A STUDY OF TRADE ASSOCIATION
PRICE FIXING

by M. Howe

Since the passing of the Monopolies and Restrictive Practices
(Inquiry and Control) Act in 1948 and, particularly, the Restrictive
Trade Practices Act in 1956, considerable information has become
available upon the activities of industrial trade associations and
the effects of those activities upon the competitive process. Of
greatest interest to economists is collective price fixing. Yet there
have been few studies in the literature of economics of trade associ-
ation pricing methods, perhaps reflecting the economist’s traditional
unconcern with the decision-making process per se, and also few
attempts to analyse the economic effects of particular pricing
methods. An opportunity to study trade association pricing methods
arose for the present writer in 1963/4 when he acted on behalf of
the trade associations in the wire rope industry in the preparation
and hearing of a case under the 1956 Act. It is not the purpose of
this paper to present a comprehensive survey of what was a very
long and complex restrictive practices case or to evaluate the
arguments of the two sides and the judgment of the Court in the
light of subsequent events. The intention is rather to examine and
analyse the pricing methods themselves. These should be of interest
in their own right to any student of the behaviour of business
organizations. History they may now be, but they are nonetheless
revealing and suggestive of the behaviour of large tracts of British
manufacturing industry in the heydey of collective agreements.

THE INDUSTRY AND ITS ASSOCIATIONS

The wire rope industry is mainly concerned with the production
of rope from steel wire. The wire for most steel rope is ‘patented
steel wire’ i.e. wire which has undergone the heat treatment process
known as patenting, but a small quantity of rope is made from
mild steel or stainless steel wire. The core of the rope is generally
made of jute, sisal or manila. Wire rope products are conveniently
if broadly divided into two groups according to methods of manu-
facture, locked coil ropes and stranded ropes. Locked coil ropes have

1 One of the few articles is B. Fog, ‘How are Cartel Prices Determined?’ Journal of
2 The many papers analysing particular Restrictive Practices Court judgments have
had a wider purpose and may have touched upon pricing methods indirectly.
3 The wire rope industry is currently the subject of a reference to the Monopolies
Commission.

235
TRADE ASSOCIATION PRICE FIXING

a limited number of specialized uses as winding ropes in mining shafts, in aerial ropeways and in suspension bridges while stranded ropes serve a wider variety of uses in the mining, engineering and marine industries. Locked coil ropes require more specialized equipment and production skills than stranded rope.

Since 1946, output of locked coil rope had expanded at an average rate of 6 per cent p.a., though only at about two-thirds of that rate in the period after 1959. Output of all stranded rope fell marginally over the period 1959–63 but deliveries of rope to the mining industry fell sharply, by as much as one third. Deliveries of rope for marine purposes remained more-or-less constant while the engineering industries' rope consumption expanded modestly at just under 1 per cent p.a. However, output of engineering ropes grew more steadily over the period 1959–63 than output of locked coil, the other expanding section of the wire rope industry.

After the passing of the 1956 Act, three trade associations operated in the industry, the Locked Coil Ropemakers’ Association (L.C.R.A.), the Mining Ropes Association (M.R.A.) and the Wire Rope Manufacturers’ Association (W.R.M.A.). In 1963 there were seven manufacturers of locked coil ropes and of these two were members of the British Ropes group, the dominant firm in the industry, accounting for more than 50 per cent of the output of all wire rope and a similar proportion of locked coil. Two other producers were interconnected, one a subsidiary of the other. There were no producers outside the association. The five independent manufacturers of locked coil rope formed a tight-knit oligopoly, the three largest firms producing more than 80 per cent of the industry’s output. The main agreement in the L.C.R.A. was to fix the actual prices at which members sold locked coil rope to home users, principally the National Coal Board (N.C.B.), in conjunction with an agreed schedule of extras and agreed terms of sale.

Whereas locked coil rope constitutes a distinctive product type involving distinctive production methods, the distinction between 'mining ropes' covered by the M.R.A. and the stranded ropes covered by the W.R.M.A. is more artificial. The W.R.M.A. was responsible for pricing 'engineering ropes' and special ropes sold to the Admiralty but not 'marine ropes', collective price fixing of which had been abandoned by the time of the case. The creation of the two separate Associations was explicitly designed to improve the industry's

4 The N.C.B. accounted for over 50 per cent of home deliveries of locked coil rope.
5 In fact, in 1960, in response to the abandonment of common pricing of fibre rope, the Marine Wire Rope Society was formed to collect and distribute information to its members including information on current prices. British Ropes Ltd., in fact, emerged as price leader on marine ropes.
chances of fighting a successful case under the 1956 Act by means of the argument that an agreement on the price of mining ropes was a necessary defence against the preponderant buying power of the N.C.B. This aspect of the case has been discussed by the writer elsewhere. All that needs to be said here is that membership of the two associations covering stranded ropes was identical and numbered 32 firms. In 1963 there were, however, only 20 active manufacturers in the M.R.A. Six of these companies were in the British Ropes group, including British Ropes Ltd. itself, and there were two other pairs of connected companies. Active producers in the W.R.M.A. in 1963 numbered 95, counting interconnected firms separately. The British Ropes group dominated stranded rope production in 1963, a position built up partly by internal expansion at the expense of smaller producers and partly by an active acquisitions policy in the years after the Second World War. The largest three producers of stranded rope accounted for almost 70 per cent of the associations' output. There was a small number of producers outside the stranded rope associations but they were of negligible importance.

The N.C.B. and the Admiralty were major purchasers of stranded rope, both mainly in specifications designed for their particular needs, but stranded ropes were also used by countless other customers, especially in the engineering trades. The basic agreement within the M.R.A. was on common prices of 'mining ropes' to all home users, principally the N.C.B., and within the W.R.M.A. on common prices of other stranded rope. Ancillary agreements covered extras and discounts, etc. The prices were to be those set out in the relevant association's price list or those calculated according to the associations' agreed procedure. This latter provision is a reminder of the great variety of wire rope specifications that may be demanded and which could not be included in a single price list. Even so, the published price lists of the associations were of almost bewildering complexity. After many pages of detailed instructions on how the price list was to be used, the W.R.M.A. list, for example, included prices for almost 40,000 different sizes, constructions, tensiles and/or qualities of rope. Of course, a manufacturer would not be called upon to produce more than a proportion of these in any period. But a medium-sized maker might easily produce 1000 different sizes and constructions in reasonable quantities in one year.

7 The price list itself extended over 134 foolscap-size pages. The lists of the other two associations were less voluminous.
TRADE ASSOCIATION PRICE FIXING

TRADE ASSOCIATION PRICING IN WIRE ROPE

As in many industries, trade association price fixing in the wire rope industry dated from the 1930s. Between 1940 and 1953 maximum prices were fixed by the Government, and the industry agreed to regard them also as minimum prices. After decontrol in 1953, the trade associations (at that time the L.C.R.A. and the Federation of Wire Rope Manufacturers) took complete responsibility for price fixing and by the end of the 1950s the price fixing methods that were the subject of the restrictive practices case had evolved. By this time the M.R.A. and the W.R.M.A. had been constituted to take over price fixing from the Federation. The Federation continued in being and circulated various information among its members relating to the trade as a whole and of considerable relevance to its members in their reaction to the operations of the price-fixing associations. Thus the Federation provided information on market shares on a quarterly basis and also on the profitability of a sample of producers also on a quarterly basis. It also dealt with labour relations and wage negotiations on behalf of all manufacturers.

There seem to be three main methods of trade association price fixing. First, there is the method of charging the prices that ruled in some base year adjusted in some fashion to take account of subsequent changes in costs; then the method of negotiation around the table, with complicated rules on the voting power of members; and finally the fixing of prices in relation to the costs of production of members. The third method is usually used by larger and more formally organized associations. The wire rope associations had by 1963 developed a method of the last type although, as with any trade association pricing, it always included an element of both the other methods.

The methods of the three associations were broadly similar and are outlined in the next sections of the paper. The discussion begins with the methods of the W.R.M.A. and there follows a briefer discussion of separate features of the methods of the M.R.A. and the L.C.R.A. The fixing of extras, discounts and other ancillary dimensions of price is not discussed. This is not because these are unimportant. On the contrary, in an industry with wide product variety such as wire rope and in any industry which endeavours to impose a common price on members, these are indeed vital aspects of the price decision. But considerations

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8 The cross section, see below, p. 240.
9 The writer knows of a trade association using this method in 1963 where the base year price list dated from the middle of the nineteenth century.
10 As we shall see, in the wire rope industry there was negotiation with major customers as well as among association members.
of space restrict us to a discussion of what we may term the basic price, unadorned by the extras, allowances and discounts that may ultimately affect the transactions price. Prices were in all cases delivered prices. The associations provided for the exchange of information on such matters as orders received month by month, deliveries and orders on hand. These arrangements are not discussed in this paper.

**PRICE FIXING METHODS OF THE WIRE ROPE MANUFACTURERS' ASSOCIATION**

The basis of the W.R.M.A. basic price list at the time of the case was costs of selected products collected from a cross-section of 12 member firms. Although only about one-half the total number of active producers, the cross-section represented about 75 per cent of the trade by tonnage in those ropes. Obviously, therefore, the cross-section included most of the larger producers though it did also contain some small manufacturers. There was no explicit criterion for membership of the cross-section. In fact the make-up of the cross-section was largely a legacy of Government price control. There had been some changes of membership since decontrol, some firms being added if they could be expected to have the required cost data or if they wished to participate in the circulation of cost figures among the cross-section, but these changes had been minor and unsystematic. Prices of Admiralty specifications were based on costs submitted by all producers, about half a dozen in all.

In the early years after control costs were collected and prices reconsidered irregularly by the wire rope associations as pressure developed from members for a pricing review. Later a somewhat more formal procedure developed in each association with costs to be submitted to the Secretariat for a price review every six months. For various reasons the six months' rule was not always followed exactly. The labour of collecting costs sometimes meant longer intervals between cost reviews and in the meantime percentage across-the-board adjustments to ruling prices might be made. Indeed changes in costs could, and did, occur after the collection of costs and before the pricing committee's final decisions, a period usually of several weeks. Again across-the-board adjustments were then typically incorporated in the price review to take account of these subsequent cost changes.

The costs collected were average total costs. They were extracted from the cost-accounting systems of members of the cross-section.

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11 A leading firm of chartered accountants. At one time a single office of this firm was acting as Secretary to some 30 common price agreements.
Some submitted historical costs which therefore reflected past conditions on factors such as the rate of output, the number of shifts, rope lengths, resource prices, etc. whereas others submitted standard costs reflecting (those firms') normal operating conditions. In addition the costs submitted reflected the accounting methods and conventions adopted by the individual firms, e.g. on depreciation and overhead allocation. These differences could be expected to produce significant differences in relative product costs submitted by different members of the cross-section. Although the introduction of a uniform costing system had never been seriously considered and would have presented formidable difficulties in an industry with such wide product variety, some more modest steps to increase uniformity were taken over the years. These were largely restricted to standardization of the classification of particular items of expense to the broad cost headings used by the associations.

A feature of the pricing methods of the association was the right of members of the cross-section to submit notional costs if they had produced no output of a particular product in the relevant period. This possibility arose because of the wide product variety and the flexibility of plant and equipment in the production of stranded ropes. The right to submit notional costs was discretionary. No instructions were given on how notional costs should be calculated. Unless a firm had a standard costing system, when standard costs might be submitted, the notional costs would be devised from the costs of similar ropes produced in the period or from costs of the product when last produced.

It should be clear that costs were not collected for every product. Nor could they be. Costs were available for only a tiny proportion of the number of wire rope products known as 'key items'. For the most part these were the bulk produced ropes. There were 40 engineering and 48 special Admiralty key items in all at the time of the case. The costs of these ropes formed the basis of the whole pricing exercise. Product costs for these items were submitted by the cross-section, coded and assembled by the Secretariat under the following headings: material, direct labour, oncosts, carriage, selling expenses (which included administrative expenses) and total cost. Before 1958 the arithmetic average of the (average) total costs submitted was the basic information used in any pricing review although any extremely high costs would sometimes but arbitrarily have been excluded before the average was struck. More recently (from about 1957) a system had been adopted whereby only the six lowest costs received for each key item were averaged. Moreover, if any of the six lowest costs that were averaged turned out to be 10
per cent or more above that average then they also were excluded and the average recomputed. It was this average which formed the basis of most of the W.R.M.A.'s major price reviews in the 1960s until the unfavourable judgment in the restrictive practices case at the end of 1964.

Costs of key items were used as the basis of calculation of costs of other sizes of ropes of the same specification by graphical means. Costs of other types of rope were calculated by adding or subtracting material cost differences or by applying a system of more-or-less historical additions and subtractions to the costs of other rope constructions. In all cases the procedure was arbitrary and was only occasionally checked by cost investigations. Again the variety of products produced made frequent checking impracticable.

Given these costs, the final stage was to apply a target profit margin. In 1963 the target margin on engineering ropes was 16½ per cent on sales or 20 per cent on costs. The magnitude of the target margin was, of course, decided by members by discussion and negotiation in the light of their experience of market conditions facing the industry as well as their individual profit objectives. It is interesting (as a reflection of association thinking) that the margin had been changed from 15 per cent in October 1962 when the members agreed to offer a discount to large buyers which the Secretariat estimated would cost 1½ per cent as an average of all sales.12

By these methods a price list was arrived at covering all ropes in regular demand. If a rope was demanded which was not listed it would usually be priced by the Secretariat. The price quoted would be based on the price of the rope of the most similar specification to that demanded, but reflecting any difference in wire costs13 and including a premium to contribute towards the likely high production costs of a non-standard item. Often the Secretariat would consult with members as to the appropriateness of a price arrived at this way, but in the nature of things no special costing of the specific item was conducted.

THE MINING ROPE ASSOCIATION

Not surprisingly in view of the identical membership and Secretariat and the similarity of the products of the M.R.A. and the W.R.M.A., the M.R.A. used the same basic pricing method. But a special feature of M.R.A. pricing until 1962 had been consultation

12 The discounts offered were 2½ per cent or 5 per cent depending upon the annual amount of a buyer's total purchases of wire rope. Special discounts were granted to the Admiralty.
13 Wire prices were also fixed by a trade association at this time.
with the N.C.B., a major purchaser of wire ropes and a preponderant buyer of those specifications of stranded rope covered by the M.R.A. and styled 'mining ropes' by the association.\textsuperscript{14} Arising from these consultations the industry had agreed to give the N.C.B. (whenever possible) advance warning of price changes, to base its prices and price changes on costs of key items agreed with the N.C.B. and also to be submitted to the N.C.B., and to apply target margins (6\% per cent, 9 per cent and 12\% per cent on sales according to the product) agreed by the N.C.B. It was indeed from these discussions between the National Coal Board and the Federation in the years after decontrol that the 'key item' system emerged for all stranded rope. As with the W.R.M.A., by 1963 the cost base of the pricing procedure had become the average of the six lowest (non-standardized) average costs submitted by members of the (same) cross-section, sometimes including notional costs from non-producers, but excluding any costs which turned out to be 10 per cent or more above the average. Prices of non-costed products were derived from the prices of the key items in similar fashion to the W.R.M.A.

\textbf{THE LOCKED COIL ROPEMAKERS' ASSOCIATION}

The pricing procedure used by this association was similar to that of the M.R.A. and had also involved considerable discussion with the N.C.B., the major user of locked coil rope in the home market. The main difference arose from the small number of producers of locked coil rope. Thus, there was no cross-section. All producers were entitled to submit costs of key items although rarely were as many as six costs received.\textsuperscript{15} The lowest six costs received including again any notional costs were averaged but in this association using a weighted average, the weights being members' production of the product in the previous quarter. The other associations used simple averages largely, they asserted, because of the clerical difficulty in collecting production figures for individual stranded ropes. Calculations by the writer showed that the choice of a particular average did not have a systematic effect on prices one way or the other. As in the M.R.A., the target margins had been agreed with the N.C.B. during the consultations that had been a feature of the industry between decontrol in 1953 and 1962. By the time of the case the margin on all locked coil ropes had become 12\% per cent on sales.

\textsuperscript{14} After 1969 the N.C.B. discontinued these consultations and proposed to institute a system of centralized competitive tendering for its wire rope needs.

\textsuperscript{15} Costs were submitted by individual members whether or not they were members of a group or otherwise inter-connected. The amount of competition allowed between members of the same group is an interesting aspect usually neglected—as it is here!
The Restrictive Practices Court has held that the pricing methods of an association are less important than the results those methods produce: 'we must draw a clear and important distinction between the reasonableness of the prices actually charged by the association and the validity of the methods used to arrive at those prices'.

Many economists would agree. But even with all the evidence available in a restrictive practices case, it is extremely difficult to judge how reasonable has been the performance of an industry in terms of the level and flexibility of prices, the level and variability of the costs of the producers, technical progressiveness and the level of profit—and, therefore, upon the presumption of the Act that agreements work against the public interest. The difficulties are not only the absence of ready-made competitive standards against which to judge these various dimensions of performance but even, for some aspects, the lack of an adequate theory, for example on the relation between competition and technical progressiveness. Inevitably, therefore, the price-fixing methods of associations are examined, usually microscopically, in restrictive practices cases and inferences about the industry drawn. In the wire rope cases, the associations and the Registrar, and their respective counsel, certainly undertook such an examination. Unusually, however, the Court felt able to reach its final judgment without commenting upon either the pricing methods or the performance of the firms operating them. This was because the industry mainly relied upon the arguments that the agreements were necessary to protect the industry from a preponderant buyer (the N.C.B.) or, for the W.R.M.A., that they contributed substantially to British exports. When these arguments failed so did the case, and the pricing methods became irrelevant to the Court.

Yet the wire rope associations had evolved a pricing system which they considered not only satisfactory to themselves but also fair to consumers. Industry is always strongly of the opinion that, to be fair, prices should be related to producers’ costs. This opinion was certainly held by the wire rope associations who argued that their own cost-based procedure was particularly satisfactory with the emphasis it gave in its system of averaging either to the six

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17 An opinion which the Restrictive Practices Court, the Monopolies Commission, the National Board for Prices and Incomes, various Government Departments in their purchasing and contracting policies, have all from time to time endorsed. Like most associations, the wire rope associations set much store on the fact that the Government had encouraged trade associations in the 1930s and had itself operated a cost-based common pricing system during the war and in the immediate post-war period.
TRADE ASSOCIATION PRICE FIXING

lowest costs received (in the stranded rope associations) or to the
costs submitted by the larger producers (in the L.C.R.A.).

Yet in application the methods had obvious weaknesses. One was
the small proportion of the total number of products in regular
demand that were designated key items and regularly costed for
pricing purposes. Another was the lack of standardization of costs.
Evidence was produced of correspondence between members of the
cross-section and the Secretariate which revealed striking differences
in the basis of members’ costings. Not only would these differences
be reflected in prices but they would also make less meaningful
the comparisons of members’ costs of the key items which the
associations so stressed as a useful by-product of the main price-
fixing agreement. Another criticism was of the submission of
notional costs by non-producers. Evidence was brought of the lowest
cost producer accounting for 100 per cent of output of some ropes
and the notional costs pulling up the average used in pricing. The
practice of the W.R.M.A. and the M.R.A. of averaging the six
lowest costs received would also have been a much more satisfactory
feature had steps been taken to control the selection of the cross-
section to give some assurance that the cross-section included the more
efficient firms. Certainly evidence was brought of various inadequacies
(even clerical errors) in the pricing procedure and a number of
anomalies in the price structure were identified.

The associations argued that these objections were trivial in
relation to the complexity of the price-fixing operation. In one
sense the argument had weight, for the huge product variety of
the industry made highly detailed and completely accurate product
costing an unattainable ideal. Just as in the case of an individual
firm facing a highly diverse demand, a trade association must use
short cuts and simplifications in its costing and pricing.\(^{18}\) However,
anomalies in the price structure have more effect when that structure
is applied collectively and can be altered only formally (assuming
members abide by the agreement) and at prescribed intervals. The
pricing system is necessarily more rigid than independent price
fixing and any resultant distortions in that sense are more important.

With this last point on the greater rigidity of trade association
pricing our comment on the application of the price-fixing methods
is shading into a discussion of the way in which the methods \(worked\).
As mentioned, it is not our intention here to provide a comprehensive
study of the effect of the agreements upon the performance of the
wire rope industry but some analysis of the more salient effects is

\(^{18}\) For some discussion of these issues see M. Howe, ‘Competition and the Multiplication
offered for, as Professor T. Wilson has observed, 'we know little about the extent to which competitive pressure remains effective within a cartel. We have certainly no right to assume that its more efficient and ambitious members will be content with policies designed to leave their less efficient members safe and secure'.¹⁹ This is surely the crucial question about trade association pricing and one upon which the evidence heard in restrictive practices cases can be made to throw some light. In attempting an answer for the wire rope industry, it will be useful, following Jack Downie,²⁰ to keep in mind two sources of pressure, one short-term pressure arising from the transfer of business from the currently less efficient to the currently more efficient in an industry, the other longer-term pressure arising from differences between firms in the pace of application of innovations. Trade association pricing may affect these two sources of pressure differently.

Any trade association is likely to claim that its pricing methods do not ‘featherbed’ the less efficient members, even though associations are invariably defensive in origin and outlook and cannot expect to retain members who feel that their interests would be better served outside the agreement.²¹ The wire rope associations were no exception. We have commented upon the pricing methods and the way they used the average of the six lowest costs received. In order to appraise this method we need to examine first the variability of the costs of members. Cost variation between the firms in an industry is inevitable for a host of obvious reasons, but, with given technology, the less the variability at any time the more efficient an industry’s performance would generally be considered to be. Competition is generally thought likely to reduce the variability in firms’ costs. With changing technology, more variability is to be expected. If changes in technology are relatively infrequent, and knowledge of new techniques easily transmitted, we might expect cost variability from technical change to be slight and to diminish over a long enough period. If, on the other hand, technological change is rapid and stochastic considerable variability may be expected and may persist.²² The effect of competition where cost variation is due to changing technology is less clear. The main source of technical change is organized research and development. Effective research and development activity is a long-run activity and may

²¹ The arrangements of most associations, including the wire rope associations, were such that it was no easy matter for a dissatisfied member to quit.
²² Though the identity of the lowest cost firms need not remain the same.
be inhibited by the high risks associated with the more intense forms of short-run competition, particularly in oligopolies.

Ad-hoc evidence in the wire rope case showed considerable variation in costs between different members and products. But the only systematic evidence was provided in a costing exercise as of 30 September 1961 and the basis of one of the six-monthly price reviews. A problem in referring to these data, summarized in Table I, even for a snap-shot picture at that point in time is the lack of standardization of costs in the multi-product context already mentioned. However, assuming that the data are reasonably reliable, we see that on 40 of the 58 engineering ropes listed the highest cost submitted was less than 120 per cent of the lowest cost received; in mining this was so on 16 out of 36 ropes and in locked coil on 11 out of 19. The variability was less than found, but condemned, by the Monopolies Commission in a number of its investigations (e.g. fibre cordage, electric cables, linoleum, rubber footwear and electrical machinery). But three points need to be added. First it is possible that the (stranded rope) producers not in the cross-section included the highest cost producers. Second, the observed variability of average costs must be interpreted with the fact in mind that raw material costs, about two-thirds of the total, were virtually uniform between producers, patented wire prices also being fixed by an association (of which several vertically integrated wire rope producers were also members). These two points suggest Table I may give an unduly favourable impression. But there is the third point. With

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Engineering Ropes</th>
<th>Mining Ropes</th>
<th>Locked Coil Ropes</th>
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<tr>
<td></td>
<td>No. of items</td>
<td>No. of items</td>
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<tr>
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<td>1</td>
<td>3</td>
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<tr>
<td>130-139.9</td>
<td>3</td>
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<td>2</td>
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<tr>
<td>140-149.9</td>
<td>1</td>
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the diverse nature of demand for, and hence of output of, wire rope, there is a premium in the industry on flexibility. Some of the industry's plant is specialized in the production of a particular construction of rope especially locked coil and other heavy ropes. But most is flexible; though most efficient in the production of a particular construction, it can be used in the manufacture of a variety of constructions. However, as Stigler pointed out long ago, the price of flexibility is some loss of efficiency, here in the production of constructions other than those for which a firm's plant is best suited.

It is, of course, difficult to assess the effect of the agreements on this observed cost variability. Technical change was not a significant factor, however, certainly for the products included in Table I. The technology of the wire rope industry is traditional, not science based. Innovations have been relatively minor and have been fairly rapidly transmitted among the various producers. An exception was in the production of a particular type of engineering rope, small cords. Here British Ropes Ltd. had effected a major reduction in costs and at September 30th 1961 their costs were between one-half and one-third of the costs of the highest cost producer depending upon the size and construction. The association argued that, over time, this variability would be reduced as other producers were forced to adopt similar cost-reducing methods. This argument depends upon the effects of the agreements upon profitability. Consideration of this aspect of performance will enable us to assess whether or not the agreements protected high-cost producers and discouraged innovation.

We shall look first at individual product profit margins. As with the great majority of individual firms with pricing discretion, we have seen that the wire rope associations arrived at their desired selling prices by applying target profit margins to the average cost. There is nothing objectionable in the procedure. Obviously, however, whatever an association's costing procedures, it can always seek to protect inefficient firms by the addition of a generous profit margin which exploits the association's monopoly power. How effective the protection is will depend on the variability of members' costs and the level of demand forthcoming at the target prices. The target margin of 15\% on sales used by the W.R.M.A. certainly appears generous in an industry where something like two-thirds of total cost could be accounted for by raw materials.


\[25\] Or by the use of generous extras added to the basic price.
and also in relation to the margins accepted in the other two associations where a major customer’s view had to be considered. The association’s main justification was the relatively low sales to capital ratio with engineering ropes which are generally made on relatively slow machines and the diversity of demand and the resultant relatively high cost of producing small orders and of stockholding, which were not fully reflected in costs. This latter argument is not wholly convincing. While it is true that the full cost of stockholding is rarely included in cost accounts (which are not kept on an opportunity cost basis), it would be relative product costs that would not accurately take account of the cost of producing small orders. It was not the case that all engineering ropes were produced in smaller quantities and on slower machines than all mining ropes in firms producing both (though this was a general tendency) yet the higher margin applied to all ropes. In fact, since an extra could be charged for small orders of many ropes the association did appear to have been seeking a double compensation for these costs. Certainly the argument pointed to the need to standardize costing methods in the matter of the batch and order sizes to be used in the costs submitted to the Secretariat.

Three target margins were used by the M.R.A. The different margins were designed to take account of differences in handling and distribution costs and of technical services for the customer which, it was argued, were also not accurately reflected in product costs but (like the costs of small orders in the W.R.M.A.), spread over all production. This argument is also itself a criticism of the industry’s costing systems though again the wide product variety inevitably restricts the detailed product costing that is possible. A second reason given for differences in the target margins was differences in the rate of turnover of capital. Certain mining ropes are made on faster machines and in larger quantities than the bulk of engineering ropes. But whether the lower target margins of 6½ per cent and 9 per cent on the mining ropes of similar constructions to the W.R.M.A.’s ropes can be wholly explained this way is doubtful. Undoubtedly the lower margins in the M.R.A. were in part the result of N.C.B. pressure and in part the result of the declining demand for ropes from the mining industry.

The target margins of the L.C.R.A. were similar to those on the most comparable ropes of the M.R.A. Again there had been consultation with the N.C.B. on their size and with locked coil ropes the

\[26\] On more than one occasion the Admiralty had objected to the W.R.M.A. prices of Admiralty specification ropes and had attempted its own investigations of members’ costs. These investigations were not very successful, however, and at the end of the day the Admiralty acquiesced in the Association’s prices.
margins applied most certainly took account of the very significant buying power of the N.C.B.

Despite the influence of market and buyer pressures upon the choice of target margins, their magnitude was inevitably arbitrary and relatively insensitive to differences in the demand conditions facing individual constructors of rope and in demand conditions at different stages in the business cycle. It is here, once again, that trade association pricing methods begin to diverge from the methods of individual firms with pricing discretion; the one case is a more rigid application than the other. Trade association prices tend to be less flexible in the face of market changes than an individual firm's prices. This is a more severe weakness, the more volatile are those changes. As it happens, demand fluctuations and market changes are of relatively minor significance in the wire rope industry, but nevertheless the associations' methods did prevent any member taking a more flexible approach to the stimulation or exploitation of changes in the pattern of demand. For example, it is doubtful whether pressures upon customers to standardize their orders can be as great under association as under individual firm pricing.  

Returning to the protection of the inefficient firms afforded by the price fixing methods, we can refer to the costing exercise already mentioned and used as evidence in the case. Using this exercise, it was possible to calculate the margins that would have been earned on the various costed products before and after the price changes introduced after that review respectively for the lowest cost producer, for the highest cost producer (both among those submitting costs) and for a producer whose costs equalled the average of the costs submitted (not on this occasion the particular average cost used in the pricing exercise, e.g. the average of the six lowest costs). Table II shows the margins implied for such producers by the new selling prices on a selection of the costed ropes.

It can be seen that for each of the product groups the profit margins implied by the new prices for the average cost producer centred around the target margins though the range of implied margins was quite wide. For each group a negative margin was implied for the average cost producer on at least one of the products costed. More significant are the margins for the highest cost producer. On substantial proportions of the costed products the new prices still implied a negative margin for the highest cost producer. For mining (coal cutter) ropes, this was so for 75 per cent of the products. Now we have already stated that with the wide product variety of wire rope producers and the lack of standardization of

costing methods, there was inevitably arbitrariness in the submitted relative product costs. But even accepting some limitations in the costs, it is quite clear that the common prices determined in this 1961 price review did not entirely insulate the less efficient firms from competitive pressures. Yet, despite Professor Wilson's comment that we have 'no right' to assume that cartel arrangements leave the 'less efficient members safe and secure', this assumption is in fact commonly held among economists. The evidence in this case showed that the agreements left marginal producers under considerable pressure to reduce their costs or, in the long run, see their business transferred to their more efficient competitors. Certainly, the price level was insufficiently high to give them any scope for expansion.

<table>
<thead>
<tr>
<th>Size of margin (% of selling price)</th>
<th>Ave. Cost</th>
<th>Highest Cost</th>
<th>Lowest Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a.</td>
<td>b.</td>
<td>c.</td>
</tr>
<tr>
<td>less than 0</td>
<td>2</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>0-4.9</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>5-9.9</td>
<td>8</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>10-14.9</td>
<td>24</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>15-19.9</td>
<td>11</td>
<td>—</td>
<td>2</td>
</tr>
<tr>
<td>20-24.9</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>25 and above</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Of course we must ask whether the pressure would not have been greater without the agreement. This depends upon what would have happened to prices and that depends upon a complex of factors including the reaction of the low cost firms. The consensus that emerged during the case on this question was that, first, locked coil prices were in general unlikely to be lower without the agreement. This view was based upon the tightly oligopolistic structure of the selling side of the market and the predominance of the N.C.B. on the buying side, a balance strengthened by the modest long-term growth of demand for locked coil ropes. On stranded ropes the view was less clear cut. There were significantly more producers of stranded than locked coil rope although British Ropes Ltd. accounted

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28 Wilson, op. cit.
29 And also including the reaction of major buyers. The National Coal Board proposed to substitute centralized competitive tendering for its current policy of Divisional and Area buying. The likely effects of this change were a major issue in the case but it is not discussed in this paper.
for more than half the output and, it was generally accepted, would operate as price leader if there were no agreements. But, of course, there is a variety of styles of leadership. It did not seem likely that British Ropes would immediately adopt a highly aggressive role. Markham’s observation that the origins of the leadership role ‘must be found in the historical background of an industry and the institutional and other features that have helped to shape its development’ seemed apt, for this industry was most unlikely immediately to throw off the effects of its long history of co-operation. The consensus was that prices of engineering ropes would probably not in general be less, bearing in mind again the modest upward trend in demand for these ropes. Consequently, on these two classes of rope the evidence seemed to suggest that the transfer of business and resources from the less efficient to the more efficient producers would not be much different without as with the agreements since it seemed unlikely that the price leader or any other low-cost firm would want to see prices fall below the level that had prevailed with the agreement. Of course there probably would be some price differences in an industry with such product variety and scope for price discrimination. But the general level was not expected to be very different.

The sector where this view was not held was mining ropes. Demand for mining ropes had been and was declining. Evidence was brought of substantial and persistent excess capacity in the industry, by no means evenly distributed over the various producers and concentrated particularly among those firms concentrating on these types of rope and particularly among the smaller producers. There seems no doubt that the agreement served to keep prices of these ropes above the level that would have prevailed under competition even with short-run competition to some extent restricted by the emergence of a price leader. It follows that the elimination of excess capacity by the absorption of the less efficient by the more efficient producers was here probably slowed down. True, wire rope plant is specialized and long-lived and it is unlikely that the adjustment of capacity to declining demand would have been accomplished rapidly had the agreements not existed. It is also the case that several firms, particularly British Ropes Ltd., had initiated rationalization programmes and closed some surplus capacity with the agreements in force. But that the process would have been faster without the agreements is suggested by the more rapid rate of rationalization since their abrogation.

Information provided in the case on the overall profitability of wire rope producers also suggests a state of disequilibrium in (at least sections of) the industry. As in most monopoly investigations, very considerable effort and argument was expended by both sides in the case over estimates of the profits earned by the wire rope makers and comparisons with industry generally. Table III gives a summary of the data used in the case, profitability being measured as the return on balance sheet capital employed. Unfortunately data could not be produced for the products of the three separate associations. The industry argued effectively that the average profitability of the industry did not differ significantly from the average of manufacturing industry, and also that the trend of profitability had been downwards over the recession years 1960–62 but we have

<table>
<thead>
<tr>
<th>Year</th>
<th>Lowest</th>
<th>Average</th>
<th>Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956</td>
<td>n.a.</td>
<td>15.17</td>
<td>n.a.</td>
</tr>
<tr>
<td>1957</td>
<td>n.a.</td>
<td>13.46</td>
<td>n.a.</td>
</tr>
<tr>
<td>1958</td>
<td>n.a.</td>
<td>10.89</td>
<td>n.a.</td>
</tr>
<tr>
<td>1959</td>
<td>n.a.</td>
<td>10.05</td>
<td>n.a.</td>
</tr>
<tr>
<td>1960</td>
<td>5.47</td>
<td>16.72</td>
<td>43.80</td>
</tr>
<tr>
<td>1961</td>
<td>1.37</td>
<td>14.56</td>
<td>45.62</td>
</tr>
<tr>
<td>1962</td>
<td>-8.30</td>
<td>9.69</td>
<td>34.02</td>
</tr>
</tbody>
</table>

*Note: Pre- and post-1960 figures not exactly comparable.*

already mentioned that the Court did not feel obliged to comment upon this argument. The notable feature of Table III, however, is the wide range of profitability. There can be no doubt that even had the agreements been allowed to continue some high cost, low profitability producers would have been eliminated in the relative short term.

Their rapidly deteriorating profitability over the years 1960–62 is striking. Without the agreements, this process of adjustment would probably have been significantly faster only in the case of ropes for mining purposes. In this section it seems likely that there would

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have been a more rapid movement to a more concentrated structure and less variation in both the costs and profitability of remaining producers.

Finally, we must refer to the high rate of profit earned by the most profitable firms in the cross-section providing the data for Table III and the high profit margins in Table II earned by the lowest cost producers at the common selling prices fixed in the 1961 pricing exercise. We have already mentioned that the wire rope industry was not, and is not, an industry of rapid or spectacular technical change. It could be argued that these comfortable profits made under the agreement would reduce the incentive for the more efficient firms to reduce their costs still further, a possibility reinforced by the price fixing method which would deny any low cost firm which further reduced its costs the full advantage in the price of that cost reduction. On this argument a price fixing agreement reduces the pace of innovation and blunts this important source of long-run competitive pressure. On the other hand, it can be argued that the prevention of short-run price competition with its attendant risks provides a superior climate for organized research and development and further that common prices divert the energies of the more efficient firms into methods of reducing costs as the main way open to them for increasing their profits and providing the wherewithal for further expansion. It can also be added that a pricing agreement based on six-monthly costing reviews gives other firms time themselves to adopt any innovation, a possibility increased by any arrangements to share technical information among members of the association. A verdict on these conflicting arguments is difficult. On balance it seems detrimental that any innovator should be denied by a price agreement the opportunity to exploit his innovation how he chooses, including by a price reduction of any amount he favours. In the wire rope case, however, these arguments did not become crucial, and the evidence suggested that the agreements had had little detrimental effect upon innovation and long-run competition and that termination of the agreements was unlikely to generate competitive conditions prejudicial to effective technical development. The associations indeed argued that the effects of the agreements were positively beneficial by dint of the exchange of cost and technical information and the encouragement of visits among members’ factories. But these arguments were hardly convincing.

CONCLUSION

We have listed a significant number of criticisms of the pricing
methods of the wire rope associations. Several of these criticisms must be muted, however. It is surely unfair to criticize a trade association for procedures which are commonly employed by individual firms with pricing discretion. In industries producing a wide variety of products some arbitrariness in product costing and in the choice of target profit margins is inevitable. It is simply impossible to cost and price every item uniquely. Trade associations should not be judged against the standard of pricing methods which no real-world business could operate. Attacks on associations in the Restrictive Practices Court have sometimes been unjustified on this point, especially in industries with a complex product structure like wire rope. However, when an association attempts to fix a price in advance for as many as 40,000 products, many of which are manufactured in common production facilities, and when the cost data it uses are far from standardized, there is bound to be additional arbitrariness to that which any individual wire rope producer would perforce have to accept. Moreover, the system of price fixing, six-monthly cost reviews, cost averaging, comparison by a pricing committee of actual and target margins and adjustment where indicated, was inevitably time-consuming. A major objection to the associations' pricing agreement was therefore not that the prices were based on costs of key items only, or that notional costs could be submitted, or what not, but that the system was excessively rigid. Arbitrariness and anomalies tended to be perpetuated by the overly mechanical cost-based plus extras procedure. An individual firm would no doubt build up its prices from costs: almost all do. And an individual firm would hope to be able to fix a price in relation to costs which it could expect to maintain over the long run irrespective of minor changes in market or cost conditions: again almost every firm takes a long-run view in price fixing. But the individual firm's prices would certainly be more flexible in the face of major technical and market changes than the prices fixed by a trade association, first with respect to changes in extras and allowances applied to the basic prices and second, if and when necessary, with respect to changes in the basic prices themselves.

We have also referred to some of the evidence produced in the case on such aspects of the industry's performance as variability of producers' costs, profit margins and overall profitability. Bearing in mind that the wire rope industry is not one where technical change is particularly rapid or spectacular, we have seen that the agreements did not appear to have unduly protected less efficient members except perhaps in the mining rope section where most of the persistent excess capacity was concentrated. In the other sections it
seemed unlikely that abrogation of the agreements would have made much difference to the working of short-run competition because of the oligopolistic structure of the industry. On the working of long-run competition the verdict is less clear. It certainly seems that, contrary to the associations' arguments, innovation was not encouraged by the agreements. Whether they discouraged the more innovative members or merely were neutral in effect is more debatable.

We mentioned that in this case the Restrictive Practices Court did not have to pass a judgement on the pricing methods themselves. During the hearing the methods themselves came in for much criticism. But if we follow the dictum of the Court quoted in the article and consider the reasonableness of the results rather than the methods themselves, our conclusion is that the detriments arising from the wire rope industry's arrangements were of a minor character. What cannot be said, however, is that the arrangements bestowed substantial benefits upon the consumers of wire rope. And that, of course, is the rub of the 1956 Restrictive Trade Practices Act.