some vehicle wiring for making up into harnesses. Vehicle wiring harnesses account for about 14 per cent of the total market.

[1] See paragraph 105.

[2] These were the subject of a separate report by this Commission published in June 1966 (*Electrical Wiring Harnesses for Motor Vehicles*, HC 72).

279. Much the most important group of general wiring cables are the booklet items, which account for about one-third of all sales of general wiring cable in the United Kingdom. Half the manufacturers of general wiring cable supply all or some types of booklet cables. BICC supplies less than one-quarter of these cables compared with its approximate one-third share of the general wiring cable market as a whole. Delta is comparable in size with BICC in this field. The following table shows the home market sales of booklet cables returned to the General Wiring Cables Group (GWCG) by its members for the years 1974[1] to 1977, together with its members' shares of these sales:

TABLE 6.3 **Booklet cables—Home market shares**

	1974	*1975*	*1976*	*1977*
	£ million	*£ million*	*£ million*	*£ million*
Sales in United Kingdom	64·6	49·8	61·3	74·2
	Per cent	*Per cent*	*Per cent*	*Per cent*
Delta	26·1	23·5	23·1	23·3
BICC	23·6	22·4	21·4	21·6
Ward & Goldstone	12·3	12·0	13·9	13·9
Pirelli General	10·8	12·3	11·9	10·9
AEI	8·3	9·9	10·2	10·2
Crompton	5·1	6·7	6·3	5·7
Rist's	6·6	4·7	5·1	5·4
Cables & Plastics	4·5	4·1	3·6	4·4
Others (3)	2·8	4·4	4·6	4·7
TOTAL	100	100	100	100

The customers

280. The specialised types of cable are mainly purchased by the users. Thus, the NCB purchases mining cables, many of which are manufactured to its own specifications; the British Railways Board purchases signalling cables; ships cable is purchased by shipbuilders and ship repairers and by the Ministry of Defence for naval repair yards; and vehicle wiring harnesses are purchased by vehicle manufacturers. However, standard booklet and non-booklet cable and mineral insulated cable are mainly sold to electrical wholesalers, though cablemakers also supply them direct to some (usually large) electrical contractors and to certain large or very large customers in industry including those in the public sector. Over the general wiring cable field as a whole, the four major manufacturers'[2] sales in aggregate divide approximately as follows between different categories of customer:

Customers	*Per cent*
Wholesalers	45
Contractors	7
Industry	31
Public Sector	17

Pricing

281. We have already stated that most general wiring cable is sold by reference to price lists. However, list prices for booklet cables are rarely, if ever, charged by cablemakers though they are sometimes charged by small wholesalers. They

[1] Comparable figures for 1973 are not available because of changes in the GWCG membership.

[2] See paragraph 12.

constitute a datum point from which net prices are calculated. Actual prices are arrived at after deduction of discount (the net price) or, in some cases, discount plus rebate (the 'net net' price).[1] Business with large industrial users and public sector buyers is frequently the subject of competitive tendering or quotation.

282. The reason given for the general use of price lists is the great number of transactions amounting to several thousands daily, which make impracticable individual quotations in respect of each order received. For the same reason, list prices are copper-inclusive; the separate pricing of the copper content of each cable by reference to the daily copper price would be cumbersome in the extreme.

283. BICC publishes price lists covering some 8,500 individual specifications. The most important is its trade price booklet, but it issues lists also for a wide range of standard non-booklet items as well as for specialised cables in the different sub-categories.

284. A trade price list for booklet cables is also published by Delta, Pirelli General, AEI, Ward & Goldstone, Rist's, Crompton, Cables & Plastics, British Driver-Harris and Greengate though some of these are less comprehensive than BICC's trade price booklet. Except on certain occasions to which we refer in paragraphs 287 and 288 the prices in these other cablemakers' trade price lists have been the same as those contained in BICC's price lists. For general wiring cable other than booklet cables, BICC's prices are commonly used for the purpose of calculating net prices or as a basis for quoting or tendering. In some instances cablemakers submit tenders without reference to price lists. Some cablemakers other than BICC issue their own lists for some special purpose cables.

285. Changes in BICC's price lists are most commonly occasioned by changes in the price of copper, which may go down as well as up; but they are also made for other reasons (see paragraph 91). Between 1 January 1970 (when metric cable sizes were adopted) and 31 December 1977, BICC issued 33 price lists for booklet cables of which 7 reduced prices, and 3 included reductions as well as increases. However, BICC does not issue a new price list immediately there is a material change in the copper price. It prices the copper it incorporates in its cable on a FIFO basis. The large amount of copper in its pipeline may make it rather slow to initiate price list changes (see paragraph 95). Also, we were told, it does not initiate increases in its list prices until it is reasonably confident that its competitors will follow.

286. Whenever BICC changes its list prices for booklet cables, it has been the normal practice of other cablemakers to reissue their own trade price lists promptly with BICC's new prices incorporated in them. Such lists are usually issued within a few days of BICC's new list and, in the case of price reductions, normally take effect retrospectively. Up to about the end of 1974, BICC sent a copy of any new list to its competitors on the date of issue. As it no longer does this (see paragraph 96), its competitors now obtain copies from their customers. BICC says it gives no advance notification of its intention to publish a new list, except to the Chairman of the Electrical Wholesalers Federation Cables Committee who is told, as a matter of courtesy, some three working days

[1] See paragraph 305.

before a new list is issued; he may be given a rough idea (in percentage terms) of the price changes to be made, but he does not receive an advance copy of the list. BICC said that any wider advance notification of its price changes would be undesirable in that it might cause a run on stocks in the event of the change being an increase, or a cessation of orders in the event that the change was a reduction.[1]

287. BICC gave us explicit assurance that it does not in any way notify or sound out other cablemakers before deciding to initiate a new price list. This information was corroborated by the other major manufacturers who independently assured us that they do not collaborate in any way in the determination of prices for general wiring cable sold at home.[2] BICC has to judge when other companies are likely to be ready to change their price lists in response to a change in BICC's list. It said some difficulties arose after the introduction of price control, as different cablemakers had permission to raise prices by different amounts; but that in the later stages of control under the Price Code, the cycle of three monthly applications for price increases had actually facilitated its task, as the time when other cablemakers would receive permission for an increase could be calculated from the date when they had last received permission to increase their prices. However, it had never felt able to increase its list prices to the full extent permitted by the Price Code, nor had it been able fully to reflect investment relief in its prices.

288. Between January 1970 and January 1974, BICC's list prices were invariably followed by other cablemakers. Between January 1974 and mid-1975 different list prices were, exceptionally, in force at the same time. This happened because, owing to the three-day week and a shortage of PVC, cablemakers for a time were not able to meet all the demands upon them, and those that had permission under the Price Code to raise their prices were able to do so without suffering loss of business, even though some of their competitors continued (because they had no option) to sell at lower prices. Since mid-1975, list prices have again been identical. On only one occasion since then have the list prices of an important supplier differed from those of BICC and other cablemakers. This was in June 1976 when AEI (ranking fifth as a supplier of booklet cables) was temporarily unable to follow the full extent of an increase in list prices initiated by BICC because it did not have the necessary permission under the Price Code. It raised its prices so far as it was able, and raised them again to bring them into line with BICC's prices one month later as soon as it was in a position to do so. During the month when its list prices were lower than those of other cablemakers AEI was unable to supply all the demands made on it, and its stocks were depleted. On this occasion neither BICC nor any other cablemaker reduced its prices to bring them into line with those of AEI. Some cablemakers told us that if the lower prices had persisted, they would probably have found it necessary to match them. The lower prices were, however, tolerated because they were believed to be temporary, as proved to be the case.

289. BICC accepts that it may be said to have acted generally as the market leader in relation to general wiring cable so far as the setting of maximum prices

[1] Before introducing on 1 January 1970 the first of its new lists for cables made to metric specifications, BICC exceptionally published information in advance of the operative date by circulating copies to the trade generally on 17 December 1969.

[2] Their collaboration on export sales is described in paragraphs 396, 398 and Appendix 14.

is concerned, save in exceptional circumstances such as those in 1974–75. In practice, other cablemakers have followed upward movements in BICC's list prices as well as reductions, and we have discovered no occasion when any cablemaker other than BICC has taken the initiative in reducing list prices. Delta, the second largest supplier of general wiring cable and the largest supplier of booklet types, told us that while it checked price list increases initiated by BICC, its decision to adopt such increases was more or less automatic. The evidence given by AEI and Pirelli General was to similar effect. AEI also said that competitive market pressures would ensure that, in normal circumstances, it would lose market share if the company's list prices were higher than those of BICC although it regarded the level of BICC prices as generally too low. Conversely, if the company's list prices were below those of BICC it would expect the other manufacturers to find this intolerable and to realign their list prices with those of AEI; AEI's profit level would therefore be less than if it had used the same list prices as BICC.

290. It appeared to Delta that BICC delayed price list increases until the last possible moment, when all other suppliers were eager to increase prices to cover the increased costs which affected all cablemakers equally. So far, BICC had not, in Delta's experience, increased list prices generally to an extent greater than was justified by cost changes—rather the reverse. If it were to do so, Delta would probably not respond to an excessive increase in list prices by increasing its list prices by a lesser amount, but by offering improved terms to selected customers. If Delta kept its prices below those of BICC, BICC would be forced to reduce its list prices to match those of Delta so as to avoid loss of business, and Delta would then have obtained no advantage from its lower list prices. On the other hand, by offering higher discounts or rebates to selected customers, it could hope to turn the situation to its advantage by gaining market share. In Delta's view, there was little point in any of the larger cablemakers, other than BICC, taking any initiative to reduce its list prices, as any such initiative would have to be matched by other cablemakers. Nor was Delta ever in a position to take the lead in increasing list prices. If it did so, BICC would be unlikely to follow its lead because, not having initiated the increase itself, it could be assumed to be not ready to follow Delta's initiative. No other cablemaker would follow an initiative by Delta to increase prices if BICC did not follow it, and Delta would be forced, by loss of business, to revert to the list prices of BICC and the other cablemakers.

291. The following of BICC's list prices involves acceptance not only of the general level of its list prices, but also of the relative levels of individual prices within the lists. Delta agreed that individual list prices did not necessarily accord with its own calculations of the costs of producing the cable in question. Even on those occasions when a price seemed quite uneconomic, Delta had no option but to accept it. So far it had not felt a price to be so low that it had given up supplying the item. In other cases where the reverse appeared to be true, there would be no point in Delta's reducing its list price for the same reason that there was no point in reducing its list prices generally. Its competitors would be bound to match the reduction, and it could gain no additional volume thereby.

292. Several cablemakers made the point that the standard cables supplied by different manufacturers were fully comparable in quality and performance and were therefore interchangeable. They had many of the characteristics of a prim-

ary commodity, and it was rare for a customer to specify the product of a particular cablemaker. For this reason differences in list prices of different cablemakers' products were not supportable in the market place save on the rare occasions when supplies were insufficient to meet demand.

293. There was general agreement between the other three major manufacturers that BICC's present position of price leadership derived from its greater size, its wide product range, and its traditional position of leader established over many years. Delta thought that BICC alone had the strength and determination to accept the unpopularity of initiating price increases.

294. AEI, while broadly corroborating Delta's evidence summarised in paragraphs 290 to 291, emphasised the convenience of common list prices to the customer. It said the present practice of establishing net prices by varying discounts and rebates off common list prices, enabled the customer to make his comparison of different offers more quickly and over a wider range of potential suppliers than would be practicable if differing net prices were quoted for each item. It thus helped the forces of competition to operate. Electrical wholesalers were very conscious of the need to maximise their sales volume and the turnover of their stocks. They were therefore anxious to offer the most attractive (lowest price) terms possible to contractors and their other customers. The existence of a common list price enabled the wholesaler to compare offers from different cablemakers and to bring pressure to bear on them for better terms, and in turn, enabled the contractor readily to compare competitive offers from wholesalers. Thus instead of inhibiting competition, the existence of a common list price for a wide range of products resulted in greater competitive pressures because of the ready comparability of alternative offers. AEI's reason for maintaining a common list price in these circumstances was that any alternative scheme would require very much greater effort which would decrease AEI's efficiency and that of its customers. If only a limited number of product items were involved, separate pricing might be tolerable, but AEI was concerned with many thousands of different cables and invoiced on average 1,200–1,500 different items each day. Even its simplified trade price list for booklet cable contained over 500 different items allowing only for the most common colour variants without taking into account the availability of many items in reels of different lengths, eg 50 metres, 100 metres, 500 metres. Similar considerations applied to its customers, particularly to its wholesaler customers, and AEI said that any departure from the present practice of using common list prices would involve serious complications.

295. This evidence was broadly confirmed by other cablemakers and by the Electrical Wholesalers Federation who said that this method of discounting was the most administratively efficient way of quoting and pricing this type of cable and had the advantage of making cable available within a wide range of competitive prices.

296. A further reason given to us for common movements in list prices was that a large proportion of cablemakers' costs are outside their control, and changes in these costs affected all cablemakers to the same extent, at least in the short term. The need for a change in list prices was therefore felt at the same time, and to the same extent, by cablemakers generally, subject only to the point to which we have already referred (see paragraph 285) that BICC's copper 'pipe-

line' appears to be a comparatively long one. Thus, all cablemakers had to pay the same, or very similar, prices for copper and other metals, for other materials such as PVC needed for insulation, and for labour whose wage rates are determined on a national basis.

297. In this connection, we obtained information from the four major manufacturers of their cost and profit structure for general wiring cable. Their aggregate figures for the six years 1971 to 1976 showed that their sales values included the following components:

	Per cent
Materials	52·2
Other variable costs	13·1
Fixed costs	25·0
Profit	9·7
Total	100

Much the most important material is copper, but PVC is also a material item of which the price increased markedly following the increase in oil prices in 1974. The percentage of the price attributable to the cost of the copper component fluctuates over a wide range.[1]

298. We explored with BICC and certain other cablemakers the course of events in 1971–72, when price competition led to a general lowering of prices relative to costs. It appears that in about the middle of 1971 Aerialite (which no longer exists as a separate entity as it was acquired by the Delta Metal Company soon after the events we describe) embarked on a policy of seeking to gain market share by offering higher rates of discount and rebate. This occurred at a time when, in the view of some cablemakers, BICC had maintained its list prices at a rather higher level than the price of copper justified. It was also a time when the demand for general wiring cable was at a relatively low level (see paragraph 274) and BICC's Wrexham II factory, dependent on a high level of throughput for its economic operation, was coming on stream (see paragraph 87). Aerialite's initiative was quickly followed by Ward & Goldstone and BICC found that it was losing sales volume to an extent which was preventing it from operating Wrexham II at an economic level. It decided that its most effective way in which to regain volume was to reduce its list prices of the fast moving types of cable which Wrexham II was designed to manufacture, so as to make it impossible for the high rates of discount and rebate offered by some of its competitors to be maintained.[2] In all, it selectively reduced its list prices three times between October 1971 and June 1972 and did not raise them again for nearly 12 months in spite of a generally rising copper price.

299. The extent of the reductions effected in the actual prices of popular types of cable is indicated by estimates we have obtained in respect of 2·5 sq mm flat twin with earth' cable No 6242Y which, being used in domestic 13 amp ring

[1] Paragraph 324 refers to companies' different methods of accounting for changes in the price of copper.

[2] Aerialite's United Kingdom cable business was on a declining profit trend in the twelve months to June 1973 and was subsequently found to be making losses at the time it was taken over by Delta in February 1973. The continuing trend, together with the reorganisation expenses incurred in order to put the business on a sound basis, resulted in losses of about £½ million in the seven months to December 1973.

main circuits, is one of the most widely used types. In January 1970 the lowest 'net' net price at which this cable was sold was in the region of £71–£73 per 1,000 metres. Three and a half years later, in June 1973, the lowest net net price had fallen to about £49 per 1,000 metres. If the value of the copper content of the cable is deducted from these prices (resulting in a 'hollow' price) they would have been respectively about £31 to £33 and about £18. The latter figure would have been even less if the copper content of the cable had been valued on a current price basis. These prices are explained in Appendix 11 which contains a chart showing the course of list prices for this cable, copper prices and a wholesale price index for electrical engineering, as well as estimated net net 'hollow' prices on selected dates.

Cable prices in relation to copper prices

300. We received some complaints (three manufacturers, five Local Authorities, and one trade association) to the effect that whereas cable prices rose quickly when there was an increase in the price of copper, they fell only very slowly, if at all, when copper prices were reduced. These complaints, which were received soon after the reference to us was made, clearly related mainly to the period between 1972 and 1974 when the price of copper fluctuated violently[1]. One of these complaints related specifically to mineral insulated cable. The other complaints, though not directed specifically to general wiring cable, could, in the nature of the case relate only to general wiring cable sold at a copper inclusive price. These complaints have in effect two components: the amount of the price change in response to changes in the price of copper, and the timing of the changes.

301. As regards the amount, cablemakers have, during a period of rapid inflation, experienced rises in costs, other than the cost of copper. There was therefore no reason to expect that, if the price of copper reverted to an earlier level, the price of the cable containing that copper would also revert to its earlier level. Moreover in mid-1973 the list prices for booklet cables were depressed (see paragraph 298). Both list and actual prices have since risen, as a consequence of a gradual recovery from those low prices, by an amount greater than is attributable to cost increases alone. The chart in Appendix 11 shows that the net net 'hollow' price of 2·5 sq mm cable No 6242Y as estimated by one cablemaker rose from £18 per 1,000 metres in June 1973 to £58 per 1,000 metres in September 1977, an increase of over 350 per cent. However, the increase measured against the net net 'hollow' price in January 1970 for which we were given two independent estimates, was only about 85 per cent compared with an increase in the wholesale price index for electrical engineering of about 155 per cent over the same period. Similar estimates for 2·5 sq mm cable No 6491X, another widely used type, indicate a rise in the net net 'hollow' price of between 113 and 130 per cent between 1970 and 1977.

302. As regards the timing of price list changes in response to changes in the price of copper, we have already referred to the delaying effects of BICC's FIFO policy in relation to copper in the production pipeline (see paragraph 285). These operate irrespective of whether the change in the price of copper is up or down,

[1] The price rose from an average monthly level of just over £400 per tonne in mid-1972 to £1,270 per tonne in April 1974 (touching a peak of £1,400 per tonne); it then fell back to just over £550 per tonne by the end of 1974.

and are clearly revealed by the chart in Appendix 11. However, all cablemakers including BICC, who gave us evidence on the point, referred to the effects of expectations in the electrical trade on the timing of price list increases and price list reductions. When there was a general expectation by their customers that, as a consequence of a rise in the price of copper, list prices would shortly be raised, the customers tended to bring forward their purchases. This inevitably shortened the period in which lower priced copper in the production pipeline was used up. In the reverse case, when a fall in list prices was expected because of a fall in the price of copper, orders tended to be delayed, and it took longer for the copper in the pipeline to be used up. This meant that quicker reactions might well be made to increases than to decreases in the price of copper.

Price competition

303. BICC suggested to us that the larger cablemakers were 'locked into' their existing market shares. Each was concerned to defend what he already had, and, because of his need to maintain sales volume, would resist strongly an attempt from another cablemaker to gain market share at his expense. This made unacceptable the cost of gaining market share from a competitor by price cutting. Other evidence we received suggests that, while a few manufacturers with large shares of the market may be inclined to adopt a defensive attitude, this attitude does not prevail amongst manufacturers generally. We were given evidence that changes in market shares had occurred and were continuing to occur, if only gradually. The manner in which price competition mainly takes place is analysed in the immediately following sections on discounts and rebates.

Discounts and rebates to wholesalers

304. Net prices for cable sold by reference to list prices are arrived at after deducting from the list price the amount of discount agreed. This is expressed as a percentage of the list price, and is commonly referred to as a 'face of invoice' discount. Discount rates are not published and the percentage of discount allowable is a matter between the individual cablemaker and his customer. However, the rate of discount accorded by a cablemaker to his customer, being shown on the invoice, is usually ascertainable by a competitor either exactly or within reasonably close limits.

305. To an increasing extent, rebates[1] are given, particularly to the larger wholesalers, in addition to discounts. These are payments made by the cablemaker to his customer, usually at the end of a month or a quarter, expressed as a percentage of the net value of actual sales over that period. Prices arrived at after deduction of both discount and rebate are commonly referred to as 'net net' prices. The amount of rebate payable is usually negotiated at senior management level, and is not readily ascertainable by a competitor, though shrewd assessments can often be made.

306. In January 1974, BICC informed the wholesale trade of its intention to give discounts for general wiring cable in the following ranges: 30 to 34 per cent for booklet cables; and 25 to 29 per cent for standard non-booklet cables. These

[1] Sometimes described as deferred discounts.

ranges of discount are widely followed by cablemakers, particularly the four major manufacturers. Price competition between the four major manufacturers for the business of wholesalers receiving the maximum rate of discount has therefore been mainly in the form of rebates, though minor manufacturers appear to offer rates of discount above the general maximum more frequently than the four major manufacturers. Some cablemakers do not give rebates to wholesalers not already receiving the maximum rate of discount, but practice varies. One cablemaker told us that the minimum rate of discount to wholesalers for booklet items was no longer 30 per cent but 31 per cent. We observed instances in which BICC gave a lower rate of discount than its competitors.

307. There is no similar pattern in the giving of rebates though the four major manufacturers' highest rates of discount plus rebate are roughly comparable. The maximum rate of rebate accorded has increased during the course of our inquiry. At the end of 1977, the latest date on which we obtained systematic information, the highest total deduction off list price given by any of the four major manufacturers was about 41 per cent. The highest rate reported to us was 42½ per cent off list price, given by a minor supplier. Material differences in the overall terms offered by different cablemakers to the same wholesaler customer, including differences in credit terms, are not uncommon. The evidence we received from cablemakers and wholesalers suggests that these differences may arise for a variety of reasons including the following:

1 Individual cablemakers do not know precisely what terms their competitors have agreed, and indeed cablemakers make efforts to keep their terms confidential. Neither of the two parties to a rebate agreement, who alone know its terms, may be willing to give information or at least to give full or reliable information.

2 The customer does not wish to be dependent on a single source of supply, and may buy from several sources in spite of differences in net or net net prices. The needs of the very large wholesalers can only be met by the large manufacturers. The emergence of differences in terms which the customer is unable to eliminate by negotiation, may not cause the customer to switch his purchases, though he may switch to some extent.

3 Although standard cables are made to identical specifications, and one cablemaker's product is fully interchangeable with that of another, wholesalers' customers occasionally specify a particular make. This may give a slight advantage to the products of BICC as the largest and best-known manufacturer.

4 Although the product itself is identical, differences can arise in the promptness and reliability of the service offered. One cablemaker for example, may have a large well stocked depot, close to the wholesaler's premises, from which prompt supplies can be depended on, whereas another may not have a local depot at all. In this connection, one manufacturer emphasised that it regards the service it provides through its depots as an important competitive element. As against this, another, which for historical reasons has few regional depots, has, as a matter of policy, concentrated its sales effort on large wholesalers in order to avoid the expense of setting up and operating an elaborate distribution network. The cost saving thus effected may naturally on occasion necessitate the offer of keener prices by the company than those offered by its competitors. Small manufacturers, who cannot offer a wider range of products, may also have to accept poorer prices.

5 Some smaller wholesalers may place the greater part of their purchases with a single cablemaker with the object of obtaining improved terms from that cablemaker.

6 The competitive process itself creates differences in net (or net net) prices whenever a supplier agrees to improve terms which are not immediately matched.

308. There are wide differences in the proportion of the four major manufacturers' wholesaler customers (by number) receiving rebates, varying between one customer in twenty-five and over half. The differences in the percentage of sales (by value) to wholesalers made to those wholesalers receiving rebates were less marked, varying between 88 and 98 per cent. The proportion of the companies' sales to wholesalers in 1977[1] made to their top ten wholesaler accounts varied between 68 and 87 per cent.

309. During the period of our inquiry there has been a significant increase in the highest rates of rebate given. We found that, even in the relatively short period between 1975 and 1977, there was a substantial increase in the top rates of rebate given in the trade to wholesalers receiving rebate of some kind. There was a general increase of about $2\frac{1}{2}$ percentage points in the maximum rates accorded in 1977 compared with 1975. At the same time, the percentage of business with wholesalers that attracted rebate of some kind rose from a range of 80–92 per cent in 1975 to one of 88–98 per cent in 1977. These changes have increased the distance between list prices and average net (or net net) prices, and the disparity between the best and the worst terms offered by cablemakers who do business with a variety of wholesaler customers.

310. Several cablemakers told us that the disparity between the best and the worst terms was not justified by differences in the cost of supplying different wholesalers, but arose because of the greater buying power of the large wholesalers. One cablemaker told us explicitly that there was little difference in the cost to him of supplying 20 local branches of a nationally based wholesaler, and the cost of supplying separate wholesalers each having one branch taking deliveries of roughly equal volume. Another however claimed that it effected economies by selling mainly to larger wholesalers with their own distribution systems.

311. There has been a growth in the proportion of sales to large wholesalers by three of the four major manufacturers. Whereas in 1975 the percentage of these three manufacturers' wholesaler business with their top ten wholesaler customers was in the range 57 to 79 per cent, in 1977[2] the range was 68 to 87 per cent.

312. One of the smaller suppliers of general wiring cable expressed concern at the continuous escalation of discounts, particularly those offered to distributors and wholesalers. The company considered that it was both unnecessary and undesirable for the prices of non-booklet cables to be inflated to provide discounts and rebates for cables which wholesalers did not normally stock and which were ordered only against specific and detailed requirements. The level of discount plus rebate conceded by some manufacturers to the large national wholesalers enabled them to compete directly with smaller manufacturers when offering supplies to industrial users and contractors.

313. Evidence given to us by several cablemakers indicates that the favourable terms given by cablemakers to the largest wholesalers may put the latter into a position to supply the smaller wholesalers on better terms than cablemakers customarily offer. However, one of the largest suppliers of general wiring cable

[1] Part of the year only.

[2] These percentages, like those in paragraph 308, relate to sales in only part of the year.

told us that it made a special point of retaining and developing its business with medium sized and smaller wholesalers; and another substantial supplier told us that it was its policy to support associations of small wholesalers and large wholesalers alike and to offer comparable terms with the object of obtaining the maximum amount of business.

Discounts and rebates to electrical contractors

314. Electrical contractors purchase relatively small quantities of general wiring cable from cablemakers direct. Generally speaking, it is only the larger contractors, many of whom also purchase mains cable, not readily obtainable from wholesalers, who do so. Some cablemakers discourage direct business with smaller contractors, which may entail greater risk and expense, by offering them relatively poor terms. Even the largest contractors are offered terms for booklet cable less favourable than those offered to the largest wholesalers, but they are sometimes offered at least comparable terms for other types of standard cable. The terms agreed between individual cablemakers and contractors may include provision for rebate to be given as well as discount calculated by reference to list prices, but no fixed pattern of net prices emerges. While small contractors may be offered no more than 5 per cent off list price, large contractors may be offered discounts ranging between 28½ and 37 per cent, possibly with some rebate in addition. Distinction is not generally made between the rates of discount and rebate applicable to booklet cable and those applicable to other standard cable in offers to contractors.

Industrial users and public sector customers

315. Business with industrial users is normally obtained by quotation or competitive tender. Quotations are usually expressed in discounts off list prices, and may be the subject of negotiation.

316. Many industrial users referred to parallel pricing in the sense that common price lists were used as a basis for quotation, but competition in the terms of net prices was generally regarded as effective. However, some special types of cable supplied to industrial users may be made by only one or two manufacturers. Similar evidence was received from public sector buyers. The National Coal Board mainly lets its contracts for mining cables and the other types of general wiring cable which it purchases, by competitive tender. The NCB considered that cablemakers quoted competitively. The British Railways Board stated that it was able to obtain competitive tenders for the whole of its cable purchases of which signalling cable was much the most important in the general wiring cable field.

317. The Procurement Executive of the Ministry of Defence, which purchases cable for the repair of naval vessels, indicated that the tenders for certain ships' cables (specifications DG Ships 211, 212 and 213) gave evidence of parallel pricing. The Procurement Executive did not imply that there was collusion between the cablemakers, and collusion was denied by the cablemakers in their evidence to us. It merely said that net prices offered in response to invitations to tender were often identical though some prices were different. BICC publishes list prices for these cables applicable to its sales of them to shipbuilders and shipwiring contractors. When tendering to the Ministry of Defence we under-

stand that BICC offers a price in terms of a standard deduction from these list prices. These list prices are also used by some other manufacturers as a basis for their quotations. The position appears therefore to be similar to that prevailing in the supply of many other types of general wiring cable for which quotations are given. On the evidence of prices offered in response to more recent invitations to tender the Procurement Executive stated that it is satisfied that effective competition currently prevails.

318. The Procurement Executive also expressed its concern at the increase in the price of these ships' cables when imperial standards were replaced by metric standards in 1970. BICC told us that its prices for imperial sizes of Admiralty cables had been uneconomic, and it was not prepared to continue to sell at those prices. Its new list prices for metric sizes, once published, were quickly followed by its competitors, but there had been no prior discussion between BICC and its competitors about the new level of prices.

Short length surcharges

319. Most cablemakers apply a surcharge of 25 per cent to orders of less than 50 metres in length. Details of this surcharge are given in their published trade price lists. The cablemakers told us that the extra charge reflects such additional costs as the cost of financing the stock from which short lengths are cut, the cost of the unsaleable remainder lengths on the end of each reel or drum, the cost of cutting the cable and the higher transport and administrative costs per reel or drum. One manufacturer pointed out that customers could avoid paying the surcharges by ordering longer lengths or from more appropriate sources (in the case of booklet cable, from wholesalers); another said that where suitable short lengths were already available they were supplied without extra surcharge.

320. We asked the four major manufacturers whether a cutting charge rather than a percentage surcharge rising with the basic cost of the cable might be more appropriate. They told us that broadly speaking the larger the cable the higher its price and that the additional costs were greater for larger than for smaller cables. They also said that it would be difficult to devise a cutting charge which satisfactorily took account of the cost of scrapping the residual cable length. They told us that the present system was a simple and practicable method of recovering at least partially the additional costs involved.

New entrants

321. Although the market for general wiring cable generally has not been expanding, some very small companies have begun production of specialist types of general wiring cable in recent years. These include Calflex Cables Ltd, Brand Rex Ltd, and Boston Insulated Wire (UK) Ltd.

Profits and profitability

322. The following table shows the profits on an historic cost basis made on general wiring cable in the period 1971–76 expressed as a percentage of total sales of general wiring cable:

TABLE 6.4 **Profits—historic cost basis**

Year	*BICC*[1] *Per cent*	*Delta* *Per cent*	*AEI* *Per cent*	*Pirelli General* *Per cent*
1971	11	25	20	18
1972	10	16	15	15
1973	9	1	8	4
1974	7	11	7	5
1975	8	12	16	14
1976	7	2	11	6
simple average	9	11	13	10
simple average 1973–76	8	7	10	7

323. The following table shows on an historic cost basis the return on capital employed on general wiring for the four companies and, for comparison, average figures for all United Kingdom manufacturing industry.

TABLE 6.5 **Return on capital—historic cost basis**

Year	*BICC*[1] *Per cent*	*Delta* *Per cent*	*AEI* *Per cent*	*Pirelli General* *Per cent*	*All UK Manufacturing Industry* *Per cent*
1971	23	61	43	31	13
1972	21	38	36	22	14
1973	19	2	18	6	17
1974	17	34	18	8	16
1975	18	34	33	22	15
1976	15	6	23	11	18
simple average	19	29	28	17	16
simple average 1973–76	17	19	23	12	17

324. The very large fluctuations in the profits of Delta and Pirelli General are the result of using the replacement cost of copper sold in calculating cost of sales, unlike BICC and AEI who use the actual cost of the copper sold calculated on a first in first out (FIFO) basis. As the other companies follow BICC's lead in setting list prices, those prices are based on BICC's method of costing, and BICC makes little profit or loss on copper. AEI which uses the same costing method but may not have the same level of stocks makes relatively small profits or losses on copper, while Delta and Pirelli General make large losses when copper prices rise and BICC delays increasing its prices, and large profits when copper prices fall and BICC delays decreasing its prices. These profits or losses do, however, tend to cancel out over a period. Profits in 1971 and 1972 were high[2] but in the last four years of the period were not very different from the average of United Kingdom manufacturing industry.

[1] Includes mineral insulated cable.

[2] In 1971 and 1972 material cost represented a lower proportion of the sales price than in earlier or later years, and it would appear that the high profits resulted at least in part from lower material costs not being fully passed on in lower cable prices. Competitive price-cutting reduced profits in 1972 to 1973, and Delta's profits in the latter year were additionally affected by its acquisition of Aerialite. In 1973 and 1974 a huge rise in the price of copper reduced the profit margin and increased the cost of stockholding, so that in 1973 and 1974 profits as a percentage of sales and of capital employed were relatively low. The recovery of profit levels in 1975 and 1976 has been limited.

325. BICC and AEI also produced figures on a current cost basis with results that compared with the average for United Kingdom manufacturing industry as follows:

TABLE 6.6 **Return on capital—current cost basis**

Year	*BICC* *Per cent*	*AEI* *Per cent*	*All UK Manufacturing Industry* *Per cent*
1971	N/A	33	7
1972	N/A	24	9
1973	2	7	7
1974	7	7	2
1975	8	17	3
1976	1	8	2
simple average 1971–76	N/A	16	5
simple average 1973–74	4	10	4

Production of figures on a current cost basis involved the companies in a considerable amount of work and it was not possible for all four major manufacturers to provide them but the figures produced confirm the impression given by the historic cost figures that in the four years 1973 to 1976 the return on capital on general wiring cable was equal to or slightly above that for United Kingdom manufacturing industry as a whole.

CHAPTER 7

Winding Wires and Strips

326. Winding wires are components used in the manufacture of electric motors, transformers and generators, ranging in size from the largest industrial types to those used in domestic equipment, and in a wide variety of television, radio and electronic equipment. Sales are made exclusively to manufacturers and repairers of electrical equipment.

327. The product range extends from wires finer than ·025 mm in diameter for use in hearing aids or electric watches, to the heavy transposed strip constructions used in the transformer industry. The products fall into two broad categories: enamelled wires and strips, and textile covered wires and strips.

328. Continuing improvements in enamelling techniques, and the addition of synthetic enamels of the polyester, polyimide and epoxy types to the enamels based on natural resins that were originally used, has meant that whereas in 1948 production was divided equally between enamelled and textile covered wires, now nearly eight times as much enamelled wires are produced as textile covered wires. At the same time the average diameter of winding wires has been progressively reduced in response to demands for more compact assemblies and because of new applications in small products.

329. Conductors continue to be made of copper, to the almost total exclusion of aluminium, despite the latter's lower cost in the past since an aluminium conductor capable of carrying a given current has to be some 50 per cent larger in cross-sectional area than the corresponding conductor made of copper. The economical production of enamelled wires, which have to be run through an oven, involves continuous, round the clock, working.

The Market

330. During the period 1973–76 about 15 per cent by value of all reference goods sold in the United Kingdom was of winding wires. Winding wires constituted about 13 per cent by value of United Kingdom cablemakers' combined home and export sales of reference goods.

331. Sales of winding wires to the home market have been in decline for a number of years owing to a reduction in demand for transformers, increased importation, at the expense of domestic manufacture of domestic electrical appliances, motor cars, motor vehicles and colour television, the substitution of electronic exchanges for Strowger electro-mechanical exchange equipment, the use by component manufacturers of anodised aluminium foil, the trend towards the use of finer wire sizes and the practice of some major users of paper-covering their own bare wire and strip. The decline in home sales (including imports) expressed in terms of weight is shown in the following table:

TABLE 7.1 **Market demand**

Year	*Sales of winding wires in the United Kingdom (000 tonnes)*		
	Enamelled	*Textile*	*Total*
1965	37·2	13·2	50·4
1970	39·9	7·1	47·0
1971	34·0	6·2	40·2
1972	36·3	4·9	41·2
1973	41·5	4·8	46·3
1974	39·1	4·8	43·9
1975	32·3	4·6	36·9
1976	30·4	3·9	34·3

332. Counting the two BICC companies as one and the three AEI companies as one, we found seven United Kingdom manufacturers, including one very small specialist company, that supplied winding wires and strips to the home market. BICC and AEI together supply about three-quarters of the home market, with BICC having somewhat the larger share. About one-third of AEI's sales are to other companies belonging to the GEC group of companies. The total value of winding wires supplied in the home market in the years 1973 to 1976 together with the principal suppliers' shares are given in the following table:

TABLE 7.2 **Home market shares**

	1973 £ million	*1974 £ million*	*1975 £ million*	*1976 £ million*
Sales in United Kingdom	55·1	70·0	52·8	61·9
	Per cent	*Per cent*	*Per cent*	*Per cent*
AEI	33·3	31·4	31·4	31·8
BICC	41·7	43·3	41·0	38·2
Concordia	7·3	7·2	7·4	8·0
Delta	4·8	4·7	5·8	6·0
Pirelli General	6·9	7·5	8·4	8·6
Thames	2·4	2·4	2·5	2·7
Other	0·9	1·0	0·6	0·5
Imports	2·7	2·5	2·9	4·2
Total	100	100	100	100

Pricing

333. Winding wires, like general wiring cable, are sold mainly by reference to price lists, though they may also be sold by tender or negotiated contract. In contrast with the practice for general wiring cable, however, the cost of the copper component, which accounts for a very high, albeit variable, proportion of the total cost, is not included in the list price. The price of the copper component is calculated by taking as a basis the price per tonne, at the date of receipt of the order, of cash copper wire bars on the London Metal Exchange and adding to it a percentage to cover the cost of financing the copper until date of delivery of the finished product. The same principle applies to the small amount of winding wires made with aluminium conductors. To the copper basis price is added an extras price per tonne or kilogramme according to the price list. The extras price is primarily for drawing the wire and covering it, the cost of which varies according to the diameter of the wire and the thickness and type of insulation.

334. As the copper (or aluminium) content of the wire is separately priced, only changes in cablemakers' other costs are relevant to price list changes, and in practice changes in list prices are invariably increases. As discounts and rebates are expressed in terms of weight not as percentages of the list price (see paragraphs 339 and 340), their amount is unaffected by changes in the list price.

335. We were told that price lists are in general use because of the many hundreds, possibly thousands, of specifications of winding wires. Delta referred particularly to the needs of the smaller users who buy relatively small quantities at short notice, and suggested that special arrangements were usually made with larger users. AEI emphasised the wide range of the products purchased by some larger buyers as a reason for the existence of similar, or common, price lists which facilitated comparisons of discounts and other benefits offered by competing suppliers.

336. All the members of the CCA issue price lists for extras. The same copper basis price is used by all manufacturers. From January 1970—May 1974 and since June 1975 list prices for 'extras' issued by all manufacturers have been similar if not identical, and have been increased by approximately the same amount at approximately the same time.

337. There is no single price leader for winding wires but the initiative in raising prices has usually been taken either by BICC or by one of the AEI companies. Delta considered that in practice BICC was the major competitor because, unlike AEI, it had little tied business, and its competition was therefore more widely felt. Generally, we were told that, in view of the highly competitive situation in the market, it was not possible for any supplier to raise his prices above those of his competitors without risk of serious loss of market share. Neither AEI nor BICC therefore was able to raise its list prices except in circumstances when its competitors might be expected to follow. On one occasion (November 1976) Pirelli General notified its customers of its intention, when next increasing its prices, to increase the list prices of some types of wire (which it believed had been incorrectly costed relative to other types) more than others. Pirelli General said it had been prevented from giving effect to its intention because one of the AEI companies had notified users of its own intention not to change the relationship between its list prices in the way Pirelli General had proposed. In the circumstances, Pirelli General withdrew its proposal in favour of a general increase in existing list prices. Pirelli General was the first company to issue the new price list on this occasion, but it had been unable to achieve the object of its initiative, and it was the only recent occasion on which the initiative for price change has come from a company other than BICC or AEI. BICC, AEI and Delta said that in the competitive conditions they had been unable on several occasions to raise their list prices to the extent permitted under the Price Code.

338. AEI told us that on occasions some of its customers refused to accept increases in its list prices, and it was necessary to negotiate transitional arrangements. On the other hand, BICC and Pirelli General said that although at one time their customers were permitted to take deliveries at the old prices for a period, these arrangements were no longer in force. Pirelli General told us that it had had special net price lists for three of its larger customers which were not published and which did not change at the same time as its published list prices, and that this arrangement still continued for one customer.

Discounts and rebates

339. While list prices are sometimes charged, it is more usual for a discount to be allowed. Discounts are expressed not as percentages, as in the case of general wiring cable, but in £'s per tonne, the maximum being £64 per tonne for winding wires with copper conductors. Discounts are related to the customer's overall buying potential, and are frequently referred to as status discounts. The customer is usually accorded the same status discount by all his suppliers.

340. Rebates are sometimes given in addition to discounts, particularly where the buyer has substantial requirements for a comparatively small number of specifications, giving the cablemaker long production runs. Where they are given they are expressed like discounts in terms of £'s per tonne.

341. The four major manufacturers who together embrace 7 companies producing winding wires give relatively few rebates. Some companies give rebates to fewer than one per cent of their customers. In 1977 none gave rebates to more than about one customer in eight.

342. The four major manufacturers gave 82 rebates in 1977 to a total of 53 different customers. Of this 53, 18 received rebates from two or more of the companies. The highest rebates were not always given to the recipients of the highest discounts though over one-third of all rebates were given to customers receiving the highest rate of discount. Of the 18 customers receiving rebates from more than one manufacturer, 16 received the same discounts from all the manufacturers from whom they received a rebate, but only 4 of the 16 received the same rebate as well as the same discount from all their suppliers. The number of rebates given by individual companies in 1977 was little changed from 1975.

Surcharges

343. All the major manufacturers of winding wires impose similar surcharges on the supply of small quantities of wire and strip. The details of these are set out in their printed price lists for extras. For wires the surcharge is £10 for a minimum weight varying according to the diameter of the wire, and for strips the surcharge range from £60 for weights between 50 kg (minimum order) and under 100 kg to £10 for weights between 500 kg and under 1000 kg. The manufacturers do not consider that the surcharges compensate them fully for the additional costs involved, for example setting up machines, scrap, rewinding, administrative costs and delivery. One manufacturer told us, though others denied this, that the surcharges are intended not only to recover part of the additional costs of manufacture and supply but also to deter customers from buying small quantities. Wholesalers do not stock winding wires nor did the manufacturers think it would be practicable for them to do so because of the number of different sizes and types of wire that they would have to stock to supply a limited and infrequent demand.

The competitive situation

344. The market has been characterised by falling demand and low profitability. Market shares have nevertheless remained relatively constant, except that BICC has lost ground in recent years, and Pirelli General and, to a lesser extent, Delta have gained ground. Several cablemakers told us that they regarded

AEI's sales to other members of the GEC group of companies as 'captive' business, but in practice users of winding wires within the GEC group are free to buy from other sources (see paragraph 156).

345. BICC told us that it did not take the initiative in offering larger discounts or rebates, but reacted to market pressures for the purpose of protecting its market share. However there had not been the same escalation in the rates of discount and rebate for winding wires as for general wiring cables. Converted to percentage terms the level of discounts and rebates was much lower. Another of the four major manufacturers, on the other hand, said that it used rebates as a means of increasing its market share in the same way as it did for general wiring cables and it pursued the same policy of concentrating on supplying the larger customer. It considered that good technology had also been a factor in its success in gaining a larger share of the market. There was general agreement that quality and service were generally more significant in the market for winding wires than for general wiring cable, and that there were areas where advances in technology could earn additional business or better prices. Moreover, some industrial customers had particular requirements relating perhaps to the method of packing the wires or permitted tolerances. A cablemaker who gave his customer reliable service in such respects might expect to obtain continuing business with that customer.

346. Although buyers of winding wires with the largest potential are able to obtain the highest rate of discount (see paragraph 339), these do not compare in percentage terms[1] with the rates of discount given in respect of booklet cables of which wholesalers are the principal buyers. Nor does there appear to be the escalating tendency in rebates to which we refer in paragraph 309. This difference is due, in part at least, to the fact that buyers of winding wires, being, unlike wholesalers, the end users of the product, do not compete with one another in its resale and often cannot so quickly or easily switch the source of their supplies. It is to be noted that rebates often reflect cost savings to the cablemaker (see paragraph 340) and are not simply another function of buying power.

347. Although imports are small relative to total home sales, the types of wire imported compete directly with the home product and the possibility of importation exercises a general effect on price levels.

Views of customers

348. The customers we consulted (mainly large industrial concerns) were generally satisfied with the standard of service and the quality of the winding wires supplied by United Kingdom cablemakers. Several mentioned competition from the Continent, but most felt there were advantages in dealing with a British supplier. The quality of British wires was considered to be comparable with that obtainable from the Continent.

349. Several customers commented on the existence of 'parallel' prices, but all said that rebates were negotiable, though differences in the prices of different

[1] The percentage equivalent of a given amount of discount on winding wires varies widely according to the thickness of the wire and its insulation. The highest discount on winding wires (£64 per tonne) rarely amounts to more than about 10 per cent of the extras price, that is to say, the price exclusive of copper, and usually it amounts to less.

suppliers might be small. Many customers evidently placed as much weight on the quality of the product and on the reliability of the service they are given as on price, and did not readily switch their business if satisfaction was given in these respects.

350. Some purchasers complained about the surcharges (see paragraph 343) made by manufacturers for the supply of small quantities. The Association of Electrical Machinery Trades expressed concern at their effect in increasing costs in the repair trade where only small quantities of wire or strip were needed.

Profits and profitability

351. The following table shows the profits [losses] on an historic cost made on winding wires in the period 1971–76 for the four major manufacturers expressed as a percentage of total sales of winding wires:

TABLE 7.3 **Profits—historic cost basis**

Year	*BICC* *Per cent*	*Delta* *Per cent*	*AEI* *Per cent*	*Pirelli General* *Per cent*
1971	4	5	5	6
1972	5	4	4	[1]
1973	5	3	3	3
1974	3	1	4	4
1975	[2]	[2]	4	[1]
1976	[2]	[4]	7	1
simple average	2	1	4	2
simple average 1973–76	1	—	5	2

352. The following table shows on an historic cost basis the return on capital employed on winding wires for the four major manufacturers and, for comparison, average figures for United Kingdom manufacturing industry:

TABLE 7.4 **Return on capital—historic cost basis**

Year	*BICC* *Per cent*	*Delta* *Per cent*	*AEI* *Per cent*	*Pirelli General* *Per cent*	*All UK Manufacturing Industry* *Per cent*
1971	9	8	10	8	13
1972	12	7	10	[1]	14
1973	12	8	9	6	17
1974	8	3	12	7	16
1975	[4]	[4]	10	[2]	15
1976	[5]	[8]	23	2	18
simple average	5	2	12	3	16
simple average 1973–76	3	—	13	3	17

CHAPTER 8

Telecommunication Cable

353. We include in the term telecommunication cable only those types of telecommunication cable which are purchased by the Post Office. Possibly 90 per cent[1] of these types of telecommunication cable which are supplied in the United Kingdom are supplied to the Post Office.

354. During the period 1973–76 about 18 per cent by value of all reference goods sold in the United Kingdom was of telecommunication cable. Telecommunication cable constituted about 21 per cent by value of United Kingdom cablemakers' combined home and export sales of reference goods.

355. The total value of all types of telecommunication cable supplied in the home market in the years 1973–76 together with the principal suppliers' shares are given in the following table:

TABLE 8.1 **Home market shares**

	1973	*1974*	*1975*	*1976*
	£ million	*£ million*	*£ million*	*£ million*
Sales in UK	69·4	75·8	71·1	64·7
	Per cent	*Per cent*	*Per cent*	*Per cent*
BICC	27·7	30·6	29·9	25·3
AEI	28·3	28·7	21·8	26·5
STC	26·9	21·2	25·0	23·7
Pirelli General	8·6	9·5	10·2	10·3
Other manufacturers	6·7	8·4	11·1	11·5
Imports	1·8	1·6	2·0	2·7
Total	100	100	100	100

356. The various types of telecommunication cable can be classified in different ways, but we adopt the widespread practice of distinguishing the following sub-categories:

i external plant network cable (or, more simply, external telephone cable);
ii internal telephone cable;
iii telephone cord; and
iv submarine cable.

External telephone cable

357. External telephone cable is much the most important of the four sub-categories. According to the Post Office about 90 per cent of its purchases of telecommunication cable by value are of external telephone cable. It estimates that its requirements constitute about 95 per cent of the United Kingdom market, an estimate broadly confirmed by our own inquiries (see table in paragraph 360

[1] This figure cannot exactly be ascertained because different cablemakers draw the boundary line between telecommunication cable and general wiring cable in different ways.

below). The remainder is purchased by British Rail, by other public utilities and by large industrial organisations, such as oil companies, which operate their own telecommunications systems.

358. The Post Office lists eight different types of external telephone cable, each of which includes a number of different 'sizes' (combinations of different diameters of the conductors and numbers of pairs of wires in each cable), making about 250 different 'sizes' in all. However, three main types of external telephone cable may conveniently be distinguished:

i coaxial[1] cable used for long distance telephony on national and international routes;

ii 'quad'[2] type junction or trunk cable used to connect main and local telephone exchanges;

iii subscriber cables, of which main subscriber cable is used to connect a local exchange to a cabinet and distributor subscriber cable is used to connect the individual telephone set to a cabinet or to a small private telephone exchange.

359. The following table (as submitted by the industry) indicates changes between 1965 and 1976 in the volume of sales to the Post Office of each of these types of external telephone cable:

TABLE 8.2 **Market demand**

	Tube Kilometres × 10^3	*Loop Kilometres* × 10^6	
	HF Coaxial cables	*Quad type junction cables*	*Twin type distribution cables*
1965–66	6·33	0·87	3·78
1969–70	22·62	1·62	2·97
1970–71	20·32	1·87	4·30
1971–72	8·27	1·93	5·33
1972–73	12·96	1·57	4·84
1973–74	11·94	1·55	5·98
1974–75	5·38	1·10	5·00
1975–76	1·75	0·62	3·22
1976–77	11·21	0·84	4·43

The fall in the demand for coaxial cable since 1970–71 is attributed by the Post Office to technological advances in exploitation of the coaxial tube following a major technical breakthrough in that year.

360. External telephone cable is supplied by four United Kingdom manufacturers: BICC, Pirelli General, STC and TCL[3]. The yearly average of business for external telephone cable from the Post Office and other users over the years 1974, 1975 and 1976 was, according to TCMA and HTCMA statistics, as follows:

[1] Cable with a central conductor and an outer tube coaxial with it, the central conductor being held in position by means of thin plastic discs spaced along its length.

[2] Cables constructed by twisting together groups of four paper-insulated wires, opposite wires within each group forming a pair of circuits.

[3] See paragraph 133.

TABLE 8.3 **Sales of external telephone cable**

	Post Office £ million	*Other users £ million*	*Total Sales £ million*
BICC	16·3	1·0	17·3
TCL	15·5	0·9	16·4
STC	7·9	0·3	8·2
Pirelli General	5·5	0·6	6·1
Total	45·2	2·8	48·0

361. Post Office business was shared between the four companies in the years 1973–76 as follows:

TABLE 8.4 **Shares of sales to Post Office**

	1973 Per cent	*1974 Per cent*	*1975 Per cent*	*1976 Per cent*
BICC	35·5	36·8	36·2	35·4
TCL	34·3	34·8	32·5	35·4
STC	18·7	16·9	19·0	16·5
Pirelli General	11·5	11·5	12·3	12·7
Total	100	100	100	100

362. A proportion of external telephone cable for the long distance trunk network bought by the Post Office, is on a supply and install ('make and lay') basis. All the four cablemakers which make external telephone cable also have the capacity to install it. The figures in the tables in paragraphs 360 and 361 have been adjusted so as to exclude the installation costs of supply and install contracts on the basis that 40 per cent[1] of the value of such contracts are attributable to the installation element.

Matters relating to the supply of external telephone cable to the Post Office

363. Until 1963 external telephone cable was sold to the Post Office under a bulk supply agreement under which the Post Office negotiated and agreed with manufacturers the prices to be paid for cables and the manufacturers agreed between themselves and the Post Office the allocation of total Post Office business, with the aim of spreading available business in such a way that they could plan ahead the utilisation of their plant and labour resources.

364. In 1963 a change in Government policy led to the abandonment of the telephone cables bulk supply agreement and to the introduction of competitive tendering. The manufacturers considered that the consequences of a competitive tendering system might be detrimental to their interests, and in 1965 or thereabouts they therefore entered into arrangements whereby they operated joint tendering procedures in relation to their external telephone cable business with the Post Office, the effect of which was virtually to perpetuate the bulk supply agreement quotas by adjustment of the level of tender prices submitted. These arrangements came to light in the course of our inquiries. On 18 December 1974 the four manufacturers jointly terminated the agreement and at the same time registered it retrospectively under the Restrictive Trade Practices Act.

[1] Except the figures for 1976 in paragraph 361 which allow 45 per cent for the installation element.

365. On 12 March 1975 the four companies jointly registered a new agreement relating to enquiries or invitations to tender from the Post Office for the supply or supply and installation of external telephone cables. Certain enquiries subsequently received by the manufacturers from the Post Office were dealt with in accordance with the provisions of the Agreement. The Post Office, however, refused to place any orders against tenders submitted by manufacturers in this way and the manufacturers have suspended the operation of the Agreement.

366. In December 1975 the Post Office notified the manufacturers of its intention to adopt new purchasing procedures under which independent and competitive tenders were to be evaluated by the Post Office, procedures which have been put into effect. These procedures provide that tendering shall take place usually at not longer than six-monthly intervals;[1] and that contracts are to contain provisions giving the Post Office the right of direct access to information about costs and profits relating to cable supplied to and work undertaken for the Post Office. They also contain the following provisions to prevent sudden switching of business from one cablemaker to another. If the allocation of business by the Post Office by reference to tender prices results in any cablemaker receiving a percentage share of the business for any category of cable which was less than 90 per cent of its percentage share under the previous contract, the Post Office offers to redistribute some of the business so as to increase the company's share to approximately that 90 per cent. For such increment of business the price offered by the Post Office is the weighted average (weighted according to the volumes originally allocated to each company) of the prices that would have been paid under the original allocation of the business. We understand from the companies concerned that the new procedures create certain difficulties for them, but we have not investigated the working of these procedures.

367. On 12 June 1978, the Post Office announced that the four cablemakers had agreed to repay to the Post Office £9 million by way of adjustment of the prices charged during the period before 1975 when they were operating unregistered agreements.

368. The Post Office told us that it had a 'buy British' policy in general and did not normally buy cable from abroad. The Post Office made no criticisms to us of the quality of the cables it purchases or of the standards of service of the manufacturers. The Post Office praised the United Kingdom cablemakers' record in research and development, their willingness to develop new ideas and their collaboration with the Post Office research organisation in technical matters.

Internal telephone cable and telephone cord

369. As in the case of external telephone cable, the Post Office is the dominant purchaser of internal telephone cable and telephone cord, though it buys a slightly smaller proportion of the total home market supply of these types of cable. It receives tenders for internal telephone cable from up to 13 suppliers (counting interconnected companies as one) and states that competition is widespread and extremely keen. For telephone cord, it receives competitive

[1] We understand that for 'make and lay' business the interval is currently two months.

tenders from four main suppliers: Ripaults, Rist's and two BICC companies which are stated to quote independently. It states that there is ample capacity for Post Office requirements and that competition is keen. The Post Office supplied us with details of tenders which it had received in respect of both internal telephone cable and telephone cord.

Submarine cable

370. STC is the only United Kingdom manufacturer of submarine cable. Most of its production is exported. Its customers in the United Kingdom are the Post Office and Cable & Wireless Limited. Cable supplied to the latter is exported by that company for installation overseas. The Post Office purchases submarine cable mainly in conjunction with telecommunications authorities of other countries on a partnership basis, or as part of a joint Authority, in view of the international nature of submarine cable systems. The Post Office has traditionally placed contracts on behalf of such consortia, but all the partners participate in the adjudication of tenders or selection of the contractor in the absence of competitive tendering. Usually 50 per cent of STC's sales to the Post Office are paid for by the latter's overseas partners, and almost all the cables are installed outside United Kingdom territorial waters.

CHAPTER 9

Views of BICC: Home Supply

371. BICC accepts that it supplies more than one-quarter of all reference goods supplied in the United Kingdom and that it is therefore a monopolist under section 6(1)(*a*) of the Fair Trading Act. The company did not however accept that it is a party to a complex monopoly situation in relation to the supply of reference goods in the United Kingdom under section 6(1)(*c*) and (2) of the Act. In this chapter we deal firstly with BICC's submission on its monopoly position under section 6(1)(*a*) and secondly with BICC's views on the possible existence of a complex monopoly situation.[1]

BICC's Monopoly

BICC's price leadership

372. BICC said that in each of the five principal cable categories it had manufacturing capacity adequate to enable it to satisfy a substantial part of United Kingdom requirements; that it was an efficient, cost-conscious and technically progressive and innovative producer which had made large investments in rationalising and modernising its production facilities and arrangements and in research and development; and that it was accordingly in a strong competitive position and represented a strong competitive force in the industry. BICC agreed that in a general sense a supplier with its characteristics was necessarily in a position materially to influence the level of prices at which the relevant products were supplied since other competitors in the market must take account of its prices, so far as they could ascertain or predict them, in formulating their own pricing policies. More specifically BICC must influence the level of prices for reference goods in the sense of limiting the prices which other suppliers could seek or obtain, especially since the products in question were predominantly of a standard nature. BICC contended however, that the extent of its ability to influence the level of prices for reference goods was that of a large and efficient competitor and that it had no market power, in any type of reference goods, such as would enable it to raise prices above the competitive level. BICC did not enjoy a dominant position and in every case must operate within the constraints imposed by competition and the countervailing power of purchasers.

373. The company submitted that the United Kingdom market for reference goods had not in recent years exhibited significant growth and was not, so far as could be foreseen, likely to grow in the future. Manufacturing capacity was ample to meet demand and for some cable types there was considerable overcapacity. In all categories of reference goods BICC was faced with powerful competitors striving to expand their own market shares. Equally in all categories of reference goods BICC was faced by powerful and informed buyers and in some

[1] Our ground for its possible existence is given in paragraph 382 of Chapter 10, which contains the views of other cablemakers on this question.

categories was in the hands of nationalised bodies, which were effectively monopoly buyers.

Market leadership

374. BICC said that as a strong and cost-efficient competitor it was in a position to impose constraints upon its competitors as to the prices at which they could seek to sell their products, particularly where these were of a standard nature and were sold by reference to list prices. In such circumstances no manufacturer, let alone the largest in the field, would wish to appear to be more expensive than any other competitor. BICC agreed that so far as the setting of maximum prices was concerned it might be said to have acted generally, but not invariably, as the market leader in relation to general wiring cable and winding wires. BICC said that for a period following the introduction of the Price Code its list price increases for general wiring cable and winding wires were not necessarily immediately followed by other suppliers whilst at the same time those competitors from time to time maintained list prices higher than those of BICC. BICC contended that similarity of list prices was a function of the competitive situation and not the result of market power or market leadership by BICC in any relevant sense. This was illustrated by the fact that with an intensification of competitive pressures in 1975–76 following a reduction in demand for general wiring cable, other manufacturers' list prices have come to resemble those of BICC.

Steps taken to maintain BICC's monopoly

(a) aggregated rebates

375. BICC said that it gave rebates aggregated over a range of reference and some non-reference goods to only a very small number of customers, that 95 per cent by value of all the purchases involved were cables and that the effective range of aggregation was booklet and non-booklet general wiring cables, mineral insulated cables and a limited range of mains cables. Rebates in general played a small part in BICC's trade in reference goods, they contained no element of a loyalty bonus nor did they represent any attempt to bring about exclusive dealing.

(b) acquisitions

376. BICC also said that it had not pursued a policy of acquiring competitors in order to maintain or increase its market power and that of the acquisitions made only those of Pyrotenax Ltd (see paragraph 105) and of Reliance-Clifton Cables Ltd, acquired primarily to expand BICC's production capacity for telephone cables, had had any significant effect in increasing BICC's market share.

(c) vertical integration

377. BICC told us that its cablemaking activity acquired copper from BICC's copper refining activity on terms no more favourable than the size of its purchases would in any case enable it to command from other sources and that BICC in no way reinforced its position as a supplier of cables by setting artificially low transfer terms for copper. Similarly BICC said that while BICC as a cable manufacturer derived some advantage from having an installation con-

tractor (Balfour Beatty Ltd) within the group, Balfour Beatty was accorded only such terms for its cable purchases as would be appropriate for any other electrical contractor with the same purchasing potential.

(d) development overseas

378. BICC told us that its home cables operation did not budget on the assumption that profits would be available to support it from overseas companies nor did BICC rely on the profits from any other part of its operations (including its overseas companies) as a cushion to enable it to increase the volume of its home sales of cables by the fixing of unrealistically low prices. Its overseas activities had no effect on its position as a competitor in the home market.

Complex Monopoly Situation

379. BICC contended that it was not party to a complex monopoly situation in relation to the supply of reference goods in the United Kingdom. It argued that the markets for both general wiring cables and winding wires (in relation to each of which we had provisionally found a complex monopoly situation to exist) were highly competitive and that BICC did not in any way abstain from competition (including competition on price) with other suppliers any more than the other suppliers, in BICC's experience, abstained from competition (including competition on price) with BICC.

The use of similar list prices

380. BICC said that the use of similar list prices did not result in net prices being higher than would otherwise be the case. List prices were not themselves determinative of net prices which resulted from competition between manufacturers in discounts and rebates. Moreover, if BICC set its list prices for general wiring cables too high its competitors would either set their own prices at lower levels or increase their discounts, in either case producing a level of net prices below BICC's to which BICC would have to respond. In setting its list prices therefore BICC had to have regard to the likely reactions of its competitors. BICC contended that practices with regard to list prices could not change the fact that there was strong competition between manufacturers to maintain or increase their volume. This was particularly true of winding wires where all manufacturers were under strong pressure to obtain volume in a situation of falling demand and where BICC's profits were consistently low.

The practice of following BICC's list prices

381. BICC told us that it was administratively convenient for its competitors to adopt BICC's list prices for general wiring cables and changes in those prices rather than make their own laborious calculations of the effects of cost changes on individual products. BICC agreed that changes in costs might not be the same for all manufacturers, that different manufacturers might have different costs for different types of cable, and that in accepting BICC's list prices as a basis for calculating net prices the company's competitors also accepted BICC's decisions as to the relativities between list prices for different types of cable, there being no way in which other manufacturers' relative costs could be reflected in BICC's decisions as to relative prices. BICC contended however

that as the cables were standard with standard amounts of materials, wages were controlled by a joint wages council for the whole of the industry and the plant was frequently similar, differences in manufacturers' costs were likely to be marginal. BICC further contended that its competitors would only follow its new list prices for either general wiring cables or winding wires, if they found it convenient and sensible to do so, either because of their own assessment of the effect of cost increases or because of competitive considerations or for both reasons.

CHAPTER 10

Views of other Cablemakers: Home Supply

382. In this chapter we summarise views expressed to us by certain cablemakers other than BICC relative to our provisional conclusion[1] that a complex monopoly situation exists in relation to the supply of reference goods in the United Kingdom. The ground for this provisional conclusion was that at least one-quarter of all insulated electric wires and cables which are supplied in the United Kingdom are supplied by a group of persons[1] who appear so to conduct their affairs as to 'prevent, restrict or distort' competition in connection with the supply of these goods in that:

(*a*) those of them who supply general wiring cable calculate their prices for such cable by reference to the same or similar trade price list(s) and change their list prices at about the same time and by the same or nearly the same amount; and/or

(*b*) those of them who supply winding wires and strips calculate their prices for such wires and strips by reference to the same or similar trade price list(s) and change their list prices at about the same time and by the same or nearly the same amount; and/or

(*c*) those of them who supply general wiring cable allow the same or similar rates of discount in relation to such cable; and/or

(*d*) those of them who supply winding wires and strips allow the same or similar rates of discount in relation to such wires and strips.

AEI

383. AEI contended that the similarity of price lists (and the similarity in the amounts and timing of changes which that entailed) were a result of competition and indeed made competition more effective. Discounts and rebates were negotiated between individual suppliers and customers without reference to other suppliers. AEI submitted:

(*i*) that the existence of similar price lists which changed by similar amounts at similar times did not prevent, restrict or distort competition;

(*ii*) that although net prices were calculated 'by reference to' such price lists in that they were determined by deducting a discount and/or rebate from the list price, that in itself was not capable of constituting a prevention, etc, of competition; moreover, there was nothing to prevent, restrict or distort competition in the way that that percentage or amount was arrived at;

(*iii*) that the mere fact that the same or similar rates of discount were granted was irrelevant: what had to be considered was the combination of discount and rebate. Whilst it was true that the same or similar net prices were charged to some customers, that was not so in the case of all customers;

[1] See paragraph 6.

(*iv*) that the mere fact (in so far as it was true) that the same prices were charged by different suppliers was not capable of constituting a prevention, restriction or distortion of competition.

In expansion of its last point AEI said that first, where, as here, there was no significant distinction between goods of the same kind supplied by different suppliers, then in a situation of so-called 'perfect' competition, prices would all be the same. Second, if there was any prevention, restriction or distortion of competition which caused prices to be the same, then the identity of prices was a consequence of such prevention, etc, of competition. In neither case did identity of prices of itself constitute prevention, restriction or distortion of competition.

Pirelli General

384. Pirelli General argued that the mere fact that the parties to an alleged complex monopoly situation offered the same or similar list prices and/or rates of discount was not enough to substantiate a conclusion that a complex monopoly situation existed. There must also be a finding that the parties in whose favour it existed accepted or imposed terms or took steps (such as 'soundings out', discussions, exchange of information, complaints by one supplier to another, retaliatory action) which had the result that competition was prejudicially affected in a way in which it would not otherwise be, given the market structure which in fact obtained. Pirelli General pointed out that we had not found that the identity of similarity of list prices and/or rates of discount alleged was the result of anything done by the suppliers of reference goods themselves (eg 'sounding out' and the like) or anything done by a third party (eg imposition of terms on suppliers of reference goods by suppliers of raw materials or purchasers of reference goods). Pirelli General further submitted that we had not found that the same or similar effective net prices after discounts and rebates were charged to particular customers, that such prices were in fact not charged and that even were we to find that identical or similar effective net prices were charged this would not constitute a prevention, restriction or distortion of competition.

Delta

385. Delta said that price competition within the cable industry was continuous and real but that, occasional price wars apart, it tended, especially in the field of general wiring cable, to take place on discounts and rebates rather than on list prices. Delta contended that competitive forces resulted inevitably in parallel or identical list prices and list price changes. On general wiring cable Delta said that while a given customer would expect to pay, and be able to ensure that he paid, identical or near-identical net prices to different manufacturers supplying him with an identical product, and while customers of more or less equivalent status tended to enjoy similar net prices for the same product purchased from the same or different manufacturers, this was due to the presence of competition and the bargaining power of the buyer. On winding wires also Delta said that it was competition and customer pressure rather than any restriction or distortion of competition which brought about identity or similarity of price. Delta contended that any identity of 'net net' prices (after discount and rebate) given to a customer by two suppliers was the inevitable result of the customer's bargaining power and of the presence of competition not of its absence, restriction or distortion.

Rist's

386. Rist's pointed out that the major part of its trade in general wiring cable was in automotive cable in relation to which the forms of uncompetitive behaviour alleged to exist in the supply of ordinary household and industrial cables did not apply. Rist's questioned whether the uniform behaviour found to exist in the supply of ordinary household and industrial general wiring cables could be said to 'prevent, restrict or distort competition' when it was in fact dictated by the nature of the market and, at least in Rist's case, entirely dictated by the competitive situation in which the company found itself.

Complex monopoly situation arising from conduct of buyers

387. Pirelli General suggested to us that it was open to us to conclude that a complex monopoly situation existed by virtue of the conduct of a group of persons to whom reference goods were supplied if these persons so conducted their respective affairs as to prevent, restrict or distort competition and submitted that the major statutory bodies to whom reference goods were supplied constituted such a group by virtue of their conduct in inviting tenders on a yearly or six-monthly basis rather than more frequently and thereby reducing the opportunities open to suppliers of reference goods to adjust orders to available capacity by taking competitive action.

CHAPTER 11

The Export Associations

388. There are six associations which relate to the export of reference products from the United Kingdom, of which three are domestic associations, and three are international. The three domestic associations are:

The Export Association of the Electric Cable Making Industry (The Export Association) relating to mains and general wiring cable;

The Overseas Telephone Cable Makers Association (OTCMA) relating to telecommunication cable;

The Covered Conductors Export Group (CCEG) relating to winding wires.

389. The three international associations are:

The International Cable Development Corporation (ICDC), relating to mains cable;

The International Telephone Cable Development Association (ITCDA), relating to telecommunication cable;

The Super Tension Cable Export Agreement (STEA), relating to supertension cable.

The Export Association

390. The Export Association of the Electric Cable Making Industry was formed on 28 March 1957 under a constitution dated 25 February 1957. The constitution provides that 'the scope of the Association is the supply of insulated electric wires, cables and flexible cords (hereinafter referred to as "cables") by export from the United Kingdom'.

391. The formation of the Export Association brought together, under one trade association, activities that had previously been the separate responsibilities of four export associations concerned with:

(*a*) rubber and thermoplastic cable;

(*b*) mains cable up to and including $22kV$;

(*c*) mains cable of $33kV$;

(*d*) supertension cable.

392. The general control and management of the affairs of the Export Association is vested in an Executive Committee responsible for all matters of policy relating to exports. There is a manager with a small secretariat responsible for the day-to-day management of the Association's business and for assisting in the implementation of policy decisions.

393. The members are BICC, AEI, Delta[1], Pirelli General[2], and Crompton[3].

[1] The member company is Delta Enfield Cables (Holdings) Ltd—see paragraph 162.

[2] Pirelli Enfield, now a wholly-owned subsidiary company of Pirelli General (see footnote to paragraph 190) is also a member.

[3] The member company is Hawker Siddeley Electric Export Ltd, another company of the Hawker Siddeley Group, but as reference goods within the Group are made by Crompton, for convenience, we refer to the member as Crompton. Since 1 January 1978 Crompton has been a member for general wiring cable only.

394. Members of the Export Association are, with the exceptions of Crompton and Pirelli Enfield, also members of the British Group of ICDC (see paragraph 410).

395. The Export Association's Executive Committee works very closely with, and in many instances reports to and seeks and takes direction from, the governing body (the Cm Committee) of the British Group of ICDC. The same companies are represented on both committees, but the members of the Cm Committee in general fill higher level positions in their companies than their counterparts on the Executive Committee.

396. The Association operates working instructions divided into four Sections covering different types of cable as follows:

(*i*) power cables up to and including $22kV$ (see Appendix 12);

(*ii*) most types of general wiring cables (see Appendix 13);

(*iii*) power cables over $22kV$ up to and including $80kV$; and

(*iv*) power cables for voltages over $80kV$.

397. In relation to mains cable covered by Sections (*i*) and (*iii*), the working instructions provide machinery for administering ICDC provisions, and arrangements agreed within the British Group for giving effect to them. For mains cable above $80kV$, which is outside the scope of ICDC, the Association merely collects and circulates statistics to those of its members which supply them.

398. The Export Association's working instructions also cover export enquiries and open orders issued in the United Kingdom for Section (*i*) mains cable and Section (*ii*) general wiring cable, other than export enquiries and open orders relating to EEC countries[1]. Export enquiries and open orders issued in the United Kingdom emanate from electrical contractors and project engineers who require cables to be delivered overseas for installation by them in connection with overseas work, from United Kingdom buying agents and from electrical wholesalers some of whom maintain overseas stocks. An open order, which is now rare, is an order given to only one cablemaker and is firm, subject only to the price being satisfactory to the customer.

399. The arrangements that are in force and the reasons for them are described in Appendix 14. They affect about one-fifth of members' exports of mains cable (where they supplement ICDC arrangements) and between one-quarter and one-third of their exports of general wiring cable.

400. In theory, a contractor, United Kingdom buying agent, or wholesaler requiring mains cable for export, could purchase it for delivery in the United Kingdom, in which case he would receive competitive quotations from all United Kingdom cablemakers, including members of the Export Association, whom he had invited to quote. But, in practice, mains cable intended for export has to be wound on to special non-returnable drums in many cases treated with pesticides which are not required for the home market and it would not be practicable for the United Kingdom customer to arrange for this to be done

[1] In practice orders and enquiries relating to the United States of America, Canada and Australia have also been excluded.

subsequent to receipt of the cable. Large export contracts in any case involve collaboration between the cablemaker and his customer.

401. If a contractor or wholesaler requiring general wiring cable for export does not specify fob or overseas delivery, the enquiry is not dealt with under the Export Association rules, but is priced in accordance with whatever arrangements are in force between the individual cablemaker and the contractor or wholesaler for domestic business. The terms on which cablemakers contract with contractors and wholesalers for domestic business leave the latter free to obtain their export requirements in this way, if they so wish. If the contractor or wholesaler takes delivery in the United Kingdom, he must himself arrange for the cable to be packed for export and shipped. For most types of general wiring cable this presents no insuperable difficulty, but significant increased cost. The members of the Export Association estimate that it costs them 7 to 10 per cent more to supply general wiring cable packed and delivered fob for shipment overseas than to supply, pack and deliver the same cable to a customer's store in the United Kingdom.

402. The members of the Export Association told us that the export arrangements had not given rise to significant complaints from their customers. No complaint about those arrangements was volunteered to us by any contractor or wholesaler and specific enquiries which we made on a selective basis confirmed that there is little complaint about them.

Overseas Telephone Cable Makers Association (OTCMA)

403. OTCMA covers the supply to export territories of the following telecommunication products:

(*i*) subscriber cable;

(*ii*) trunk cable;

(*iii*) all coaxial cable, wave guides and similar products intended to be used for wide band transmission including those made up in composite form;

(*iv*) the installation, repair and maintenance of cables falling within the scope of the OTCMA;

(*v*) the supply and/or installation of jointing accessories and the installation of loading coils when included in an enquiry or order for the supply and/or installation of cables within the scope of the OTCMA.

Items (*i*) and (*ii*) are also covered by ITCDA (see paragraph 411), but not in respect of identical export territories. The members of OTCMA are BICC, Pirelli General, STC and TCL. The arrangements in force are described in Appendix 14.

404. The English Group of ITCDA is separate from OTCMA and its membership is different in that STC is not a member of the English Group. However, for administrative reasons and economy, the secretarial and administrative functions of the two bodies are combined.

405. In the three years 1973–75 exports by OTCMA members of subscriber and trunk cable falling under the ITCDA arrangements amounted to approxi-

mately 50 per cent of their total exports of telecommunication cable other than submarine cable. The export of coaxial cable accounted for approximately 19 per cent of their total exports and cable supplied with exchanges a further 16 per cent. The remaining 14 per cent of their exports fell outside both the ITCDA and OTCMA arrangements.

Covered Conductors Export Group (CCEG)

406. Winding wires were first covered by an export agreement as part of arrangements set up in 1940, we are told at the instigation of the government of the day, covering insulated electric wires and cables generally. The present agreement, constituting the CCEG, came into effect in February 1957. Its members are AEI[1], BICC[2], Concordia, Delta[3], Pirelli General and Thames.

407. The object of the Covered Conductors Export Group is to create conditions favourable to the best export performance by its members in territories covered by the agreement, termed export territories[4]. The Group seeks to achieve that object by providing a forum for the regular exchange of information about market conditions and price levels and in the context of the exchange of information setting minimum price levels for sales to export territories which appropriately reflect market conditions. The mode of operation of the agreement is described in Appendix 14.

408. CCEG returns for the years 1973–75 inclusive, indicate that, on a simple average basis, 47 per cent of the members' exports of winding wires was subject to the minimum price arrangements.

The international associations

409. ICDC and ITCDA are associations incorporated overseas. STEA is not incorporated. Membership of all three associations is by national groups. We have obtained all the information which we have considered necessary for our inquiry from the British membership. We did not seek evidence from any of the international associations themselves and no evidence was proferred either by them or by any of their overseas members.

410. ICDC, established in 1928, is much the oldest of the three associations. Its origins were described in the 1952 report[5]. Its purpose was stated to be to foster a sufficient degree of co-operation between suppliers of the types of cable in question, to promote and maintain reasonably stable trading conditions. Its present function is to operate export schemes relating to mains cable[6]. A national group, to be eligible for membership, must represent a major part of the cable industry of the country to which that group belongs. The British national group consists of BICC, AEI, Pirelli General and Delta. The other national groups are almost all representative of Western European countries. Cablemakers in the USA, the USSR, Canada and Australia do not belong and, since 1975, no Japanese cablemakers have belonged.

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[1] The member companies are LEW, Kent and Sims (see paragraph 122).

[2] The member company is BICC Connollys Ltd.

[3] The member company is EWW (see paragraphs 161 and 163).

[4] EEC and EFTA countries are not included in the list of export territories.

[5] See paragraph 180.

[6] The definition of the goods covered by the export schemes is given in Appendix 15.

411. ITCDA was formed in 1956 by members of ICDC national groups which exported telephone cable. Its current export schemes cover subscriber cable and trunk cable. It shares with ICDC a general secretary, and regular joint meetings are held. The associations have not permitted a national group having individual members which export both mains cable and telephone cable to belong to the one association but not the other, and in practice countries represented by the national groups enjoying full membership are almost the same in each case. The English national group consists of BICC, Pirelli General and TCL.

412. STEA came into effect in 1971 to deal with exports of pressure assisted cable. The lower voltage cables of this type already fell within the scope of ICDC but were not considered to be dealt with satisfactorily in that body because pressure assisted cable, unlike most cable, is not sold on its own but as part of an installed system. There is no formal relationship between ICDC and STEA in spite of some overlap; but in practice all the individual members of STEA are members of ICDC also. The English national group of STEA consists of BICC and Pirelli General.

413. The essential feature of the current ICDC export schemes, which date from 1955 onwards, is that they discourage members from competing with one another at uneconomic prices. [*One sentence omitted. See note on page iv.*] The mode of operation of the three associations is described in Appendix 14.

414. The various schemes operated by the three associations relate only to export to countries which do not possess a well developed cable industry. The schemes do not apply to trade between member countries nor, in general, to exports to non-member countries with a well developed cablemaking capacity of their own capable of satisfying its domestic needs. They do not apply to trade between members of the European Economic Community.

415. Current ICDC national group countries have accounted for about two-thirds of total world exports of all types of cable to non-producer countries (see Appendix 16). The individual (company) members collectively account for less than this fraction because, as in the case of the United Kingdom membership, not all cablemakers located in countries represented by a national group are members of that group. The figures given in the appendix can in any case give only a very approximate indication of the proportion of member countries' exports to non-producer countries of the types of cable covered by the three associations' activities.[1]

Combined extent of export associations' arrangements

416. The following table lists the companies which are members and/or which have subsidiary companies which are members of one or more of the export associations and indicates the association or associations to which each belongs:

[1] ITCDA estimates indicate that the percentage of the relevant export business obtained by ITCDA member companies, including Japanese member companies averaged, in the three years 1973–75 inclusive, approximately 63 per cent for subscriber cable and 67 per cent for trunk cable.

TABLE 11.1 **Export association membership**

Name of Cablemaker	*Export Association*	*OTCMA*	*CCEG*	*British Group ICDC*	*English Group ITCDA*	*English Group STEA*
BICC	*	*	*	*	*	*
Delta	*		*	*		
AEI	*	*	*	*	*	
Pirelli General	*	*	*	*	*	*
STC		*				
Crompton	*			*[1]		
Concordia			*			
Thames			*			

417. The combined home and export sales by the cablemakers listed in Table 11.1 of all categories of cable amounted in 1974 to £418·2 million out of the total home and export sales of all United Kingdom cablemakers of £512·2 million or 81·6 per cent. The member companies' sales of types of cable in respect of which competition is restricted in some way by one or more of the associations were less than their total sales, because none of the associations restricts competition in the export of submarine cable, internal wiring cable for telephone exchanges, and the types of general wiring cable listed as exclusions in Appendix 13. Separate sales statistics for all the types of cable not covered by the associations' arrangements are not available, but we estimate that the member companies' combined home and export sales in 1974 of the types of cable in respect of which competition is restricted in some way by one or more of the associations amounted to about two-thirds of the total home and export sales of all British cablemakers in that year[2]. This indicates that the member companies' production of the types of cable covered by the associations amounted to about two-thirds of the total United Kingdom production of reference goods.

418. The following table shows, for each category of cable, the total exports of all cablemakers in terms of value, in each of the years 1973–76 inclusive and the share[3] of those exports by members of the export associations:

TABLE 11.2 **Export market shares**

	1973		*1974*		*1975*		*1976*	
	Total exports of all UK cable-makers (£ million)	*Percentage exported by export association members*	*Total exports of all UK cable-makers (£ million)*	*Percentage exported by export association members*	*Total exports of all UK cable-makers (£ million)*	*Percentage exported by export association members*	*Total exports of all UK cable-makers (£ million)*	*Percentage exported by export association members*
Mains	16·6	88·4	31·7	87·1	32·6	84·3	39·8	80·0
Supertension	6·2	100	7·7	100	9·7	100	9·0	100
General wiring	18·3	61·1	33·4	59·1	36·9	57·3	40·3	52·1
Winding wires	6·2	100	10·2	100	5·5	100	6·0	100
Telecommunication	12·3	97·7	31·6	98·9	39·6	98·5	52·9	98·5

[1] Crompton ceased to be a member of the British Group of ICDC on 31 December 1977.

[2] Virtually all types of mains cable, supertension cable, and winding wires are covered by one or more of the associations. The member companies' home and export sales of these categories of cable, amounting in 1974 to £171·5 million, alone accounted for one-third of the total home and export sales of all United Kingdom cablemakers in that year. While separate sales figures for some of the types of telecommunication cable and general wiring cable not covered by the agreements are unavailable, it seems probable that the sales by member companies of types of cable in these two categories that are covered by one or more of the agreements amounted to a further one-third of all United Kingdom cablemakers' sales in 1974.

[3] This percentage share overstates the percentage of United Kingdom exports affected by the associations' arrangements because these do not apply to all types of cable exported by association members nor to exports to certain markets (see paragraphs 414 and 419).

419. United Kingdom cablemakers not belonging to any of the export associations accounted for 18 per cent of the total sales by all British cablemakers of insulated electric wires and cables in 1974, and 16 per cent of all exports.

420. Particulars of the export agreements described in this chapter have been furnished from time to time under the provisions of the legislation currently in force[1] and are now held by the Director General of Fair Trading.

[1] Section 31 of the Restrictive Trade Practices Act 1956 or, from 1 November 1973, section 102 of the Fair Trading Act 1973 (now section 25 and paragraph 6(1) of the Third Schedule of the Restrictive Trade Practices Act 1976).

CHAPTER 12

Export Performance, Prices and Profits

Exports of the industry as a whole

421. In 1977, the value of United Kingdom exports of insulated electric wires and cables amounted to £173·5 million. The following table shows the growth of exports, in terms of sterling values, since 1961:

TABLE 12.1

Year	*Value of UK Exports Insulated Wire and Cable £'000*	*Index*
1961	23,158	100
1962	24,656	106
1963	31,828	137
1964	32,335	140
1965	30,755	133
1966	34,904	151
1967	28,375	122
1968	42,620	184
1969	39,329	170
1970	47,385	205
1971	51,664	223
1972	46,938	203
1973	58,331	252
1974	99,776	430
1975	127,389	550
1976	148,605	640
1977	173,544	749

Source: United Kingdom Overseas Trade Statistics.

422. Between 1961 and 1975, the United Kingdom share of total OECD exports of insulated electric wires and cables fell from above 24 per cent to about 14 per cent. Table 12.2 compares the United Kingdom market share of total OECD cable exports with that of the four other largest OECD cable exporting countries. From this, it will be seen that, in 1975, in spite of loss of ground, the United Kingdom remained the second largest exporter.

423. Table 12.3 compares the trend in the United Kingdom share of total OECD exports of insulated electric wires and cables with the trend in United Kingdom share of total OECD exports of all manufactured goods over the period to 1975. An increase in the value of the index indicates that the United Kingdom share of OECD exports of cable has increased relative to the United Kingdom share of OECD exports of all manufactured goods. The index shows that the cable industry has always performed better than the remainder of British industry although the trend over the period has shown only slight improvement.

TABLE 12.2 **Share of total OECD Cable Exports by the five leading exporting countries 1961–75**

Exporting Countries	*1961*	*1962*	*1963*	*1964*	*1965*	*1966*	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
United Kingdom	24·3	23·1	27·3	25·9	22·1	21·2	17·7	20·8	16·5	15·2	16·7	14·2	13·5	13·8	13·9
West Germany	17·4	17·6	15·6	16·0	15·8	18·0	19·2	16·5	15·9	15·2	17·9	17·4	19·7	20·1	18·2
France	11·3	10·3	8·0	7·1	8·7	9·1	9·1	9·8	9·7	10·1	9·2	9·8	10·1	9·8	11·2
United States	8·1	7·4	8·0	6·9	9·0	8·9	9·8	10·4	10·4	8·9	9·7	10·7	10·2	11·2	11·7
Japan	5·9	8·1	11·8	11·2	7·8	8·8	8·5	9·4	10·2	11·3	11·3	11·8	10·3	9·7	10·2

Source: OECD Trade Statistics Series C. Japanese Trade Statistics.

NB: OECD figures have been adjusted to include Japan and Finland but exclude Australia and New Zealand throughout.

TABLE 12.3 **Comparative Export Performance of the UK Cables Industry**

	1961	*1962*	*1963*	*1964*	*1965*	*1966*	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
UK share OECD exports of wires and cables	24·3	23·1	27·3	25·9	22·1	21·2	17·7	20·8	16·5	15·2	16·7	14·2	13·5	13·8	13·9
UK share of OECD exports of all manufactured goods	15·6	15·1	14·7	12·7	12·8	11·8	11·4	10·5	10·2	9·9	10·1	9·4	8·7	8·0	8·5
Index	1·56	1·53	1·86	2·04	1·73	1·80	1·55	1·98	1·62	1·53	1·65	1·51	1·55	1·72	1·63

Source: OECD Trade Statistics, Series C.

424. Table 12.4 compares the percentage of total cable sales which is exported by the United Kingdom with that of other major exporting countries. The comparison is limited by the availability of published statistics for the value of domestic sales. Moreover the comparison between the figures for the countries which are listed in Table 12.4 can only be made in the most general terms because of differences in commodity definition and classification. Nevertheless the table suggests that the United Kingdom has exported a relatively high proportion of its cable output in the relevant years.

TABLE 12.4 **Percentage of total cable sales of leading producer countries which is exported**

	1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*
United Kingdom	17·9	—	—	—	—	16·3	20·9	27·9
West Germany	11·3	9·4	10·2	11·9	11·8	11·9	17·3	21·9
France	10·7	9·6	12·9	12·6	12·7	11·2	13·9	19·5
USA	2·0	2·1	2·1	2·4	2·5	2·5	3·5	6·1
Japan	—	4·5	5·8	6·7	—	—	—	—

Source: OECD Trade Statistics, Series C.
United Kingdom Census of Production.
German, French, Japanese and US Official Statistics.

425. The following table shows the destination of United Kingdom wire and cable exports classified by region and expressed as a percentage of the total sterling value of cable exports from the United Kingdom. It underlines the importance to United Kingdom producers of exports to those regions which have not, in the past, possessed significant indigenous cablemaking capacity. The fast growing export markets of the Near and Middle East have displaced the Far East as the most important export region for the United Kingdom over the period 1970 to 1977. The share of exports to EEC countries has been affected by the changing membership of the EEC and the sudden increase in the EEC share in 1973 reflects the entry into the EEC of the Irish Republic:

TABLE 12.5 **UK cable exports by destination—per cent share of total sterling value**

Export Region	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*
Near and Middle East	19·9	19·2	28·7	21·7	24·6	34·1	29·4	36·6
Far East	18·7	15·4	15·9	17·8	22·2	12·4	14·9	9·9
Africa	20·2	21·4	13·9	13·7	12·1	13·4	9·7	11·8
EEC	5·9	8·5	7·9	15·3	16·8	12·7	10·7	15·5
Other Western Europe	14·0	18·7	13·9	5·2	6·1	6·0	4·0	9·4
United States and Canada	9·7	4·0	3·5	11·5	3·4	5·7	10·2	0·8
South and Central America	0·6	1·2	5·3	0·7	0·8	1·3	4·2	0·3
Pacific	4·6	4·0	3·8	6·9	3·6	4·2	1·3	1·2
East Europe	1·2	1·4	1·8	1·2	0·2	3·6	1·0	1·4
Caribbean	2·2	3·2	2·6	2·9	0·5	0·5	—	0·1
West Asia	2·3	2·4	2·3	3·1	1·8	1·1	—	1·1
Others	—	—	—	—	7·7	4·7	15·4	11·8

Source: Overseas Trade Statistics of the United Kingdom.

Prices and profits

426. We attempted to make comparison between the level of home prices and export prices of mains cable, supertension cable and telecommunication cable. However, the prices obtained on individual orders, particularly export orders,

vary widely and cable specifications, sales costs, and contract conditions also vary from one order to another, particularly as between home and export orders. We recognised, therefore, that useful comparison could not be made in this way. We therefore inquired whether relative profitability of home and export sales might constitute a more useful approach.

427. The following tables show, for the three categories of cable as relevant, the export sales and profits relative to total sales and profits of the cablemakers concerned:

TABLE 12.6 **Export sales and profits on mains cable below 33kV[1] (BICC, AEI, Delta and Pirelli General aggregated)**

Year	*Total sales £ million*	*Percentage exported*	*Profit as a percentage[2] [3] of sales of reference goods on* *Total sales*	*Exports*
1971	44·9	20	14	6
1972	42·0	24	13	8
1973	52·3	27	5	3
1974	73·2	37	9	11
1975	67·3	41	9	11
1976	75·3	42	5	7
Simple average for period		32	9	8
Simple average 1973–76		37	7	8

[1] Includes a small amount of 33*kV* cable.

[2] Profit figures are on an historic cost basis.

[3] In producing the profit figures from which this table has been compiled the companies have had to allocate overheads between home sales and exports in circumstances where they do not do so as part of their own accounting system. The bases of allocation adopted are conventional accounting ones and the results shown may be regarded as fair and reasonable approximations.

TABLE 12.7 **Export sales and profits on supertension cable 33kV and above[4] (BICC, Pirelli General and Delta aggregated)**

Year	*Total sales £ million*	*Percentage exported*	*Profit [loss] as a percentage[5] of sales of reference goods* *Total sales*	*Exports*
1971	8·7	35	[4]	[21]
1972	10·2	32	10	[6]
1973	14·2	43	9	0
1974	16·3	47	6	[1]
1975	16·3	53	12	5
1976	16·9	43	15	2
Simple average for period		42	8	[3]
Simple average 1973–76		47	10	2

[4] AEI manufactures some cable of 33*kV* but has not separated the profits from those of under 33*kV*, so it is not included in this table.

[5] Notes 2 and 3 to Table 12.6 apply.

TABLE 12.8 **Export sales and profits on telecommunications cable excluding submarine cable (BICC, AEI, Pirelli General and STC aggregated)**

Year	*Total sales £ million*	*Percentage exported*	*Profit as a percentage of*[1] *sales of reference goods on Total sales*[2]	*Exports*
1971	58·6	16	10	12
1972	58·9	15	11	15
1973	66·9	14	8	8
1974	84·7	21	4	2
1975	79·7	23	1	1
1976	79·9	31	2	4
Simple average for period		20	6	7
Simple average 1973–76		22	4	4

[1] Notes 2 and 3 to Table 12.6 apply.

[2] The percentages of profit for the years 1971 to 1974 have been adjusted to take account of repayments to the Post Office (see paragraph 367).

428. The foregoing tables, which compare the relative profitability of home and export sales give only an approximate indication of ex-factory prices of export sales relative to total sales. In part this is because relative contribution rates on sales even over a period reflect relative home and export price levels only when the mix of sales is substantially the same. For example, the profitability of export sales compared with home sales may be understated when expressed as a percentage of sales value because of the higher metal cost of copper compared with aluminium which is more widely used in both mains and telephone cables sold at home than abroad. The apportionment of fixed and central costs on the basis of sales values, the only practicable method, creates further distortion in favour of aluminium conductor cable. When allowance has been made for possible inaccuracies in costing, it is likely that in some years exports of mains and telecommunication cable have been more profitable than home sales but taking the period as a whole the average profit on home and export sales has been similar. Profits on exports of supertension cable have been lower than profits on home sales.

429. We obtained similar particulars from four cablemakers of their exports of general wiring cable and winding wires, given in Tables 12.9 and 12.10 respectively. These indicate that the average profit on export sales of general wiring cable was similar to that on home sales, but that the export of winding wires did not cover its share of fixed costs.

TABLE 12.9 **Export sales and profits on general wiring cable excluding mineral insulated cable (BICC, AEI, Delta and Pirelli General aggregated)**

Year	*Total sales £ million*	*Percentage exported*	*Profit as a percentage of*[1] *sales of reference goods on Total sales*	*Exports*
1971	73·4	11	16	9
1972	67·6	10	13	9
1973	89·2	10	6	1
1974	123·5	13	8	10
1975	121·8	15	10	11
1976	126·2	13	6	5
Simple average for period		12	10	8
Simple average 1973–76		13	8	7

[1] Notes [2] and [3] to Table 12.6 apply.

TABLE 12.10 **Export sales and profits on winding wire (BICC, AEI, Delta and Pirelli General aggregated)**

Year	*Total sales £ million*	*Percentage exported*	*Profit [loss] as a percentage*[1] *of sales of reference goods on* *Total sales*	*Exports*
1971	39·6	10	5	[3]
1972	39·1	10	5	[9]
1973	53·8	11	4	[4]
1974	70·7	14	3	[1]
1975	51·0	10	1	[8]
1976	58·0	10	2	[7]
Simple average for period		11	3	[5]
Simple average 1973–76		11	2	[5]

[1] Notes [2] and [3] to Table 12.6 apply.

CHAPTER 13

Evidence and Views of Cablemakers on the Export Associations

THE INTERNATIONAL ASSOCIATIONS

430. The member cablemakers told us that in their view the reasons why cablemakers in many different countries had formed international export agreements were that cablemakers were supplying almost indistinguishable products to competent and well-informed customers, that total demand for their product was unresponsive to price, and that in such circumstances all cablemakers recognised that the only alternative to international export arrangements would be cut-throat competition. Current excess manufacturing capacity was an additional reason but had not been a factor in setting up the agreements nor would members cease to support the agreements if the excess capacity disappeared. A particular feature of the market for telephone cable was that enquiries were large, but infrequent and unpredictable in their timing. This meant that an exporter had a great deal at stake when bidding for a particular piece of business because he did not know when his next opportunity might arise. In the absence of agreement between suppliers, prices for telephone cable tended to be driven down to very low levels for this reason as well as for the reasons which applied in other cable categories.

Investment and employment in the United Kingdom

431. The member cablemakers stated that:

(*i*) British manufacturers to an increasing extent had to look to export markets for their customers. Slow economic growth in the United Kingdom threatened the expansion, indeed the commercial survival, of many firms in the United Kingdom if they could not earn foreign revenues to use for future investment. Without future investment their domestic and international competitiveness was threatened. The activity and organisation of the British companies concerned were influenced to an important degree by the prospects of earning returns on the exports of cables sufficient to support investment in the United Kingdom.

(*ii*) The exports achieved by the British companies (conducting their business in accordance with the export arrangements in which they participate) had made a positive contribution to their operating effectiveness. Between 1970 and 1975 exports of power cables represented on average about a third of the value which the companies obtained from their production and sale of such cables, the proportion of export business increasing in the latter part of the period. The proportion of export business in telephone cables had also been rising, and in the most recent years exports of telephone cables had represented a similar proportion of total value.

(*iii*) The British companies were the world's largest exporters of power and telephone cables, but they enjoyed no inherent or long-term cost or

product advantage. The size of the British companies' share of world exports conferred substantial advantage to British companies when their major competitors competed according to the same rules.

(*iv*) The value that British exporters could add to the cost of imported raw materials, mainly copper, aluminium and lead and oil based materials was what counted. The interest of the British companies in maximising that value was identical with the public interest. Increase in volume was not a practicable method of compensating for low prices.

432. Asked whether the long-term effects of the international associations might not be to encourage local production of cables in what had been export territories thus reducing the volume of exports from the United Kingdom and adversely affecting employment in cablemaking in this country, the companies agreed that many less-developed countries had established simple cablemaking industries but considered that the reasons had been primarily political. They said that all countries had to impose heavy tariffs to protect local interests as soon as a domestic cable industry was started, thus showing that it was not high import prices which motivated the policy. If import prices were lower, then the countries would simply impose even higher tariffs.

Technical innovation

433. The cablemakers said that it was not the object or effect of any of the international associations to impede the introduction into the export market of new cable types. Export customers tended to be conservative and were slow, for example, to accept aluminium conductor cables, in spite of their price advantage, in applications for which they were suitable. British companies mainly developed new mains cable types for use in the home market and subsequently modified and adapted them for export. However, mains cable with cross-linked polythene insulation, for which there was until recently no home demand, had been developed primarily for the export market (see paragraph 261).

Trade between the United Kingdom and member countries

434. The cablemakers told us that trade between the United Kingdom and other countries with well developed cable industries (whether or not within ICDC or ITCDA) was limited by high transport costs relative to the cablemakers' added value; differences in cable standards, delays in type-testing approvals and by tariffs.

435. The cablemakers stated that the British national groups of the international associations had reached no understandings, formal or informal, relating to trade between member group countries. They agreed, however, that there was hesitancy about competing in the territory of another member by the use of price cutting tactics. However, such hesitancy did not arise because of their membership of the international agreements, but because of their expectation that such tactics would invite retaliation. Moreover, it was a costly business to set up a selling organisation in a country already well served by its domestic industry. For these reasons, exchanges between the United Kingdom and other countries had been largely limited to specialities, though this position might change as a result of United Kingdom membership of the EEC. Particulars of United Kingdom imports are given in Appendix 17.

Competition in the home market

436. The cablemakers stated that the pooling of information and co-operation in connection with their membership of the various export agreements had not affected competition between them in the home market for cables. They told us that cost information prepared by British group member companies for ICDC purposes was not exchanged but was supplied to the Secretary of the British group who alone knew the origin of the different cost estimates submitted. These were coded when being considered collectively by the members. The types of cables costed were not those in most frequent demand in the United Kingdom.

Competition between high and low cost exporters

437. The cablemakers doubted whether in practice it was possible, whether in mains or telephone cable, to identify 'low cost' and 'high cost' companies in other than a fleeting sense. Neither materials nor manufacturing techniques were uniquely available to any cablemaker so as to create for that company a long term cost or technological advantage. The costs of any manufacturer were likely to be significantly affected by the state of activity in his factory and the mix of his business at the particular moment. However, even on the hypothesis that 'high cost' and 'low cost' producers existed, the cablemakers did not accept that the ICDC or ITCDA schemes operated to the disadvantage of 'low cost' producers who, they stated, were always better placed than their 'high cost' competitors.

Japanese withdrawal from the international agreements

438. The Japanese national groups withdrew from all three agreements during 1975. After an interval during which there was uncertainty about the intentions of the former Japanese member companies, severe competition has developed with them in certain Far Eastern and Middle Eastern markets, which has had the effect of reducing export prices substantially in markets particularly important to British exporters. The cablemakers considered that they could compete more effectively in these markets as members of the association than they could outside them and Japanese withdrawal from them had strengthened the British interest in continuing to support the associations.

THE EXPORT ASSOCIATION

439. The member cablemakers told us that the reason for their arrangement in respect of mains cable and certain types of general wiring cable affecting enquiries or open orders issued in the United Kingdom (see Appendix 14) was the same in each case, namely that when an export enquiry or open order was issued in the United Kingdom it was likely that the enquiry would have been issued only to United Kingdom manufacturers, and that accordingly any eventual order would be placed with a United Kingdom manufacturer. In these circumstances the benefit to the British export trade secured by the provisions, was that the price obtained would not be reduced as a result of unnecessary price competition between the members of the Export Association.

OTCMA

440. The member cablemakers told us that the object of members reporting overseas enquiries in respect of telecommunications cable business outside the

ITCDA arrangements (see Appendix 14) was to enable views to be co-ordinated, where more than one member had received the enquiry, on the best way of handling it.

CCEG

441. The member cablemakers told us that an important advantage which the members of CCEG derived from the existence of the price agreement was the exchange of information which took place between them. As a consequence, each member had access to the collective experience of the membership as to market conditions in a variety of territories in respect of any of which an individual member might have no or inadequate knowledge. Each member was thus better equipped, than he would otherwse be, to undertake export business, for his appreciation of export particulars and prevailing price levels was enhanced. This was a positive advantage to the companies themselves and also a positive benefit to the public interest.

EVIDENCE AND VIEWS OF CABLEMAKERS NOT BELONGING TO ANY OF THE ASSOCIATIONS

442. Of the 27 manufacturers of cable in the United Kingdom of whom we have made enquiries, 19 are not members of any export agreement. Greengate was formerly a member of the Export Association and ICDC until 31 December 1974, but its effective membership had ceased earlier. Crompton was a member of the ICDC until 31 December 1977. Greengate resigned because it found the trouble and expense of membership not worthwhile. It considered that it had improved its export position as a result of its resignation. Crompton told us that the expense and complicated administration of the ICDC arrangements posed problems for the smaller cablemakers. It felt that its resignation would not have a significant adverse effect on the benefits to be obtained nationally by British participation in ICDC. None of the non-member companies we consulted reported any difficulties arising from their non-membership.

CHAPTER 14

Conclusions

THE 'MONOPOLY SITUATION'

443. We are required to determine first whether a monopoly situation as defined in the Fair Trading Act 1973 exists and, if so, by virtue of which provision of sections 6 to 8 of the Act and in favour of what person or persons it exists.

Supply in the United Kingdom

444. The effect of section 6 (1) (*b*) of the Act is that a monopoly situation shall be taken to exist if at least one-quarter of all the insulated electric wires and cables which are supplied in the United Kingdom are supplied by members of one and the same group of interconnected bodies corporate. As stated in paragraph 41 BICC together with its cablemaking subsidiary companies [1] supplied 35 per cent by value of the insulated electric wires and cables that were supplied in the United Kingdom in 1974. No other manufacturer or manufacturing group supplied as much as 25 per cent. We conclude that by virtue of section 6 (1) (*b*) of the Act a monopoly situation exists in favour of BICC, BICC Cables and the subsidiary companies listed in paragraph 40.

445. The effect of section 6 (1) (*c*) and (2) of the Act is that a monopoly situation shall be taken to exist if at least one-quarter of all the insulated electric wires and cables which are supplied in the United Kingdom are supplied by members of one and the same group consisting of two or more persons who whether voluntarily or not, and whether by agreement or not, so conduct their respective affairs as in any way to prevent, restrict or distort competition in connection with the production or supply of insulated electric wires and cables. Under section 11 of the Act a monopoly situation of this kind is a 'complex monopoly situation'.

446. It appeared to us that such a complex monopoly situation might exist in the supply of insulated electric wires and cables in the United Kingdom by virtue of the facts that in connection with the supply both of general wiring cable and of winding wires and strips, cablemakers calculate their prices for these cables by reference to the same or similar price lists, that they change their list prices at about the same time and by the same or nearly the same amount, and that they allow the same or similar rates of discount (see paragraph 382). We found no other evidence that a complex monopoly situation exists. However, one cablemaker suggested to us that a complex monopoly situation might exist as a result of the conduct of certain public sector buyers. We consider these various possible complex monopoly situations in turn.

[1] On 1 January 1975, all the cablemaking activities of the BICC Group were brought under the operational control of BICC Cables. The subsidiary companies affected are listed in paragraph 40.

General Wiring Cable

447. The particular features of the market for general wiring cable which it has been necessary to examine are the use of common list prices by all cablemakers supplying booklet and standard non-booklet items and the giving of discounts to wholesalers within limits which are widely observed.

448. The manufacturers invoice booklet and standard non-booklet cables to wholesalers at discounted, or net, prices, the rate of discount usually falling within a range of 30 to 34 per cent for booklet cable and 25 to 29 per cent for standard to non-booklet cable. Some cablemakers agree to give some of their customers in addition a monthly, quarterly or annual rebate calculated as a percentage of the net price. Where rebate is given the actual, effective price is sometimes referred to as the 'net net' price.

449. The main reason given for the use of common list prices is that this is the system most convenient for the cablemakers' customers. Where, as in the case of general wiring cable, wholesalers may place orders for a very large number of different types of specifications of cable, the use of common list prices greatly facilitates comparison by the wholesaler of the actual prices offered to him by different cablemakers, as these can be (and are) expressed in terms of a discount (or a discount plus a rebate) applicable across the board. The use of common list prices enables the wholesaler in turn to quote to his customers on a basis which permits them also to make similar comparison of the actual prices offered by different suppliers. The evidence of cablemakers and wholesalers is in agreement on this.

450. Although list prices are not charged, simultaneous changes in cablemakers' list prices have the effect of changing their actual prices at the same time and by the same proportion. The use of common list prices therefore amounts to parallel pricing as defined in a reference to this Commission in May 1971.[1] However, the existence of parallel pricing is not of itself proof that competition is restricted.

451. Good market information, the interchangeability of different manufacturers' products and sophisticated buyers usually make it impossible for any cablemaker to maintain his list prices at a level above those of his competitors.[2] We analyse in paragraphs 285 to 299 the process by which, in these circumstances, changes in list prices take place. We find that only BICC has initiated changes whether upwards or downwards. We discuss in paragraphs 481 to 485 the reasons for BICC's power to raise list prices and its limits.

452. However, the list price is only one of the elements affecting actual prices and we therefore go on to consider the effectiveness of competition in terms of the other elements making up the actual price to the customer, that is to say, competition in terms of discount and rebates.

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[1] 'The practice of two or more suppliers of goods of any class or description, when effecting changes in the prices at which such goods are supplied in the United Kingdom, of doing so at or about the same time and by the same or similar amount or proportion'. See this Commission's report on Parallel Pricing published in July 1973 (Cmnd 5330).

[2] The only recent occasion on which this happened was in 1974–75 when, briefly, the demand for cable exceeded supply and some cablemakers but not others were able to raise their prices consistently with the provisions of the Price Code (see paragraph 288).

453. The considerations which deter the individual cablemaker from reducing his list prices, deter him also from embarking on a policy (which would become generally known) of seeking to gain market share by conceding higher rates of discount and/or rebate across the board. This was the policy on which Aerialite embarked in the latter half of 1971 (see paragraph 298). It led to a price war in the more popular types of general wiring cable during the course of which BICC, in order to win back volume, three times reduced its list prices for the types of cable affected. Other cablemakers were forced to accept these reductions. By 1973 actual prices for these cables had been driven down to very low levels, and Aerialite's profits on its cable operations disappeared (see the footnote to paragraph 298).

454. There is, therefore, bound to be an uneasy balance between the larger cablemakers each of whom is conscious that any reduction he makes in actual prices for the purpose of obtaining additional volume or of re-gaining volume lost, may be matched. However, the considerations that deter cablemakers from cutting list prices or offering higher discounts across the board do not exert the same force when they are negotiating with an individual customer the rates of discount and rebate to be accorded him. This is partly because their competitors may have difficulty in ascertaining the details of agreements with individual customers and therefore be slow to match them, and partly because, even where improved terms conceded to an individual customer are matched, the loss in terms of lower prices unaccompanied by increased volume is limited to business with that customer.

455. Our investigation of 'net net' prices showed that the discounts and rebates agreed by different cablemakers with individual wholesalers, while broadly comparable, were not identical. We analyse the reasons for these differences in paragraph 307. These differences show that individual customers and cablemakers can negotiate improved terms without these necessarily being matched.

456. Our investigation also revealed that the discounts and rebates received by some wholesalers were widely different from those received by others. The largest wholesalers, with a nationwide presence, were at the end of 1977 obtaining discounts and rebates which in combination yielded 40–41 per cent off list prices. In contrast, the small local wholesaler might obtain only 30 per cent off list prices. The differences in these actual prices are large bearing in mind that they are calculated by reference to list prices that are copper inclusive. They are far larger than can be accounted for by differences in the cost to the cablemakers of supplying different sizes of customer. They are attributable to the greater bargaining power of the larger wholesaler compared with the smaller in conjunction with competition between cablemakers to secure or safeguard volume. Our enquiries show that the rates of discount and rebate accorded to wholesalers of all sizes, and the proportion of business in respect of which rebates are given by the larger suppliers in addition to discounts, has recently been growing (see paragraphs 309 to 311). These changes provide positive evidence of competitive processes at work.

457. It appears to us that competition in terms of discounts and rebates is effective. The evidence indicates that some cablemakers can and do gain market share gradually by selective use of discounts and rebates (see paragraph 303). The existence of a number of small suppliers, who are in a position to be more

flexible in their pricing than the larger suppliers, and the ease of entry into the manufacture of many types of general wiring cable, are important elements in the competitive situation. BICC told us that the individual cablemakers are locked into their existing market shares because each cablemaker defends what he already has, and any attempt by an individual cablemaker to gain market share meets strong resistance. We think this is true of the largest suppliers, less true of the medium-sized suppliers, and not true of small suppliers.

458. The rates of profit obtained in respect of general wiring cable, which we record in paragraphs 322 to 324, are consistent with a competitive situation.

459. Although the four major manufacturers co-operate in responding to requests from United Kingdom wholesalers and contractors for quotations for export business (see paragraph 398), in the light of the evidence we have of competition in the home market we accept the assurances they have given us that they do not collude in the fixing of domestic prices, whether list or actual.

460. We have found no evidence that competition is restricted in any way and we therefore conclude that no complex monopoly situation exists in relation to the supply of insulated electric wires and cables in the United Kingdom arising from the circumstances in which general wiring cable is supplied.

Winding wires and strips

461. Winding wires are a declining element in the business of most cablemakers leading to excess capacity. The customers are mainly manufacturing companies who buy their requirements direct from cablemakers for incorporation in their products and repairers of electrical products. There are two large suppliers, and four smaller suppliers. BICC with about 42 per cent and AEI with about 35 per cent, together supply some three-quarters of all winding wires. About one-third of AEI's sales are to other companies in the GEC group who give preference to purchases from AEI.

462. As in general wiring cable, common list prices are widely used but in this case the prices are for 'extras' that is to say they exclude the price of the copper, for which the charge is related to the LME price ruling on the receipt of order. The discounts and rebates given are not calculated as a percentage of these 'list extras' but are expressed in £'s per tonne. They are, therefore, unaffected by changes in list prices. The discounts are called 'status' discounts and reflect the importance of the buyer as a purchaser of winding wires. Buyers tend to receive the same or similar status discounts from all suppliers, but rebates may be given by individual suppliers in addition to the status discount. The rebates do not follow any set pattern and are accorded irrespective of the rate of status discount.

463. Increases in list prices are almost always initiated by either BICC or AEI. On one recent occasion, Pirelli General took the initiative in seeking an increase in prices which involved increasing some prices more than others, but this initiative was unsuccessful in its object (see paragraph 337). While the initiative of the price leader is usually followed, the following is not so prompt or exact as in the case of general wiring cable. One supplier has told us that increased list prices are not always accepted by the customer. Another supplier has done business with a few large customers on the basis of individually negotiated net list prices which do not vary with the published lists. It appears

to us that the manner in which list extras, discounts and rebates are determined reflect competitive processes. We find no evidence that competition is restricted.

464. The rates of profit which we record in paragraphs 351 and 352 show that generally profits on winding wires have been low. They are consistent with our finding that competition is not restricted in any way.

465. We conclude that no complex monopoly situation exists in relation to the supply of insulated electric wires and cables in the United Kingdom as a result of the circumstances in which winding wires and strips are supplied.

Complex monopoly situation arising from conduct of buyers

466. Under section 6 (1) (*c*) and (2) of the Fair Trading Act, a monopoly situation would exist if at least one-quarter of all the insulated electric wires and cables which are supplied in the United Kingdom are supplied to the members of one and the same group consisting of two or more persons who whether voluntarily or not, and whether by agreement or not, so conduct their respective affairs as in any way to prevent, restrict or distort competition in connection with the production or supply of insulated electric wires and cables.

467. One cablemaker submitted that the major statutory bodies to whom reference goods are supplied, including *inter alia* the Central Electricity Generating Board, the Area Boards, the Post Office and the National Coal Board, constituted such a group by virtue of their conduct in inviting tenders on a yearly or six monthly basis rather than more frequently, and thereby reducing the opportunities open to suppliers of reference goods to adjust orders to available capacity by taking competitive action.

468. We noted that the terms on which different public sector bodies invited tenders vary in a number of respects and that their various invitations to tender are issued separately and at different times. We do not consider that the particular practice complained of prevents, restricts or distorts competition in connection with the production or supply of reference goods, or that a complex monopoly situation arises from the conduct of certain statutory bodies in this respect.

Exports

469. The effect of section 8 (1) (*b*) of the Fair Trading Act is that a monopoly situation shall be taken to exist in relation to exports from the United Kingdom, if at least one-quarter of the insulated electric wires and cables which are produced in the United Kingdom are produced by members of one and the same group of interconnected bodies corporate. In 1974 the production of reference goods by BICC and by subsidiary companies of BICC amounted to about 36·6 per cent of the total production of reference goods in the United Kingdom (see paragraph 13). We conclude that for the purpose of section 8 (1) (*b*) of the Act a monopoly situation exists in relation to exports and that it exists in favour of BICC, BICC Cables and the cablemaking subsidiary companies listed in paragraph 40.

470. The effect of section 8 (2) of the Act is that a monopoly situation shall

be taken to exist if in relation to exports of insulated electric wires and cables from the United Kingdom:

(*a*) one or more agreements are in operation which in any way prevent or restrict, or prevent, restrict or distort competition in relation to, the export of insulated electric wires and cables from the United Kingdom; and

(*b*) that agreement is or (as the case may be) those agreements collectively are operative with respect to at least one-quarter of all the insulated electric wires and cables which are produced in the United Kingdom.

Under section 11 of the Act, a monopoly situation of this kind is a 'complex monopoly situation'.

471. We describe in Chapter 11 the essential features of various agreements, domestic and international, relating to the export of reference goods. These agreements, to which the principal cablemakers belong, relate to all or most types of cable falling in each of the five categories of cable described in this report. We estimate that in 1974 the production by cablemakers belonging to one or more of the agreements of types of cable in respect of the export of which competition is restricted in some way, amounted to about two-thirds of the total production of reference goods in the United Kingdom (see paragraph 417). It follows, therefore, that the agreements collectively are operative with respect to at least one-quarter of all reference goods produced in the United Kingdom. We conclude that a monopoly situation exists under section 8 (2) of the Act, and that it exists in favour of the companies listed in paragraph 416 and those of their subsidiary companies in the United Kingdom that export types of reference goods in respect of which one or more of the agreements is operative.

The Public Interest

General

472. The cable industry makes an extensive range of products, and sells them to a wide range of markets. While some types of cable are produced by a large number of manufacturers, others are produced by only one. Thus, STC is the only manufacturer of submarine cable, and BICC is the only manufacturer of mineral insulated cable, both substantial items. Some types of cables, such as booklet cables, are bought by a large number of customers; others almost entirely by a single customer. Thus, some 95 per cent of the external telephone cable supplied in the United Kingdom is supplied to the Post Office, and the CEGB is the industry's only customer for the higher voltages of supertension cable. Some types of cable are produced for stock and some produced only to order. Some are standard products, others are purpose designed. Some are sold by reference to price lists, others are quoted for on a case by case basis. Generalised statements about market conditions in the industry have to be considered against a complex background.

473. Our reference is in terms of the supply of all categories of insulated electric wires and cables, and the monopoly situations which we find and discuss arise in relation to the total supply and the total production in the United Kingdom of all reference goods. However, as the nature of the market and of the competitive situation differs markedly from one category to another, we must give separate consideration to each.

474. Since the mid-1960s, cablemakers have faced a falling demand in the United Kingdom for many of their products. Only the markets for general wiring cable (Chapter 6) and telecommunication cable (Chapter 8) have held up reasonably well. The home demand for mains and supertension cable (Chapter 5) has declined severely, and in the case of supertension cable even catastrophically. Sales of winding wires (Chapter 7) have been in general decline for many years.

475. Evidence given by some cablemakers suggested that all was not well with their relations with certain public sector buyers some of which are much the largest (occasionally the only) buyers of certain types or categories of cable. Complaint was made by some cablemakers about the commercial practices of certain Area Boards (see paragraphs 256 to 259). However, we do not find this complaint relevant to any of the monopoly situations which we have found. We are precluded from reporting on the restrictive agreement between the suppliers of external telephone cable to the Post Office which was in force when the reference to us was made.

SUPPLY IN THE UNITED KINGDOM: BICC's MONOPOLY

476. BICC's production of reference goods in the United Kingdom remains an important part of its business, but it is a declining part; and BICC's other United Kingdom activities, together with its overseas activities (including cablemaking), now account for the greater part of its sales and profits. Although BICC has relatively small dependence on cablemaking in the United Kingdom, cablemaking still accounts for a major part of its total activities world-wide (see paragraph 36).

477. The principal acquisitions made by BICC since 1955 of other companies' cable manufacturing interests in the United Kingdom are listed in Appendix 3. The circumstances of these acquisitions differed, but during much of this period the industry as a whole was undergoing a process of concentration and rationalisation in which BICC as well as other of the larger cablemakers played a part. In 1948, BICC's share of the home and export market was about one-quarter. Today, it is over one-third, but BICC is faced by more powerful competitors. The other three major manufacturers together have a home market share equal to that of BICC (see paragraph 28).

478. We investigated the possibility that BICC might obtain unfair competitive advantage through its vertical integration backwards into copper refining, and forwards into electrical contracting and construction. We think it does not for the reasons which are recorded in paragraphs 58 and 59. The other three major manufacturers have similar facilities in copper refining.

479. As we have already remarked, the nature of the market and of the competitive situation differs markedly from one category of cable to another. We consider each in turn.

I. General wiring cable

480. BICC, by virtue of its historical position as the leading cablemaker in the United Kingdom and its greater product range and output, has come to be accepted by the industry generally as price leader in relation to list prices. BICC accepts that it acts as market leader so far as the setting of maximum prices is

concerned (see paragraphs 289 and 374). In our consideration of the possible existence of a complex monopoly situation in respect of general wiring cable (see paragraphs 447 to 460) we express the view that competition in the market is not restricted. BICC, however, through its leadership of list price, in effect settles the relative levels of the actual prices of different cables and, in the short term at least, effects changes in the general level of actual prices upwards as well as downwards. It has been able to influence the discount structure by making its policy known to the wholesale trade. In the case of mineral insulated cable, BICC is the sole United Kingdom manufacturer. We go on to discuss these matters.

BICC's price leadership

481. As we have already explained in paragraph 449, published price lists are a convenient basis for selling general wiring cable. We accept that it would be impracticable, in view of the very large number of different items, for cablemakers to quote for each individually whenever a buyer wished to place an order. Moreover, it is inevitable that the price list issued by BICC should become public property.[1]

482. In fixing each of the prices of the 8,500 items or more contained in its various price lists for general wiring cables BICC says it has regard to the competitive situation as it affects particular products and to many other factors; but its own costs (and changes in those costs) and profitability are naturally important considerations. When other cablemakers accept BICC's list prices as the basis for their net prices, they accept in effect a pattern of prices which reflects BICC's assessment of the commercial considerations affecting BICC. Although cablemakers have expressed the view that their costs are very similar and that such differences as might appear in their costs of producing different specifications of cable arise from different methods of apportioning common costs in what is mainly a jobbing industry as much as from 'real' differences, we think that BICC derives some advantage from being able, in effect, to determine relative prices within a price list.

483. BICC's competitors must also submit to BICC's timing of changes in list prices. BICC tends to delay list price increases to minimise the risk that its initiative might not be followed. Insofar as the need for an increase in list prices arises from an increase in the price of copper, BICC's long copper pipeline and its method of costing on a FIFO (first in first out) basis, the copper content of cables sold provides internal accountancy justification for delaying price increases which is not available to those of its competitors who cost the copper content of cable sold on a replacement basis. BICC is similarly slow to reduce its list prices when the price of copper falls. BICC's price leadership consequently has the effect of making some of its competitors' profits on general wiring cable much more volatile than its own, though their average level may be higher.

484. We received a number of complaints to the effect that general wiring cable prices are increased when the price of copper rises, but do not fall as rapidly or to the same extent when the price of copper falls. The facts of the matter are analysed in paragraphs 300 to 302. It seems to us that the facts complained of were true but not, in the circumstances, a cause for criticism.

[1] Until fairly recently, BICC sent copies of its trade price booklet to other cablemakers, but its present practice is to send it only to its customers (see paragraph 96). Its competitors therefore now obtain their copies of BICC's booklet from their customers (see paragraph 286).

485. If none of the other cablemakers is prepared to challenge BICC's list prices, it might be thought that this gives BICC the power to increase as well as to reduce the level of actual prices. Clearly it has this power in the short term, because actual prices are calculated by reference to list prices, but if BICC tried to maintain its list prices at too high a level, it would open the way to its competitors to offer or concede higher discounts and rebates more readily.[1] The effect of its higher list prices on actual prices would not be lasting. Delta, the second largest supplier of general wiring cable and the largest supplier of booklet cables, told us it would expect to gain market share in such circumstances by offering higher discounts and rebates. In this case BICC would be the probable loser. Any attempt by BICC permanently to raise the general level of prices in relation to costs through the medium of its leadership of list prices would involve serious risk of losing market share. In these circumstances we find that BICC's price leadership does not operate against the public interest.

BICC's use of, and influence on the structure of, discounts and rebates

486. We refer in paragraph 456 to the gap between the highest rates of discount and rebate accorded to the largest wholesalers and the rates accorded to small wholesalers. This gap arises in our view from the greater bargaining strength of the larger wholesalers and the desire of cablemakers to retain volume. It does not arise as a result of BICC's monopoly.

487. We have considered whether BICC competes in a harmful way by offering rebates aggregated over a wider product range than its competitors can offer so as to 'buy' a customer's loyalty. The fact that BICC manufactures and supplies a wider range of products than any other cablemaker must of itself give BICC competitive advantage on occasion. We do not think that the aggregated rebates which it gives (see paragraph 103) exploit this advantage and indeed we doubt whether BICC is in a position to 'buy' customer loyalty in this way consistently with obtaining a reasonable return on its sales.

488. We refer in paragraph 99 to action taken by BICC to check 'drift' in rates of discount or to bring actual prices nearer to those dictated by costs. The only recent attempt made was in 1974 when BICC succeeded in obtaining wholesalers' acceptance of different rates of discount for booklet and for standard non-booklet items. In practice, BICC has not succeeded, either by approaches to wholesalers or through its management of list prices, in preventing a widening gap between list prices and net or net net prices. Our analysis of discounts and rebates given to wholesalers in 1975 and 1977 (see paragraphs 309 and 311) indicates that an ever larger proportion of sales to wholesalers attracts rebate, and that the rates continue to increase. BICC's action in this respect has not therefore restricted competition and does not operate against the public interest.

Mineral insulated cable

489. After Pyrotenax merged with BICC in 1966 and Glynwed ceased manufacture in 1969, BICC became the sole manufacturer in the United Kingdom of mineral insulated cable accounting for roughly 10 per cent of BICC's home sales of reference goods.

[1] There is some evidence that the price war initiated by Aerialite began at a time when BICC had failed to respond to a low copper price (see paragraph 298).

490. The merger was the subject of an inquiry by this Commission in the course of which BICC gave certain assurances (see Appendix 7). In paragraph 161 of their report[1] this Commission said that they expected users of mineral insulated cable not to suffer as a result of the merger. This expectation has in our view proved to be correct.

491. BICC's profits on mineral insulated cable expressed in terms of return on capital employed have been somewhat higher than for other general wiring cable (see paragraph 113). The average for the six year period 1971–76 was 26 per cent compared with 17 per cent. This somewhat higher return mainly reflects the fact that BICC customarily makes a higher profit on its export sales of mineral insulated cable than on its home sales, in contrast to the position in respect of other general wiring cable where the reverse applies. It does not indicate that BICC has charged high prices on the domestic market. Although mineral insulated cable has characteristics of robustness, resistance to fire and attractiveness of appearance which are not precisely matched by any other type of cable, progress in the development of other cables with fire resistant characteristics is increasing the competition from substitutes.

492. We find that BICC has not exploited its monopoly of manufacture of mineral insulated cable by charging excessive prices; but we attach importance to its continuing to abide by the assurances which it gave this Commission in 1967.

493. We find that BICC's monopoly, insofar as it relates to general wiring cable, does not operate and may not be expected to operate against the public interest.

II. Winding wires and strips

494. BICC is the largest manufacturer of winding wires and strips in the United Kingdom and its share of the market is somewhat higher than for general wiring cables, but AEI is nearly as large a supplier. BICC is unable to exercise sole market leadership as it does for general wiring cable, but shares the leadership with AEI. The market has been in decline for many years (see paragraph 331). BICC's profits have been low, and in 1975 and 1976 it incurred loss in this part of its business. We have found that competition is not restricted (see paragraph 463).

495. We find that BICC's monopoly, insofar as it relates to the supply of winding wires and strips, does not operate and may not be expected to operate against the public interest.

III. Mains cable

496. In 1974, BICC had nearly one-third of the total United Kingdom market for mains cable but, in a declining market, it has lost ground (see paragraph 248). Its principal competitors in terms of size are Pirelli General and Delta who between them have about a further third of the market. AEI has a further 12 to 15 per cent. Roughly two-fifths of BICC's home sales are to Area Boards. This business is mainly by competitive annual tender.

[1] *British Insulated Callender's Cables Ltd and Pyrotenax Ltd A report on the proposed merger*, published 31 May 1967 (HC 490).

497. BICC's decision in 1966 to build a new mains cable factory on a green field site (Wrexham I) was taken in the light of forecasts by the Electricity Council of increasing requirements. In practice, the home market for mains cable in 1976 was little more than half what it was in 1965 (see paragraph 244). This fall in demand together with excess capacity created by investment decisions of BICC and other companies taken in the 1960s has exercised pressure on prices and, in spite of the economies claimed for Wrexham I, on BICC's profits. Over the six year period 1971–76, BICC's return on capital employed in mains cable production averaged 14 per cent, with export profitability somewhat lower than home profitability. In 1976, when conditions were particularly depressed, only 4 per cent was earned (see paragraph 81 Table 2.11).

498. Up to the end of 1972, BICC published price lists for mains cables. These price lists were widely followed in the industry as a basis for calculating net prices. Since 1972, BICC has not listed prices because, it told us, of rapid changes in costs (see paragraph 69). All business is the subject of individual quotations.

499. We find that BICC's monopoly, insofar as it relates to mains cable, does not operate and may not be expected to operate against the public interest.

IV. Supertension cable

500. BICC has rather less than half the United Kingdom market for supertension cable of all types. Pirelli General is the only other British producer of pressure assisted cable, which accounts for all cable of 132*kV* and above and a substantial though diminishing proportion of cable below 132*kV*. Delta and AEI ceased to manufacture pressure assisted cable as a result of schemes of rationalisation in 1969 following recommendations of the Industrial Reorganisation Corporation, but they make solid supertension cable below 132*kV*. Home sales of supertension cable have fallen to one-third or less of what they were in 1965.

501. The CEGB purchases virtually all the supertension cable above 132*kV* and most of the pressure assisted cable. The Area Boards are the principal purchasers of solid supertension cable. A relatively small amount of the latter is sold to large industrial concerns. BICC is therefore selling to powerful buyers.

502. Apart from BICC, only Pirelli General supplies pressure assisted cable to the CEGB. This business consists mainly of large contracts placed at irregular intervals. It is subject to individual tender and it falls to the CEGB to decide how to manage the allocation of business between the only two suppliers. The business put out by the CEGB falls short of what is necessary to employ, even at minimum levels, the two remaining factories for the production of pressure assisted cable, which are thus dependent on exports.

503. The sales of supertension cable to the Area Boards also mainly involve projects which are individually tendered for. Four suppliers are available for much of this Area Board business, but BICC and Pirelli General are the two largest.

504. Over the six years 1971–76 BICC's return on capital employed in the manufacture of supertension cable has averaged 9 per cent.

505. We find that BICC's monopoly, insofar as it relates to supertension cable, does not operate and may not be expected to operate against the public interest.

V. Telecommunication cable

506. About 95 per cent of external telephone cable sold in the United Kingdom is sold to the Post Office. This type of cable, much the most important type of telecommunication cable in terms of home market sales, is manufactured by four cablemakers of which BICC and TCL, almost equal in importance as suppliers to the home market, are the largest. The Post Office is also the dominant purchaser of internal telephone cable supplied by 13 companies, and of telephone cords.

507. At the date of our reference, BICC, TCL, STC and Pirelli General operated an unregistered restrictive agreement in respect of their sales of external telephone cable to the Post Office. This agreement, which came to light as a result of our inquiries, was terminated in December 1974. It was followed by a new agreement, but the Post Office refused to place orders against tenders submitted by the four cablemakers in accordance with its provisions and its operation was therefore suspended (see paragraph 365). In December 1975 the Post Office announced new ordering procedures for external telephone cable (see paragraph 366).

508. We are precluded from considering the effects of these restrictive agreements on the public interest.

509. In view of the dominating position of the Post Office as buyer of telecommunication cable supplied in the United Kingdom, and as BICC is only one of several suppliers, BICC's monopoly in respect of insulated electric wires and cable as a whole has no economic significance in this field.

510. We find that BICC's monopoly, insofar as it relates to telecommunication cable, does not operate and may not be expected to operate against the public interest.

EXPORTS

511. We have to consider the public interest in relation to exports in connection with both the monopoly situation in favour of BICC, BICC Cables and their cablemaking subsidiary companies (see paragraph 469) and the complex monopoly situation in favour of the parties to the agreements (see paragraph 471).

512. In our view, no public interest issues separate from those which arise from the complex monopoly situation arise from the fact that BICC's production of reference goods exceeds one-quarter of all the reference goods produced in the United Kingdom.

513. With regard to the complex monopoly situation, the public interest issues which arise in relation to certain United Kingdom cablemakers' membership of the international associations (ICDC, ITCDA and STEA) are not identical with those which arise from their membership of certain domestic export agreements. We consider first the former.

The international associations

514. The ICDC, ITCDA and STEA, of which we describe the essential features in paragraphs 409 to 415, are associations of national groups of companies consisting almost entirely of the principal cablemakers of Western Europe. The national groups, in turn, have domestic arrangements under which the provisions of the agreements are put into effect by their individual members, arrangements which are administered in the United Kingdom by the Export Association in respect of ICDC and the OTCMA in respect of ITCDA. All three agreements relate to exports to countries without well developed cablemaking industries. Although they differ from one another in the precise method employed, they all have the objective of securing higher export prices than the participants believe would obtain without them.

515. Market sharing, or other agreements restrictive of competition in the United Kingdom require to be registered under the Restrictive Trade Practices legislation and may only be allowed to operate in certain prescribed circumstances. Restrictive agreements in the European Economic Community are governed by its Rules of Competition. These prohibit agreements which affect trade between member states and prevent, restrict or distort competition within the Common Market. We are also aware that the laws of certain other countries do not permit participation in international associations of any kind which restrict competition. However, the present agreements which relate solely to exports to countries outside the Common Market are not prevented from operating by the United Kingdom or the European Economic Community law. Our concern is not with the international agreements themselves but with the question whether it is against the public interest that certain British cablemakers should continue to participate in them. In these circumstances, we have applied the following tests by which the public interest might be judged: the effect of British participation on the price and the volume of the United Kingdom exports of cable; its effect in the United Kingdom on competition and efficiency, and on employment and investment.

Price

516. No cablemakers in any major industrialised country outside Western Europe belong to any of the associations and not all the cablemakers in Western European countries with national group membership of the associations belong to their national group. We have been unable to estimate what proportion of world cable production is by countries without national group membership, still less by companies not members of national groups, but clearly it is much greater than that of the Western European countries with national group membership. The former include countries such as the USA, the Soviet Union and, more recently, Japan. The countries outside the agreements with export capability include not only developed countries such as the USA, Canada, Australia and Japan but also developing countries such as South Korea and Taiwan, both of which have recently entered export markets as serious competitors. As a result of Japan's resignation from the associations in 1975, a significant change in the balance between members and non-members occurred, Japan's exports being almost as large as those of the United Kingdom. We estimate that at least one-third of cable exports to non-producer countries is by countries in respect of which there is no national group representation (see paragraph 415).

517. The effectiveness of competition from outside the associations depends not only on the export capability of the non-members, but also on their attitude towards association members. Their competition is effective to the extent that they are prepared to contest the market share of association members. Non-member competition has recently become stronger and has resulted in lower export prices.

518. We can judge the reasonableness of the prices obtained for export business falling under the ICDC and other association arrangements only by reference to British experience. This indicates that, over the years 1971–76, the average profitability of British group members' export business was roughly comparable with the profitability of their domestic business, though the profitability of their supertension cable export business was lower (see paragraph 427). We deduce from this that cablemakers belonging to the British groups of the associations have in general obtained reasonable prices in their overseas business roughly in line with those obtained at home. The fall in export prices which has taken place since 1976 would, if prolonged, be a serious matter for the United Kingdom industry.

Export performance

519. Following reduced demand for most of its products at home, the United Kingdom industry has recently become more dependent on exports. It appears to be more dependent on exports than its principal overseas competitors (see paragraph 424). The degree of dependence is particularly marked in the case of mains and supertension cable. Exports have thus become a crucial element in the industry's level of activity in the United Kingdom.

520. Around 1970 the United Kingdom ceased to be the world's largest exporter of insulated electric wires and cables and became the second largest exporter after Germany (see paragraph 421, Table 12.2). We have considered whether its fall in market share has been attributable in any way to British membership of the international associations. In practice a substantial proportion[1] of United Kingdom exports is not dealt with under the international arrangements. We found no evidence that the United Kingdom's loss of world market share is in any way attributable to the British participation in the international arrangements.

Competition and efficiency

521. Export agreements may diminish competition in the home markets of the participants. This can happen either because the participants refrain from competing in the domestic markets of their international associates even though, as in the case of the present associations, the arrangements do not apply to trade between members, or because national cablemakers who join together in an international agreement may be led to collude on their home market as well as on their export business. In investigating this matter, we have had in mind the long history of price and other restrictive agreements in the cablemaking industry

[1] The exact proportion cannot readily be ascertained, but it comprises three elements: (*i*) exports of types of cable, notably winding wires, general wiring cable and submarine cable, not covered by any of the agreements; (*ii*) exports to countries to which the arrangements do not apply; and (*iii*) exports by non-members.

both at home and abroad and their possible effect on current attitudes and conduct. We also noted that few British domestic requirements for cables are met from overseas sources (see Appendix 17).

522. The relatively low level of trade between the United Kingdom and other ICDC member countries is readily explicable by economic considerations (see paragraph 434). We accept the assurances given to us by the British group of ICDC that they have no understandings of any kind with their overseas competitors which would have the effect of restricting imports into the United Kingdom (see paragraph 435).

523. We found no evidence of restriction of competition between cablemakers in the home market for mains or supertension cable, and we see no reason to link the agreement on external telephone cable supplied to the Post Office, described in paragraph 364, with British membership of export agreements covering this type of cable. Each of the British and English groups has given us assurances (see paragraph 436) that its co-operation in connection with its membership of the international associations and the national associations does not affect competition between members of the group in the home market. We accept these assurances.

524. Membership of the international associations would be potentially against the public interest if, by restricting competition, it removed a stimulus to efficiency. The agreements themselves clearly restrict competition in exports, but the home market remains the main influence on efficiency. The agreements contain no provisions likely, in our view, to retard technical innovation or advance, we would not expect them to affect efficiency adversely in other respects and we have found no evidence that they do.

Employment and investment

525. Insofar as British participation in the international associations has given the cablemakers of the British group confidence in the contribution which export business can make to their operations in the United Kingdom, it has encouraged investment and employment in this country. Our impression is that the favourable effect arising in this way has been significant.

526. Any success the associations may have in keeping up export prices may stimulate the creation of cablemaking capacity elsewhere. In view of our analysis of the effect of the associations on prices (see paragraph 518) we think that little encouragement to the emergence of new capacity overseas will have been given. We think it likely, as the British group have suggested (see paragraph 432), that new capacity overseas has been created for reasons other than price. We consider therefore that no loss to investment and employment in the United Kingdom has arisen in this way as the result of the associations' activities.

527. We find no evidence for concluding that British participation in the three international associations operates or may be expected to operate against the public interest.

THE DOMESTIC EXPORT ASSOCIATIONS

528. Two of the domestic export associations, namely the Export Association and the OTCMA, include in their rules arrangements for giving effect to the

requirements of two of the international associations, namely ICDC and ITCDA respectively. Their arrangements which give effect to the requirements of the international associations do not raise issues additional to those which we have already considered, but their other arrangements and those of the CCEG, remain to be considered.

A. The Export Association's price agreements on mains cable and on general wiring cable

529. The Export Association's arrangements for mains cable and for certain types of general wiring cable affect about one-fifth of members' mains cable exports, and between one-quarter and one-third of their general wiring cable exports. Some of the business affected is with agents in this country acting for overseas customers and some is with United Kingdom wholesalers, but the greater part of it is with United Kingdom contractors who undertake overseas projects. The advantage to Export Association members of the mains cable arrangement is that it enables them to obtain better export prices than they would obtain without it. The object of the general wiring cable arrangement is similarly to obtain better export prices by eliminating price competition between members for business which is likely to be given to a British cablemaker. In both cases members of the Export Association are in competition with British cablemakers who are not members of the Export Association. In the case of general wiring cable the contractor (or wholesaler) can pack and ship the cable himself, having purchased it under whatever arrangements he has with the individual cablemaker for domestic business, and this consideration also places a limit on the prices that can be obtained.

530. We are satisfied that neither the arrangements for mains cable nor those for general wiring cable restrict or reduce competition between the members of the Export Association for the domestic business of United Kingdom contractors and wholesalers.

531. The members of the Export Association told us that they had received no significant complaint about the arrangements. We also received no significant objection as a result of the inquiries we made of contractors and wholesalers. In our view the arrangements do not impede exports and we do not find that they operate or may be expected to operate against the public interest.

B. OTCMA agreement relating to types of telephone cable not covered by ITCDA

532. The OTCMA arrangements for consultation on export enquiries only rarely lead to an agreement between two or more of the members on the price to be quoted. Their principal function has been to explore the feasibility of consortium arrangements. We find that these arrangements for consultation do not operate against the public interest.

C. CCEG

533. The members of CCEG are in competition with exporters from all other countries and, even acting together, they can exert very little influence on the level of export prices. These have been low, and the four principal exporters of

winding wires collectively made no profit on their exports over the six-year period 1971–76 (see paragraph 429).

534. The agreement to pool information depends on the agreement on minimum prices as, without it, a member could take advantage of information supplied by another member in a manner which damaged the interests of the member supplying it. This pooling of information about export markets and customers helps members of the CCEG to quote for overseas business at realistic prices, and effects economies in the gathering of overseas intelligence.

535. The minimum price arrangements are not linked with any domestic price lists, and we are satisfied that the activities of CCEG have no effect on competition between its members in the United Kingdom. We find that the Association's arrangements do not operate against the public interest.

Summary of Conclusions

536. We summarise our conclusions as follows:

(*i*) a monopoly situation in relation to supply in the United Kingdom exists in favour of BICC, BICC Cables and their cablemaking subsidiary companies (see paragraph 444);

(*ii*) a monopoly situation in relation to exports from the United Kingdom exists in favour of BICC, BICC Cables and their cablemaking subsidiary companies (see paragraph 469);

(*iii*) a complex monopoly situation in relation to exports from the United Kingdom exists in favour of parties to the export agreements (see paragraph 471);

(*iv*) none of these monopoly situations, nor any step taken for the purpose of exploiting or maintaining them, nor any action or omission attributable to them operates, or may be expected to operate, against the public interest (see paragraphs 493, 495, 499, 505, 510, 527, 531, 532 and 535).

E L RICHARDS (*Chairman*)

G F ASHFORD

R G ASPRAY

T BARNA

MAX BROWN

J S COPP

T P LYONS

Y LOVAT WILLIAMS (*Secretary*)

19 September 1978

APPENDIX 1

(referred to in paragraph 10)

Cable Construction and Mode of Manufacture

Manufacturing processes are broadly similar for most types of cable though they may differ very considerably in detail. The routing and the stage at which the main processes stop depend on the design of the cable. The main processes are described below and the process flow of manufacture is shown in the form of a chart in the following table.

The stages are:

Formation of Conductors

Conductors are formed in one of two ways:

either	
WIRE DRAWING & STRANDING (or bunching)	Aluminium or copper rod is drawn into wire of appropriate diameter and continuously annealed (where necessary). It is wound on to bobbins for the next manufacturing process.
	The bobbins of wire are loaded into a stranding machine or into a bunching machine and the appropriate number of wires are twisted together to form a complete conductor in either circular or sectoral form. The conductor is wound on the drums for further insulation or occasionally for direct sale.
or	
EXTRUSION OF SOLID CONDUCTORS	By extrusion of solid aluminium billets into solid circular or sectoral shapes of appropriate size. (Solid conductors may also be produced by continuous casting processes.)

Insulation of Conductors

Insulation may be either of paper or of plastic (PVC) or polythene or cross-linked polythene or rubber (natural or synthetic) compounds according to the technical requirements of the usage, the ease of installation of the cables, or the wishes of the customer.

either	
PAPER INSULATION	
Paper slitting	This is a preparatory process to slit full width (1 metre) rolls into the narrow widths required for application to the conductor in the next process. (The paper is specially produced from selected wood pulp to impart the necessary mechanical and electrical properties.)
and	
Conductor Insulating	For paper insulated cables the requisite number of papers is applied to the conductor in a lapping machine with control of gap spaces and tensions to produce a satisfactory dielectric.
or	
RUBBER, PLASTIC OR ELASTOMERIC	Insulations other than paper are applied to the conductor by 'extrusion' to the appropriate thickness coupled in some cases with a vulcanisation process.
	The insulated core would be wound on to process or delivery drums as appropriate.

Laying-up of Conductors

LAYING UP and CORE BINDING or CORE INSULATION

The individual cores are where necessary assembled together to form a twin, 3 or 4 core cable in a laying-up machine, made circular with appropriate longitudinal fillings, and further insulation is applied or a binder provided. The assembled cable is then wound on to a drum or coiled into an annular tray for the next process.

Impregnation and Sheathing (*paper cables only*)

IMPREGNATION

The drums or trays are loaded into a pressure vessel forming part of a complete closed circuit impregnating plant where it is subjected to a drying treatment under heat and vacuum followed by impregnation under pressure and a controlled cooling cycle. The impregnation compound is either mineral oil or a blend of micro-crystalline wax and mineral oil etc. having non-migratory characteristics at normal cable operating temperatures.

and either

LEAD SHEATHING

After impregnation the cable is provided with a lead sheath to protect the insulated core against the ingress of moisture. The lead sheathed cable is coiled on to a drum for delivery or further manufacture.

or

ALUMINIUM SHEATHING

In certain constructions, for Area Boards only, aluminium sheathing is provided in either smooth or corrugated form. This sheath may act also as the neutral conductor in low-voltage cables, as well as to exclude moisture.

Protection and Finish of Cables

ARMOURING

For paper insulated cables this may consist of steel tapes or galvanised steel wires applied over a bedding of impregnated textile materials with bituminous compound. The armour may be left bare or protected with additional layers of textile materials and compound.

For PVC or elastomeric insulated mains cables armouring (if required) is applied directly. Steel wires or aluminium strips may be used.

OVER SHEATHING OF PLASTIC

This is used on all PVC and elastomeric mains cables, aluminium sheathed cables and on paper insulated lead sheathed and/or armoured cables where required.

TESTING & INSPECTION

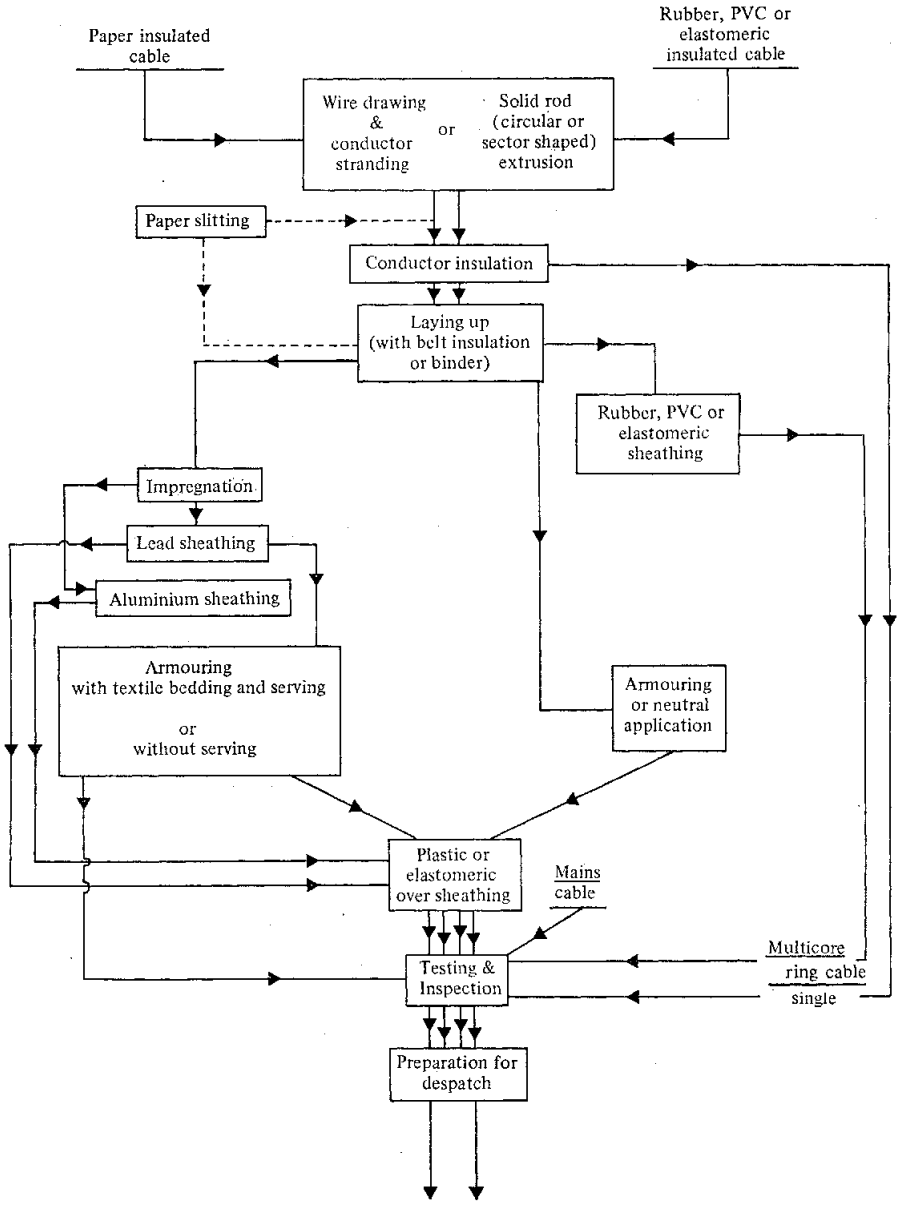
Before despatch every drum of cable is subjected to electrical tests and examined for correctness of construction and dimensions and in the presence of customer's representatives where this is required.

PREPARATION FOR DESPATCH

The cable ends are trimmed, adequately sealed and protected. The drums receive their outer lagging and are appropriately marked and labelled.

APPENDIX I

Process Flow of Manufacture



APPENDIX 2
(referred to in paragraph 18)

Views of Users and Minor Manufacturers

1. At the outset of our inquiry we sought evidence from all the electricity authorities in the United Kingdom, from the Post Office, the National Coal Board and other nationalised industries, from Government departments, a number of local and health authorities, electrical contractors, electrical wholesalers and manufacturers of a wide variety of products (from generators to ships and from lawn-mowers to motor cars) in which reference goods are used. We also sought the views of the smaller manufacturers of reference goods, some of whom were included in the group of persons in whose favour we provisionally concluded that a monopoly situation existed. We wrote altogether to some 400 companies or other bodies and received evidence, including oral evidence, from 135 users some of whom replied on behalf of more than one body, for example the Electricity Council on behalf of all Area Electricity Boards in England and Wales. Apart from a few complaints and an equal number of favourable comments made specifically about BICC, most of the comments and complaints were made about the industry as a whole. Some comments were made about a particular category of cable but most were expressed in general terms. Some of the complaints received related to the circumstances of the industry at the time the reference was made, for example, increases in copper prices and cable shortages due to shortages of PVC and the effect of the 3-day week (see paragraphs 288 and 300–302).

2. The views of the CEGB, the various other United Kingdom electricity authorities and the Post Office, about the supply respectively of supertension, mains and telecommunications cables, of which they are the dominant purchasers, are described in the relevant paragraphs of Chapters 5 and 8[1]. In this appendix we summarise the views of other users under the different headings on which we sought their comments. We also summarise the views of smaller manufacturers insofar as these relate to the activities, or the effects of the activities, of BICC and their other larger competitors.

USERS

Prices

3. Most users found the general level of prices reasonable in the light of recent increases in copper prices and the British Railways Board said that, excluding the effect of copper, prices for major contracts over the two or three years prior to 1974 had reduced. There were, however, complaints from three manufacturers of electrical products, five local authorities or local authority associations or consortia and one trade association that, whereas cable prices rose quickly when there was an increase in the price of copper, they fell only very slowly, if at all, when copper prices were reduced. One trade association complained that BICC's prices for mineral insulated cable continued at a relatively higher level after the prices for other types of general wiring cable had begun to

[1] Paragraphs 256 (mains cable), 269–270 (supertension cable) and 368 (telecommunication cable).

fall. Several manufacturers of electrical goods commented that United Kingdom prices compared favourably with those charged overseas, but one found Spanish and another Italian and Dutch prices competitive.

4. There were a variety of comments on the existence of parallel pricing or identical tendering in the industry. Many users commented on the similarity of list prices for general wiring cables and winding wires, but some of these also mentioned competition in discounts. Tender prices were variously described as showing marked similarity and differing considerably. Some users, including the National Coal Board (NCB), said that identical tendering had died away in recent years, before the start of our inquiry, and a very large industrial user commented that, although until the introduction of prices legislation gross prices were generally similar, there was enough variation in net prices to cause the company to change its buying pattern and negotiate terms with manufacturers.

Competition

5. Competition was generally described as ample, considerable or adequate, but three manufacturers of electrical products and five local authorities or local authority associations/consortia considered it limited or even non-existent. Three of these complaints, however, related to specialised cable types and one to shortages of supplies. Except for some specialised cable types, most users considered that there was an adequate number of potential suppliers (though one of the complainants referred to above thought five or six manufacturers inadequate). Two local authority associations commented on the lack of competition in the supply of mineral insulated cable, made in the United Kingdom only by BICC, and a local authority drew our attention to the intention expressed by BICC at the time of the BICC/Pyrotenax merger inquiry (see paragraph 105) that competition between Pyrotenax and BICC's Mineral Insulated Cables Division should continue. The complainant considered that the creation of BICC Pyrotenax Ltd (see paragraph 105) had effectively put an end to such competition. As well as competition in discounts, rebates and special prices for particular enquiries there was said to be competition also in delivery dates. Some manufacturers of electrical products commented that competition was limited by their own very high standards which not all cablemakers could meet. The NCB said that so far as their rather specialised requirements were concerned there was competition between cablemakers.

Quality

6. There were no complaints about quality which was described by many users in glowing terms.

Conditions of sale

7. Some large customers, including the NCB and British Railways Board, are able to impose their own conditions of purchase on cable manufacturers. Among the other cable purchasers the majority were satisfied with the cablemakers' conditions. A trade association and two local authority associations complained about the 25 per cent surcharge made for short lengths of cable and another trade association complained about the standard surcharge made on small orders for winding wires and strips and about what it described as non-realistic minimum ordering levels for cables. The association commented that the minimum weight

surcharge was payable on any repairing job and so resulted in increased costs for the repair trade. Two manufacturers of electrical products complained that the price paid for general wiring cable was the price ruling at date of despatch not date of order and one of these and an electrical contractor drew attention to the difficulty this caused them in fulfilling fixed price contracts.

Special terms: discounts and rebates

8. Some of the large users commented that they received high rates of discount and rebate. A manufacturer of electrical products complained of the manufacturers' reluctance to grant rebates on winding wires even to large purchasers and commented that smaller purchasers presumably had no opportunity of improving on list price. The level of discounts to electrical wholesalers attracted some criticism. Two electrical installation contractors commented that they could sometimes get better terms from wholesalers than from cable manufacturers, and a small wholesaler complained that some wholesalers received higher discounts than others and that contractors were able to buy cable more cheaply than some wholesalers. A local authority complained that only one cable manufacturer had offered a preferential discount to electrical contractors buying direct from the manufacturer rather than a wholesaler. A trade association said that a constant 5 per cent discount appeared to be available to all contractors irrespective of their purchasing power and was therefore meaningless.

Standards of service

9. Seven users complained of delivery delays and two about inadequate stockholding. Otherwise there were no complaints about service. BICC's standards of service were praised by a number of users.

SMALLER MANUFACTURERS

10. We asked smaller manufacturers for details of any difficulties they had experienced which in their view were caused through the activities of one or more of the major companies in the industry. The majority of the smaller manufacturers had experienced no difficulties or only those associated with a competitive market in which they were competing with the industry giants. Two of them had only recently entered the industry and neither had experienced any difficulty in doing so. Two smaller manufacturers of winding wires referred to the acquisition by the GEC Group of, and the consequent transfer of GEC business to, AEI's winding wire subsidiaries although one said that it had subsequently obtained business from other GEC companies. A medium sized manufacturer complained that the escalation of discounts and rebates given to wholesalers by BICC, and followed by the other three major manufacturers, had resulted in some wholesalers being able to undercut smaller manufacturers' prices.

APPENDIX 3

(referred to in paragraphs 23 and 29)

Principal Acquisitions of the Four Major Manufacturers 1955–1977

Year	*BICC*	*DELTA*	*PIRELLI GENERAL*	*AEI*
1955				AEI Ltd (AEI) acquired (85 per cent) balance of Siemens Bros & Co Ltd.
1958				AEI acquired Henleys Telegraph Works Ltd.
1959	BICC acquired Telegraph Construction & Maintenance Co Ltd and with it a 50 per cent share in Submarine Cables Ltd. BICC acquired Scottish Cables Ltd. BICC acquired AEI's interests in Connolly's and St Helens.	Enfield Rolling Mills Ltd (ERM) acquired Enfield Cables Ltd.		AEI acquired the London Electric Wire Co & Smiths Ltd and Liverpool Electric Cable Co Ltd. AEI sold its interests in Connolly's and St Helens to BICC.
1960		The cable interests of Enfield Cables Ltd and the non-telephone cables interest of STC merged to form Enfield-Standard Power Cables Limited—jointly owned.		
1961	BICC acquired Bessbrook Products Ltd.	ESPC acquired the business and certain of the assets of Mersey Cable Works Ltd, a subsidiary of Tube Investments Ltd (TI). TI allotted 12 per cent minority share of ESPC.		AEI acquired BICC's interests in Southern United Telephone Cables Ltd (renamed Telephone Cables Limited (TCL)).
1962			Pirelli General's parent company Pirelli acquired most of GEC's holding in Pirelli General (PG). PG/GEC trading agreement ceased to exist.	
1963	BICC acquired Long Eaton Cable Co Ltd and Armorduct Cable Co Ltd.	Delta Metal Co Ltd acquired ERM. ERM set up Enfield Phelps Dodge jointly with Phelps Dodge Corporation (US).		

Year	*BICC*	*DELTA*	*PIRELLI GENERAL*	*AEI*
1964	BICC acquired William Geipel Ltd.	Delta Metal acquired Johnson & Phillips. Delta Metal acquired TI and STC holdings in ESPC. ESPC acquired the cables interests of Barrow, Hepburn and Gale.		
1965	BICC acquired B & F Carter & Co Ltd (makers of cablemaking machinery).			AEI acquired the total holdings in Kent Electric Wire Limited.
1966	BICC acquired Pyrotenax Ltd. BICC sold its interests in Submarine Cables Ltd to AEI.			AEI acquired BICC's interests in Submarine Cables Ltd.
1967				AEI acquired Hackbridge Holdings Ltd. GEC acquired AEI. AEI Cables Ltd formed.
1968	BICC acquired Fine Wires Ltd and F McNeill Holdings Ltd (parent of Britannic General Cables Ltd).			
1969	BICC acquired AEI supertension cablemaking facilities. BICC acquired Reliance-Clifton Cables Ltd.	ESPC ceased manufacture of supertension cables and took a 25½ per cent interest in Pirelli Enfield Supertension Cables Ltd, 74½ per cent owned by Pirelli General.	Pirelli General's Swiss parent (SIP) acquired GEC's last remaining 5 per cent holding in Pirelli General. Pirelli Enfield Supertension Cables Ltd (Pirelli Enfield) formed by PG and ESPC.	AEI Cables sold to BICC its supertension cable manufacturing business. AEI acquired the total holdings in F D Sims Limited.
1970				
1971		ESPC acquired Wandleside Warren Wire Co and Saxonia Electrical Wire Co. ERM bought out Phelps Dodge interest in EPD, renamed Enfield Winding Wires Ltd.	Pirelli General acquired Aberdare Cables Ltd.	Submarine Cables Ltd sold to STC.
1973	BICC acquired Plessey Ltd manufacturing facilities for switchboard cables and cords.	Delta Metal acquired Aerialite Ltd.		
1974		ESPC and Aerialite cablemaking activities merged in Delta Enfield Cables Ltd.		
1977			Pirelli General acquired Delta's 25½ per cent shareholding in Pirelli Enfield.	

APPENDIX 4

(referred to in paragraph 31)

Associations of Cablemakers[1]

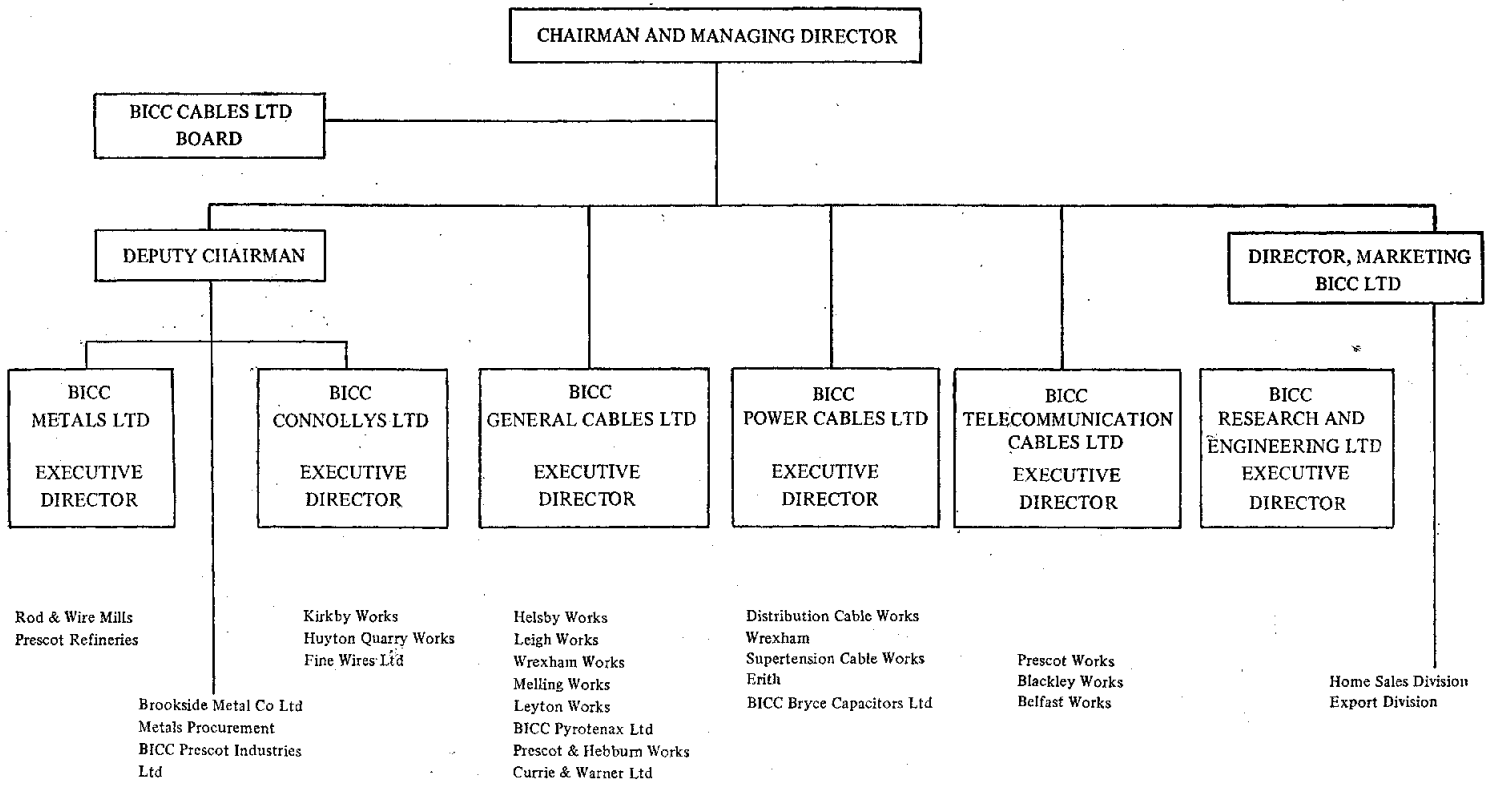
Membership	*ECMC*	*CMA*	*STCG*	*MCG*	*GWCG*	*TCMA*	*HTCMA*	*SCA*	*CCA*
Aberdare Cables Ltd [Pirelli General]	✳								
Aluminium Wire & Cable Co Ltd	✳			✳					
AEI Cables Ltd [AEI]	✳	✳	✳	✳	✳			✳	
British Driver-Harris Co Ltd	✳				✳				
BICC Ltd [BICC]	✳	✳	✳	✳	✳	✳	✳	✳	
BICC Connollys Ltd [BICC]									✳
BICC Pyrotenax Ltd [BICC]	✳								
Cables and Plastics Ltd	✳				✳				
Communication & Control Engineering Co Ltd	✳								
The Concordia Electric Wire & Cable Co Ltd	✳								✳
Crompton Parkinson Ltd	✳	✳		✳	✳				
J Day & Co (Derby Works) Ltd	✳								
Delta Enfield Cables Ltd [Delta] (formerly Enfield Standard Power Cables Ltd)	✳	✳	✳	✳					
Delta Enfield Cables (Holdings) Ltd [Delta]	✳								
Duratube & Wire Ltd	✳								
Enfield Rolling Mills Ltd [Delta]									✳
Fothergill & Harvey Ltd	✳								
Greengate Cables Ltd	✳	✳		✳	✳				
Johnson & Phillips Ltd [Delta]	✳	✳							
Kent Electric Wire Ltd [AEI]									✳
The London Electric Wire Company and Smiths Ltd [AEI]									✳
Permanoid Ltd	✳								
Pirelli General Cable Works Ltd [Pirelli General]	✳	✳	✳	✳	✳	✳	✳	✳	✳
Plasticable Ltd	✳								
Reliance Cords & Cables Ltd [BICC]	✳							✳	
Ripaults Ltd	✳								
Rist's Wires & Cables Ltd	✳				✳				
Saxonia Electrical Wire Co Ltd [Delta]	✳				✳				
Standard Telephones & Cables Ltd	✳	✳				✳	✳	✳	
Standard Telephones & Cables Ltd (Submarine Systems Division)	✳								
Sterling Cable Co Ltd	✳			✳	✳				
Telephone Cables Ltd [AEI]	✳					✳	✳		
Thames Wire & Cable Company Ltd									✳
Wandleside Cables Ltd [Delta]	✳				✳				
Ward & Goldstone Ltd (including Volex Electrical Products Ltd)	✳				✳				

[1] Abbreviations are given in paragraph 30.

APPENDIX 5

(referred to in paragraph 40)

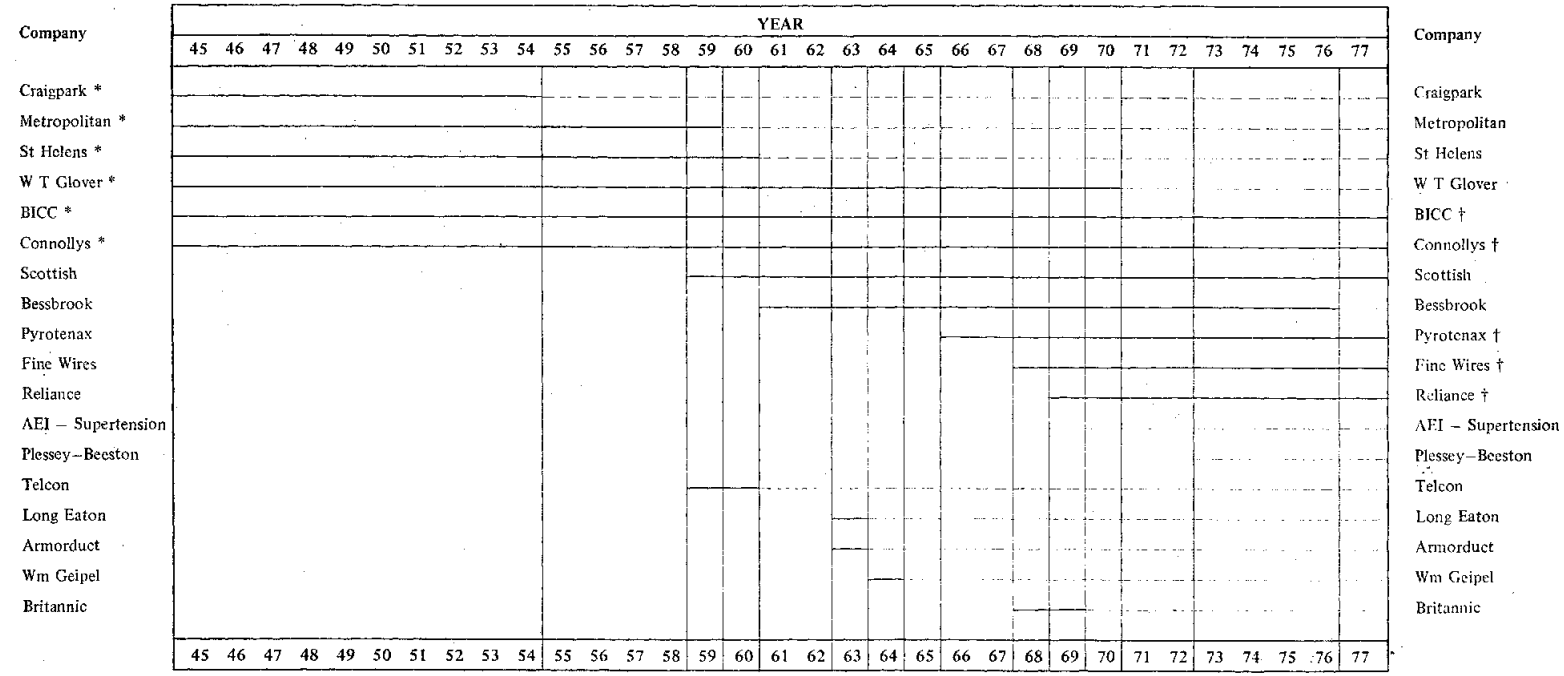
BICC Cables Ltd: Organisation—1 January 1978



APPENDIX 6

(referred to in paragraph 44)

BICC Acquisitions and Other Changes 1945–77



KEY ——— Manufacturing company.

– – – – Manufacture transferred to another Group Company.

* British Insulated Callender's Cables Ltd and its subsidiary companies manufacturing reference goods in UK in 1945.

† BICC Limited and its subsidiary companies manufacturing reference goods in UK at end of 1977.

APPENDIX 7

(referred to in paragraphs 105 and 110)

British Insulated Callender's Cables Ltd and Pyrotenax Ltd A Report on the Proposed Merger (*see Appendix 5*)

Assurances given to the Monopolies Commission by British Insulated Callender's Cables Ltd

(*a*) That the future commercial development (including the necessary research) and exploitation of mineral insulated cable in the United Kingdom and overseas will not be hampered by other BICC interests;

(*b*) that the cost reductions achieved as a result of the merger will be used to promote the use of and expand the sale of mineral insulated cable and to reduce net selling prices to customers (or to avoid increases that would otherwise have been necessary);

(*c*) that BICC will continue to supply wholesale distributors with mineral insulated cable on normal commercial terms;[1]

(*d*) that BICC will continue to supply other cablemakers with mineral insulated cable, and will do so at prices and on terms[1], and with service and continuity of supply, which will make it commercially practicable for them to participate in sales of mineral insulated cable;

(*e*) that BICC will not give its own electrical contracting organisation more favourable prices, terms,[1] service or continuity of supply for mineral insulated cable than it gives to other comparable electrical contractors;

(*f*) that BICC will not offer specially favourable prices or terms[1] for mineral insulated cable to customers for the purpose of winning business in other types of cable;

(*g*) that BICC will not offer uneconomic prices or terms[1] for mineral insulated cable to customers calculated to drive competitors out of the business of supplying mineral insulated cable;

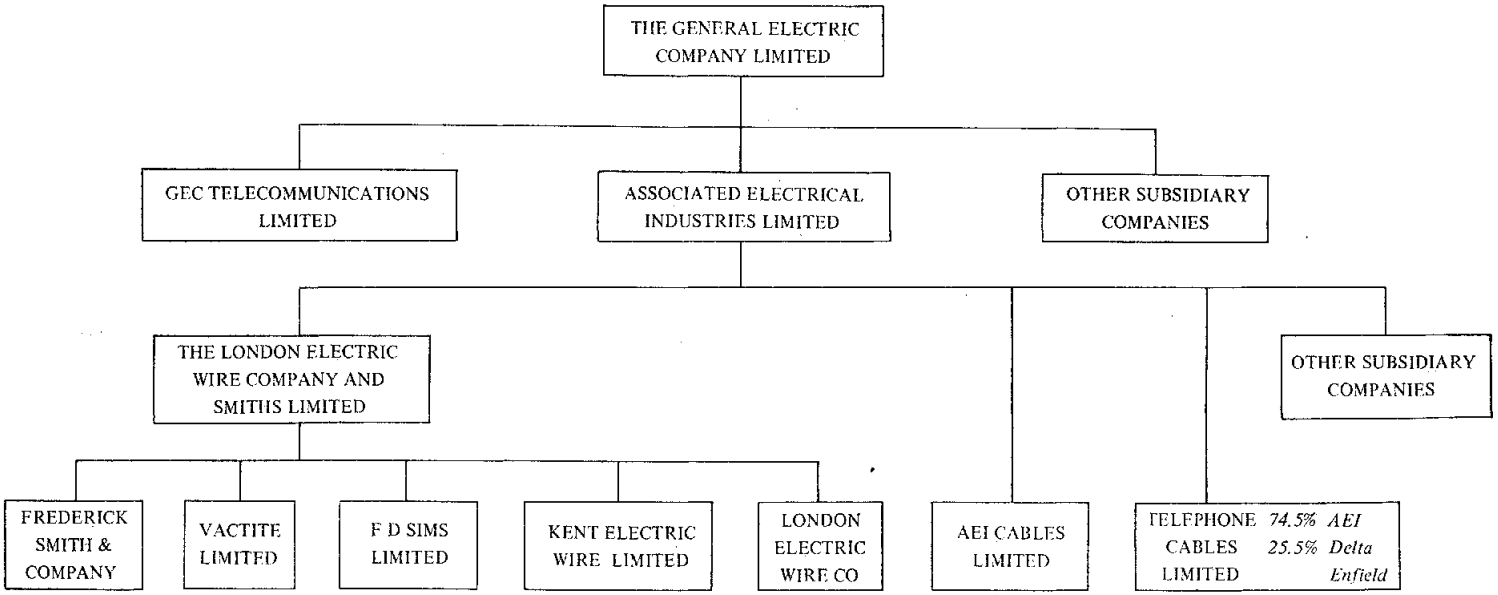
(*h*) that BICC will publish its list prices and will make available to each category of customer its terms[1] for mineral insulated cable appropriate to that category;

(*i*) that, if at any time the Board of Trade should so request, BICC will grant licences under any patents relating to mineral insulated cable, including accessories, on reasonable terms.

[1] The word 'terms' here includes terms and conditions as to discounts, rebates and credit.

APPENDIX 8
(referred to in paragraph 135)

GEC: Organisation

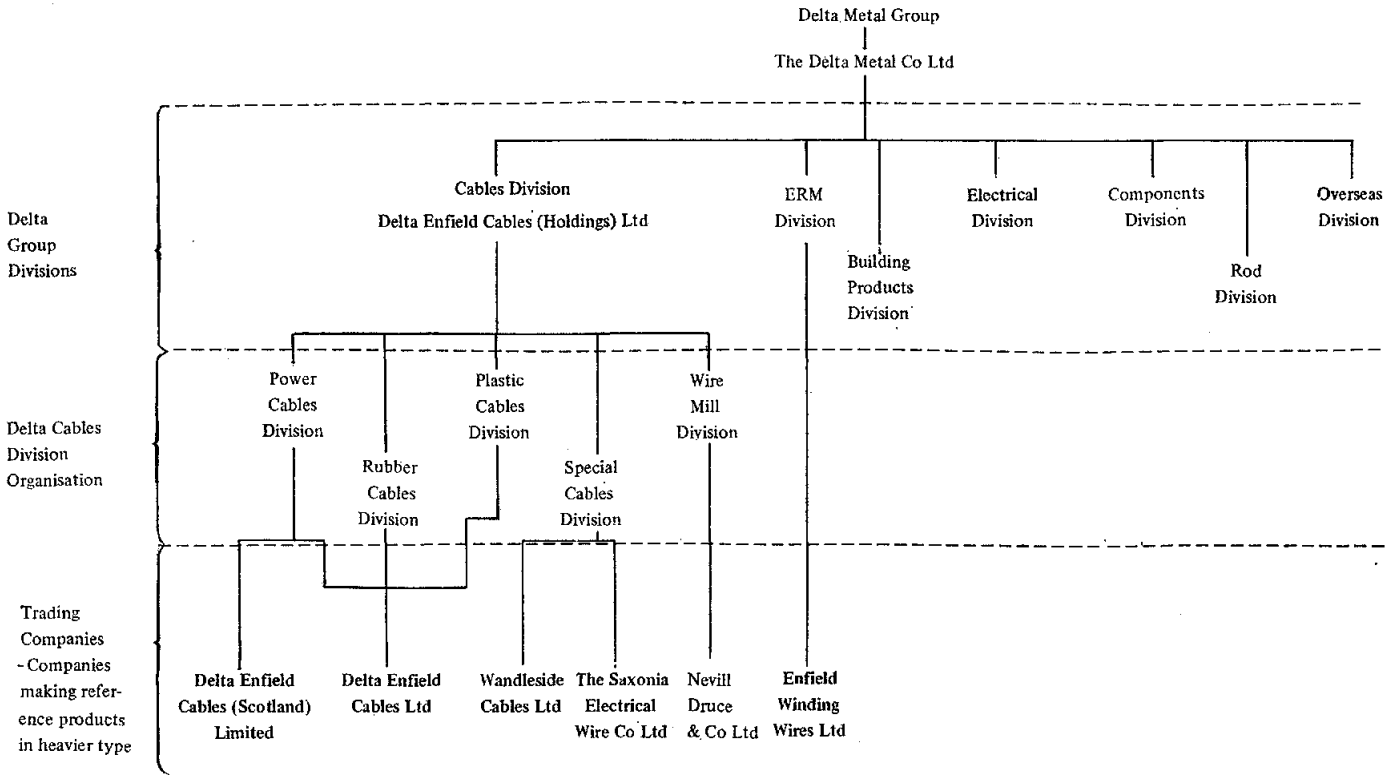


June 1978

APPENDIX 9

(referred to in paragraph 164)

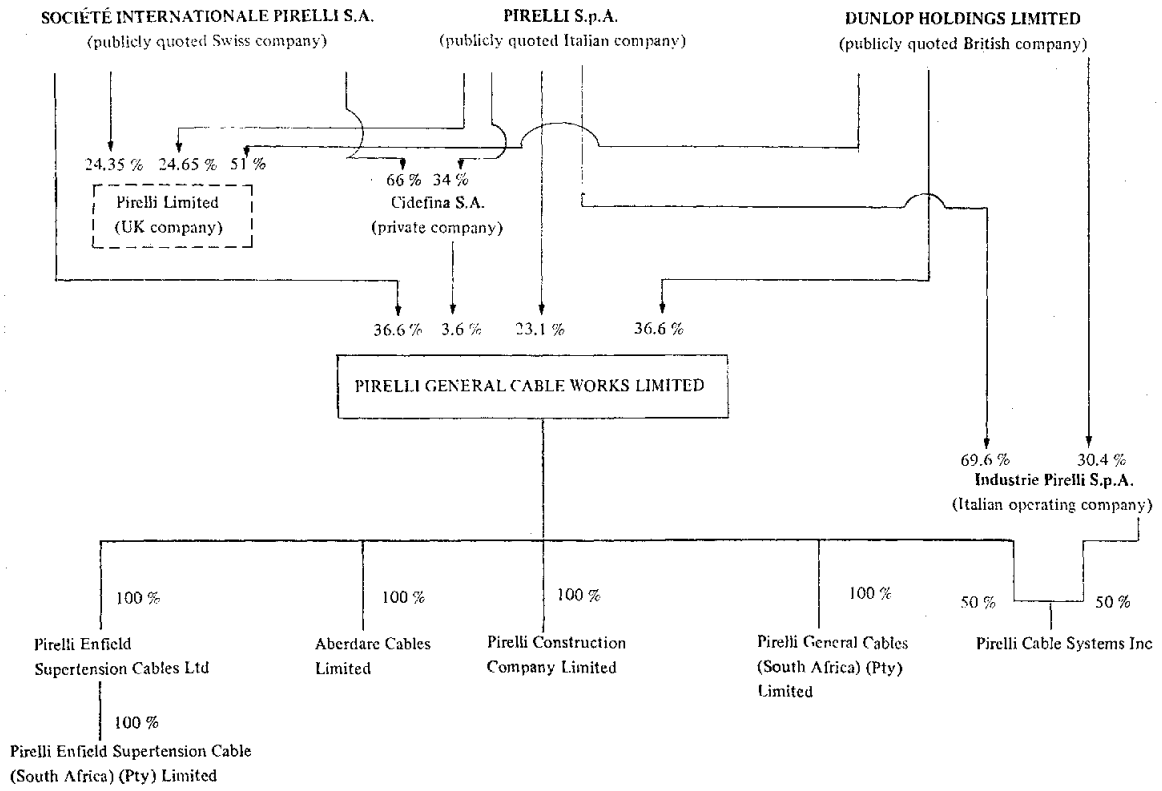
Delta Metal Group and Cables Division Organisation



APPENDIX 10

(referred to in paragraph 189)

Position of Pirelli General Cable Works Ltd within the Pirelli-Dunlop Union



APPENDIX 11

(referred to in paragraphs 299, 301 and 302)

List prices, copper prices, and actual prices

1. The chart in this appendix shows changes in BICC's list price (£'s per 1,000 metres) for 2·5 sq mm cable No 6242Y between January 1970 and December 1977, together with:

(*i*) fluctuations in the average monthly London Metal Exchange (LME) price of copper over the same period;

(*ii*) changes in the wholesale price index for electrical engineering over the same period (January 1970=100);

(*iii*) the lowest actual price of the cable less the value of its copper content on 1 January 1970 and on four subsequent dates inserted as bars.

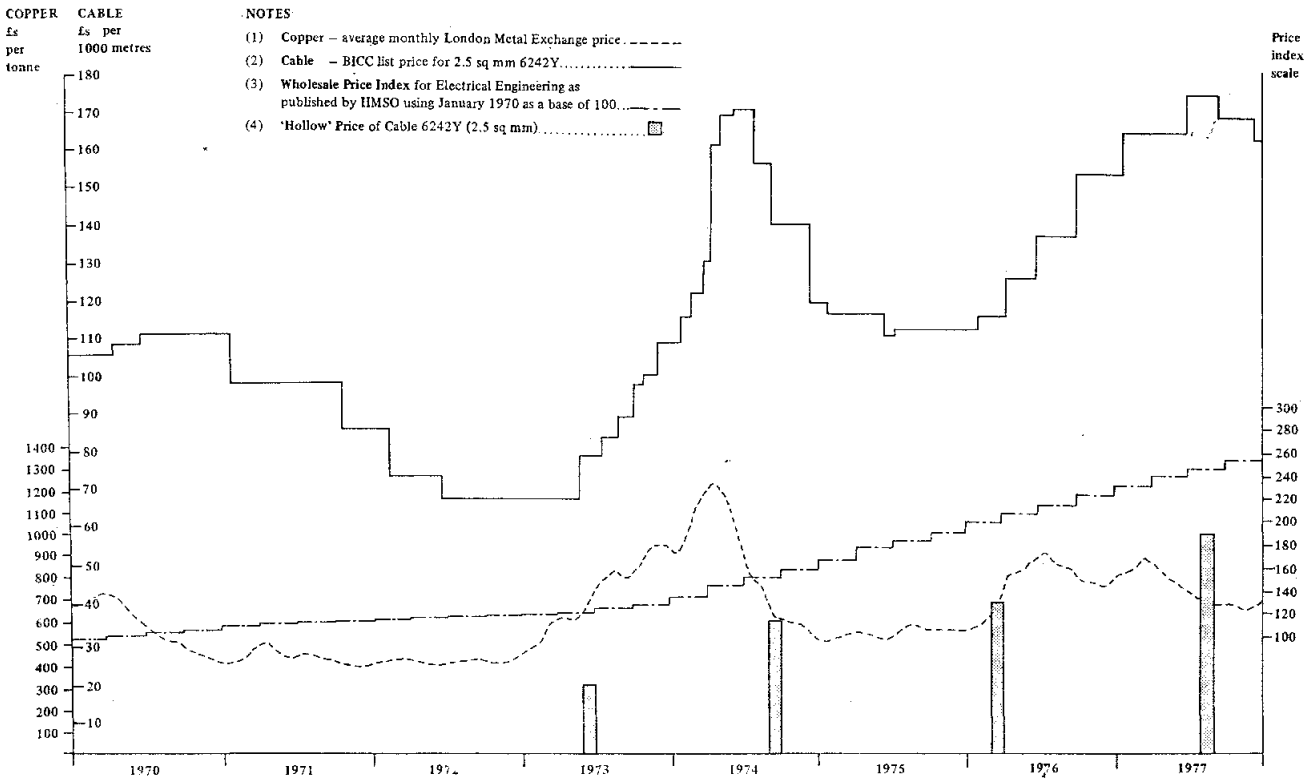
2. The value of the copper content of 1,000 metres of 2·5 sq mm cable No 6242Y on 1 January 1970 was just under £40 when the price of copper on the London Metal Exchange was £678 per tonne. This fact has been used to provide a starting point for the copper price line which therefore indicates changes in the current value of the copper content of the cable relative to its list price. The bars show estimates of the lowest actual prices of this cable sold on the dates selected less the value of the copper as priced by the cablemaker supplying the estimates[1], that is to say they show his lowest 'net net' 'hollow' price[2]. The lowest 'net net' price on 1 January 1970 was not the same for all cablemakers and, to our knowledge, varied between about £71 and about £73. As the value of the copper content of the cable on that date was about £40, the lowest 'net net' 'hollow' price of the cable lay between about £31 and £33 per 1,000 metres. £32, the intermediate figure, is used as the starting point for the wholesale price index based on 1970=100. In effect the bars compare changes in one cablemaker's lowest 'net net' 'hollow' price with changes in this index. If this cablemaker had calculated the 'net net' 'hollow' price by reference to the current average monthly price of copper it would have been lower by about £5 in June 1973 and March 1976, but higher by about £16 in September 1974 and by about £9 in August 1977.

[1] As his method of accounting for the cost of the copper content in the cable prices, the copper sometimes at a lower and sometimes at a higher level than that which would be indicated by the average monthly price, his actual (copper inclusive) price for the cable cannot be calculated precisely from the chart.

[2] The 'net net' price is the actual price of the cable after deduction of discount and rebate. The lowest 'net net' price is the lowest actual price at which a cablemaker sells the cable, involving the highest combined rate of discount plus rebate off list price. The 'hollow' price is the price of the cable less the value of its metal (in this case, copper) content.

APPENDIX 11—*contd.*

Changes in BICC's list prices



APPENDIX 12

(referred to in paragraph 396)

Export Association Working Instructions

Section I—Cables

DEFINITION

Conductors:

Non-flexible conductors of copper, aluminium or other metal (see Exclusion (*a*)).

Voltage:

Exceeding 80 volts up to and including 22,000 volts.

Specifications:

All cables having an outer protection formed by a sheath or a combination of sheaths of lead, aluminium, plastic, rubber, elastomers, textile or other material in substitution thereof with or without protection over the sheath.

Insulation	*Voltage*	*Cores*	*Sizes*
Impregnated paper or varnished cambric	All voltages	Any number of cores	All sizes
Rubber, elastomers or plastics	Up to and including 1100*V*	One to 7 core	50 sq mm and above
Rubber, elastomers or plastics	Up to and including 1100*V*	8 core and above	All sizes
Rubber, elastomers or plastics	Above 1100*V*	Any number of cores	All sizes

NOTE: The term 'elastomers' covers all forms of synthetic rubber.

Exclusions

The following are excluded:

(*a*) All cables and wires with flexible conductors.

A non-flexible conductor is a conductor corresponding to class 1, class 2 or class 3 of the IEC Recommendation 228.

When the class of the conductor is not specified the definition should be:
A non-flexible conductor is one composed of wires exceeding 0·35 mm in diameter for up to 7-strand conductors and exceeding 0·51 mm in diameter for other conductors, but excluding bundled conductors.

(*b*) All signalling cables for use at over 80 volts provided the construction is:

(*i*) Single strand conductors.

(*ii*) Insulation thickness not exceeding 0·6 mm.

(*iii*) Pair of quad formation.

(*iv*) With a specified mutual capacitance and/or capacitance unbalance.

(*c*) Long distance power submarine cables including underwater cables laid under estuaries, lakes and the like normally manufactured and supplied in long continuous lengths and not transportable on normal cable drums.

APPENDIX 13

(referred to in paragraphs 396 and 417)

Export Association Working Instructions

Section II—Cables

DEFINITION

Conductors:

Flexible or non-flexible conductors of copper, aluminium or other metal.
A non-flexible conductor is a conductor corresponding to class 1, class 2 or class 3 of the IEC Recommendation 228.
When the class of the conductor is not specified the definition should be:
A non-flexible conductor is one composed of wires exceeding 0·35 mm in diameter for up to 7-strand conductors and exceeding 0·51 mm in diameter for other conductors, but excluding bundled conductors.

Specification:

All wires, cables and flexible cords, insulated with rubber, elastomeric or plastic compounds or any combination of such materials.

NOTE: The term 'elastomeric' covers all forms of synthetic rubber.

Exclusions

1 *TYPE:* All cables having an outer protection formed by a sheath or a combination of sheaths of lead, aluminium, plastic, rubber, elastomers, textile or other material in substitution thereof with or without protection over the sheath.

Insulation	*Voltage*	*Cores*	*Sizes*
Rubber, elastomers or plastics	Up to and including 1100*V*	One to 7 core	50 sq mm and above
Rubber, elastomers or plastics	Up to and including 1100*V*	8 cores and above	All sizes
Rubber, elastomers or plastics	Above 1100*V*	All number of cores	All sizes

2 Wires, cables and flexible cords supplied directly to British Government Departments.

3 Wires, cables and flexible cords to British Government Department specifications.

4 All electric wires and cables insulated with mineral powder or asbestos paper, and metal sheathed.

5 Aircraft pattern cables.

6 Admiralty pattern cables.

7 High frequency cables.

8 Radio relay cables.

9 Telephone cables.

10 Telephone and bell wires.

11 Field telegraph and telephone cables, formerly known as 'D Type'.

12 Shot firing cables.

13 Automobile lighting and ignition cables.

14 PVC or PCP covered overhead wires.

15 Thermocouple extension and compensating cables.

16 Heating cables with conductors or resistance wires.

17 Wires, cables and flexible cords having fluorocarbon insulation.

18 Flexible cords sold direct to manufacturers of portable electric appliances.

19 Cables sold by one member to another except when resold by the purchasing member.

20 Flexible cords insulated (but not sheathed) having a radial thickness of insulation of 20 mils or less.

21 Connecting wires for internal wiring of radio and television sets or electronic equipment.

APPENDIX 14

[*Details omitted. See note on page iv.*]

APPENDIX 15

(referred to in paragraph 410)

Definition of Goods Covered by ICDC Export Schemes

The wires and cables covered by this definition are destined for the transmission of electric power in all its forms.

A. They are divided into the following three categories:

1st category

(*a*) Nominal pressure: over 80 up to and including 80,000 volts

(*b*) Insulation: Impregnated paper or varnished cambric

2nd category

(*a*) Nominal pressure: over 1,100 up to and including 80,000 volts

(*b*) Insulation: plastic, rubber or elastomers (*ii*)

3rd category

(*a*) Nominal pressure: over 80 up to and including 1,100 volts

(*b*) Insulation: plastic, rubber or elastomers (*ii*)

3.1 Cables with 8 cores or more

3.2 Cables with 1 to 7 cores: with a conductor section of 50 mm^2 or above

B. They have the following characteristics in common:

(*a*) Non-flexible conductors (*i*) of copper, aluminium or other metal.

(*b*) Outer protection formed by a sheath or a combination of sheaths, lead aluminium, plastic, rubber, elastomers (*ii*) textile or other materials in substitution thereof.

(*c*) With or without protection over the sheath.

C. The following are excluded:

1. All signalling cables for use at over 80 volts, provided the construction is:

(*i*) solid conductors;

(*ii*) insulation thickness not exceeding 0·6 mm;

(*iii*) pair or quad formation;

(*iv*) with a specified mutual capacitance and/or capacitance unbalance.

2. Long distance power submarine cables including underwater cables laid under estuaries, lakes and the like, normally manufactured and supplied in long continuous lengths and not transportable on normal cable drums.

NOTES

(*i*) A non-flexible conductor is a conductor corresponding to class 1, class 2 or class 3 of the IEC Recommendation 228.

When the class of the conductor is not specified, the definition should be:

A non-flexible conductor is one composed of wires exceeding 0·35 mm in diameter for up to 7-strand conductors, and exceeding 0·51 mm in diameter for other conductors, but excluding bundled conductors.

(*ii*) The term 'elastomers' covers all forms of synthetic rubber, including butyl, neoprene, etc.

APPENDIX 16

(referred to in paragraph 415)

Trade coverage of international associations

1. There are considerable problems in comparing different countries' trade statistics for insulated wires and cables. Commodity definitions can vary widely and there are a variety of different types of cable classification in the published statistics of the main cable trading countries. Consequently an attempt to compare different countries' trade statistics for insulated wires and cables usually involves some specific assumptions about how certain types of insulated wire and cable have been defined and classified. These problems restrict the type of comparisons which can be made from the published trade statistics from each country.

2. There are, however, several international sources of trade statistics on cables where the relevant figures are provided on a comparable basis. The main source of published trade statistics which permit international comparisons is the Organisation for Economic Co-operation and Development (OECD), in the Series 'C' or Statistics of Foreign Trade. These trade statistics are collected from a large number of countries who report the relevant trade figures to the OECD. Whilst these figures provide one of the most comprehensive statistical pictures of international cable trade currently available, there are still some limitations. In particular, the published statistics do not show separately different categories of insulated electric wire and cable. Moreover, there are some important cable producing countries who do not report their trade statistics to the OECD. Principal amongst the non-reporting countries is the USSR, but the figures provide only a partial coverage of other East European countries. Reporting countries include all EEC countries, Canada, United States, Japan, Australia, New Zealand, Austria, Finland, Greece, Iceland, Norway, Portugal, Spain, Sweden, Switzerland, Turkey and Yugoslavia.

3. The following table shows the proportion of total OECD insulated wire and cable exports to non-producer countries[1] from countries with an ICDC national group membership:

Trade with Export Territories	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*
ICDC 'member' countries	0·82	0·81	0·78	0·80	0·79	0·78
ICDC 'non-member' countries	0·18	0·19	0·22	0·20	0·21	0·22

Source: OECD Trade Statistics. Series C.

The figure for 1975 includes exports from Japan and Greece which withdrew from ICDC during 1975. If Japanese and Greek exports are excluded, the figures for 1975 become 0·67 and 0·33 respectively. The three largest cable exporting countries outside ICDC are the United States, Canada and Australia.

4. The table in the preceding paragraph includes *all* cable categories. This means that the proportion of mains cable exported by ICDC national group countries cannot reliably be derived from it, nor can reliable conclusions be drawn on the proportions of supertension cable and telecommunication cable

[1] Defined here as countries other than OECD reporting countries in 1975.

exported by national group countries of STEA and ICTDA. These proportions are over-estimates to the extent that the associations' national groups exclude certain cablemakers of the national group countries.

5. The following table indicates the importance of exports to non-producer countries[1] as a proportion of total OECD cable exports and ICDC 'member' countries' exports[2]:

	1970	*1971*	*1972*	*1973*	*1974*	*1975*
(*a*) Total cable exports to non-producer countries as a proportion of total OECD cable export trade	0·56	0·59	0·60	0·55	0·58	0·69
(*b*) Share of total cable exports to non-producer countries by						
(*i*) ICDC 'member' countries	0·82	0·81	0·78	0·80	0·79	0·78
(*ii*) ICDC 'Non-member' countries	0·18	0·19	0·22	0·20	0·21	0·22
Total:	1·00	1·00	1·00	1·00	1·00	1·00
(*c*) Cable exports to non-producer countries by ICDC 'member' countries as a proportion of total OECD cable export trade	0·46	0·48	0·47	0·44	0·46	0·54

Source: OECD Trade Statistics. Series C.

6. If the Japanese figures are taken out of the ICDC figures for 1975, exports by ICDC 'member' countries to non-producer countries as a proportion of total OECD trade in wires and cables would be 47 per cent rather than the 54 per cent specified in the above table.

[1] Defined here as countries other than OECD reporting countries in 1975.

[2] Cable exports by the Netherlands are excluded throughout because these are not classified by country of destination.

APPENDIX 17

(referred to in paragraphs 435 and 521)

Analysis of United Kingdom imports of cable

1. The following table shows that imports of cables into the United Kingdom as a proportion of the total domestic market for cables have tended to grow, but that the proportion of imports remains small. The domestic market has been defined as the total value of United Kingdom cable sales, minus cable exports, plus cable imports. The gaps in this series occur in those years for which Census of Production statistics are not available:

United Kingdom imports of cable

Year	*Value of imports CIF value £ million*	*Per cent of total UK market*
1964	1·7	—
1965	1·7	—
1966	2·2	—
1967	2·8	—
1968	3·8	1·6
1969	5·8	—
1970	6·3	—
1971	6·9	—
1972	10·3	—
1973	14·1	4·5
1974	18·8	4·8
1975	18·5	5·3
1976	23·9	6·3
1977	29·7	6·9

Source: UK Census of Production
UK Overseas Trade Statistics

2. The following table shows United Kingdom imports by type of cable. It suggests that a high proportion of cable imports are for specialist uses or are associated with local manufacture of electrical appliances by foreign companies in the United Kingdom:

UK imports of cable by type of cable (1976)

	£ million
Submarine telephone cable	0·606
Other telephone cable	1·100
Mains power cable	1·179
General wiring cable	1·661
Appliance wires	8·019
Winding wires	2·601
Miscellaneous	8·747
Total	23·913

Source: Business Monitor PQ 362, 1976

3. The following table shows the value of United Kingdom cable imports, expressed as a percentage of total cable imports classified by country of origin. Cable imports from Canada and the USA have fallen in per cent share terms over the period 1972 to 1977, whilst EEC countries have increased their share of total United Kingdom cable imports from 38 per cent in 1972 to 48 per cent in 1977.

Principal sources of imported cable 1972 to 1977

	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Country of origin	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*
Canada and USA	40·7	38·6	35·2	31·8	30·8	31·0
West Germany	11·5	14·1	17·1	16·4	14·4	14·3
Netherlands	12·2	10·0	9·1	12·2	14·2	14·8
France	6·6	6·1	6·4	8·5	9·9	6·5
Irish Republic	1·1	2·3	5·9	6·0	7·0	5·1
Sweden	2·7	6·4	4·4	2·7	2·5	2·2
Switzerland	3·9	4·4	3·8	3·0	3·2	5·0
Spain	3·3	3·2	3·5	3·2	3·1	2·6
Belgium-Luxembourg	2·6	2·5	3·5	3·2	2·4	3·5
Japan	2·5	1·3	2·2	1·7	2·0	3·2
Italy	4·2	3·6	2·0	3·9	2·5	3·3
Norway	—	1·3	1·2	1·3	1·4	1·6
Denmark	—	0·7	0·8	0·9	1·1	1·0
Other	8·5	5·3	4·6	5·1	5·3	5·8
Total	100	100	100	100	100	100

Source: Annual Overseas Trade Statistics of UK, Department of Trade.

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