AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

MONOPOLY, VERTICAL INTEGRATION AND EFFICIENCY : A STUDY OF COURTAULDS*

Keith Cowling

NUMBER 137

WARWICK ECONOMIC RESEARCH PAPERS

DEPARTMENT OF ECONOMICS

UNIVERSITY OF WARWICK
COVENTRY

MONOPOLY, VERTICAL INTEGRATION AND EFFICIENCY : A STUDY OF COURTAULDS*

Keith Cowling

NUMBER 137

November, 1978.

This paper is circulated for discussion purposes only and its contents should be considered preliminary.

This paper examines the evolution of Courtaulds into its dominant position in the U.K. market for rayon and textiles and the ensuing consequences in terms of market power and efficiency. The first part of the paper deals with the emergence of the U.K. rayon monopoly, paying particular attention to the merger of Courtaulds with its main rival British Celanese. The second part of the paper is devoted to an examination of the impact on the textile industry and its efficiency of the series of acquisitions of textile firms by Courtaulds in the 1960's and early 1970's. In both cases the conclusion has to be that although economic power has been considerably enhanced there is no indication of increased efficiency resulting from these acquisitions but there have been transitional losses. The paper also highlights the considerable interaction between Courtaulds and the state in this process of growth by external acquisition.

* This paper was initially prepared for the Nürnberg conference of the European Association for Research in Industrial Economics (E.A.R.I.E.) September 1978 and is derived from a general study of the impact of mergers in the U.K. reported in Cowling et.al (1979) Mergers and Economic Performance Cambridge University Press, London. The original work was supported by the Office of Fair Trading but the views expressed in this paper are the sole responsibility of the author.

I. The Rayon Monopoly*

The story of Courtaulds dominant position in the cellulosic fibres industry (but not the story of Courtaulds itself) beings in 1904 when Courtaulds bought the U.K. patents for the manufacture of artificial silk (rayon). Courtaulds did not discover the process in question - they simply acquired by purchase a U.K. monopoly for the new product. Their monopoly position was substantially extended in 1909 when they bought the U.S. patent rights. The U.K. patents expired in 1920, there was substantial entry but until the end of the twenties the production of rayon remained a profitable activity, partly because there was a corresponding substantial increase in world demand for the product. Things got more difficult after 1929 and many recent entrants left the industry. In 1933 there were protests by surviving firms about the predatory pricing activities of Courtaulds. This activity was made possible by the continuing profitability of the U.S. division of Courtaulds,

---

* Much of the discussion and analysis of this section is based on the report by the Monopolies Commission (1968).

where the slump in demand had started some years later. In 1936 Courtaulds continued with their attempts to monopolize the industry, this time with a scheme for the take-over of the surviving firms. This was unsuccessful but Courtaulds remained dominant and was able to organise and sustain a variety of price-fixing arrangements. The picture is therefore one in which a firm is actively seeking to preserve its degree of monopoly in the face of various natural tendencies leading to its reduction or elimination. Over a half-century it had been able to retain something like the dominance initially afforded by the granting of patent rights relating to a process of producing a new product, rayon. In the early fifties it was left with one substantial rival, British Celanese. We now seek to identify the underlying tendencies which eventually led in 1957 to the merger with British Celanese.

Throughout World-War II, the early post-war period and into the Korean War there was no lack of demand for fibre. Difficulties began to appear after 1951 when cotton prices fell sharply with the ending of the Korean war and cotton started to erode the market for rayon* in for example, dress manufacture. This tendency was increased by innovations in cotton (e.g. treatment resulting in improved crease resistancy) which increased its competitiveness. At the same time the market for rayon was also being eroded from another direction - nylon was beginning to replace rayon in some of its uses.** These changes in the fibre market

---

* The price of American cotton yarn (32's weft) fell from 74.75 d. per lb. in 1951 to 53.32 d. per lb. in 1955.

** It should be noted however that the two major shareholders in British Nylon Spinners, the major U.K. producer, were Courtaulds and I.C.I. Thus any switch from Rayon to Nylon was not entirely disadvantageous to Courtaulds. Again a position had been gained by which dominance in a now more diversified market for artificial fibre had been maintained. The threat of the new synthetics had been reduced by acquiring a direct interest in them.

created a situation in which it became increasingly difficult for Courtaulds to secure cartel-like arrangements. Competitive attempts to secure larger sales in a declining total market would make it difficult for Courtaulds to hold the price of rayon. These difficulties may have been enhanced by the Restrictive Practices legislation of 1956. Courtaulds reaction to this situation was a merger with its major rival - the ultimate step in collusive arrangements. It should however be seen as essentially a replacement for an existing arrangement which had become increasingly unsatisfactory. It was a move to maintain the degree of monopoly in a market in which the degree of collusion was tending to fall, and was therefore the latest move in a sequence of moves over a fifty year period in which Courtaulds was desperately trying to retain its monopoly position.

The merger with British Celanese was completed in early 1957 and this left only a fringe of very small firms also producing cellulosic fibre. Harbens was acquired in 1959, British Enka in 1961, Kirklees in 1962 and Nelson's and Lustrafil in 1963.* Thus Courtaulds emerged in a very dominant position in the U.K. market for cellulosic fibre. But how dominant ? There was foreign competition with the expectation that this would increase with the advent of EFTA in 1960.** There were the newer synthetic fibres and there was cotton. Competition from these different sources might be thought to considerably circumscribe the monopoly power of the new Courtaulds. This was certainly the view advanced by Courtaulds in their discussions with the Monopolies Commission.

---

* This left only Lansil which was finally acquired by Courtaulds in 1973.

** Tariff rates were progressively reduced from July 1st 1960 and were removed entirely on December 31st, 1966.

On the basis of the evidence however this view is difficult to sustain.

In the case of foreign competition it can be seen in Table 1 that the degree of protection afforded to Courtaulds in the U.K. market was very considerable.

Table 1: Tariff Rates on Man-Made Fibres (%)

	Continuous Filament Yarn	Staple
1954	47	60
1955	47	60
1956	47	60
1957	41	60
1958	41	60
1959	41	65
1960	41	65
1961	40	65
1962	40	65
1963	32	50

Source: Computed on the basis of Board of Trade data reported in Appendix 4 in Monopolies Commission, Man-made Cellulosic Fibres: A Report on the Supply of Man-made Cellulosic Fibres, H.M.S.O., March 1968.

Method: The tariff on Continuous Filament Yarn included a tariff per lb. (t^1) and an ad-valorem rate (t).

Since the import price (P_M) was unknown it was assumed that after adjustment for tariff it was equal to the Courtaulds price (P_C). Thus $P_M + t^1 + t.P_M = P_C$, and therefore $P_M = \frac{P_C - t^1}{1+t}$. The tariff rate is then $\frac{P_C - P_M}{P_M}$.

In the case of stable Fibre there was no ad-valorem tariff so that the tariff rate is simply $\frac{t^1}{P_C - t^1}$.

There remained the possibility that the advent of EFTA could act as a brake on the monopoly power assumed by Courtaulds. The investigation of the Monopolies Commission revealed that Courtaulds adopted tactics to minimize the impact of this threat to its position in the U.K. This involved the acquisition of shareholdings in some firms and the establishment of franchise arrangements with others. By these means Courtaulds was able to maintain its monopoly position in the U.K. in face of reductions in tariff barriers. If a reduction in tariffs was seen to be a pro-competitive policy the aims of such policy were clearly subverted by the reaction of a dominant firm in a particular U.K. market. This sort of reaction must have clear implications for the effectiveness of tariff policy generally where the U.K. market in question is dominated by a powerful corporation quite capable of modifying the international environment in which it has to operate. It must be seen as a further factor to be taken account of when assessing the social desirability of merger and the resulting creation of private power. Such behaviour also raises a further issue of welfare. Public policy reducing barriers to the entry of foreign firms into the U.K. market may not only give little benefit in terms of greater competition but also imply waste in that dominant firms like Courtaulds are forced into policies, which they otherwise would not seek to adopt, of restricting entry into the U.K. market. One aspect of this will involve a transfer of income between U.K. and foreign firms but also we can envisage there will be real resource costs involved in both achieving and sustaining these arrangements. This is simply a special case of the general problem posed by the regulation of monopoly power .

Evidence of the effectiveness of Courtaulds international arrangements was provided by both overseas producers and by U.K. fibre users.* Overseas producers claimed that fear of retaliation by Courtaulds, in their own home markets or in other export markets of importance to them, prevented them undercutting Courtaulds in the U.K. Thus an effective collusive solution is obtained. Fibre users claimed that reductions in EFTA duties had not brought about the expected competition. They claimed that this was due to (i) arrangements made by Courtaulds with Swedish and Austrian Producers, (ii) the Norwegian producer supplied wood pulp to Courtaulds and would not compete in the fibre market, (iii) the Finnish producer agreed not to compete in exchange for know-how from Courtaulds. In the case of Svenska Rayon, where Courtaulds had acquired an interest, prices formerly lower than Courtaulds were raised as the tariff-rate fell. In the case of Lenzing (another company in which Courtaulds had acquired an interest) supplies were withdrawn. It was also claimed that some of Courtaulds U.K. customers were unwilling to buy imported fibre for fear that Courtaulds would retaliate by refusing to supply. Two companies reported that in times of excess demand they were informed by Courtaulds that any application for remission of import duty on imported fibre would be opposed.

The evidence in the Monopolies Commission Report demonstrates clearly that Courtaulds was able to effectively insulate itself from foreign competition in the market for cellulosic fibres. There remains the question of the degree of competition provided by nylon and cotton. In the case of nylon the threat to Courtaulds had already been countered. Courtaulds had a 50% in British Nylon Spinners, the major U.K. supplier, and picked up a further stake with the takeover of British Celanese. The ICI bid for

---

* Monopolies Commission Report, p. 123.

Courtaulds in 1961 should be seen primarily as an attempt to monopolize the nylon industry. The bid failed but subsequently the substantial I.C.I. shareholding in Courtaulds was obtained by Courtaulds in return for the stake in British Nylon Spinners, plus a cash settlement. By this time however Courtaulds had developed an independent capability in nylon production.

In the case of cotton it could be argued that the pricing of this fibre would limit the degree of monopoly achievable by Courtaulds in the cellulosic market, insofar as they are substitutes for each. However cotton and rayon are clearly not perfect substitutes for each other, and moreover in many uses, they are not close substitutes at all. In fact in many uses the question arises as to whether they should be regarded as complements rather than substitutes. This issue will be addressed again where we consider the vertical integration of Courtaulds into the textile industry. However over the period 1954/63, that is for the period immediately before and after the British Celanese merger, Courtaulds was not heavily involved in the cotton textile industry and thus its monopoly power may have been to some greater or less extent circumscribed by the pricing of cotton. To determine the significance of this would require estimates of the cross-price elasticity of demand for the two types of fibre. The Monopolies Commission report raised this question but reported no estimates of the relevant elasticity. In checking the literature there is very little econometric evidence on this point. However Lewis (1971) obtains results which indicate gross complementarity between cotton and man-made fibres in the period 1949/64, but the results relate only to cotton

equations and the coefficients are of doubtful significance. However a complementary relationship between cotton and rayon was suggested by Markham (1952), who argued that this would be expected, at least in the early development of rayon, since both fibres opened up new end-uses for each other. If true, then monopoly pricing in the rayon industry will not be constrained by low prices for cotton. But the evidence is weak and we should simply conclude that cotton can be regarded as either a substitute or a complement for rayon, and thus there is no presumption that competition in the market for cotton precludes the existence of considerable monopoly power in the rayon market. Of course even if substitutability was high, lower marginal costs in the production of rayon would still ensure a substantial degree of monopoly for Courtaulds.

Having established that the preconditions exist for the exploitation of considerable market power in the case of Courtaulds we have now to look to the evidence as to whether this power was in fact exploited. However before looking at the evidence it would be difficult to explain the behaviour of Courtaulds over this period if it were not anxious to exploit the market power it had so assiduously cultivated, protected and maintained. This may not of course be reflected in profits since the benefits of monopoly may be taken in ways which ultimately raise costs as well as revenues. We will proceed by reporting first on practices which imply the exploitation of monopoly power and then we will report evidence relating to prices, profits and efficiency.

The Monopolies Commission investigation revealed cases of price discrimination practiced by Courtaulds. Courtauls discriminated in favour of firms who were mainly exporters. This is as one would expect since exporters will generally be faced with a more elastic demand for

their products. Thus their derived elasticity of demand for inputs will itself be more elastic and the optimal price for a monopolistic seller of inputs will therefore be lower, provided transaction with third parties can be controlled. Interestingly other complaints by Courtaulds customers cast some light on the conditions for effective price discrimination. Some of these firms appeared to have persistent rationing problems with their fibre supplies from Courtaulds.* This is inexplicable as a long-term phenomenon unless Courtaulds was seeking to maintain a discriminatory price structure. By determining both price and quantity Courtaulds was trying to determine the user of the fibre sold as well as the initial purchaser. This can be seen as a way of bolstering the very stringent terms and conditions of sale which Courtaulds attempted to enforce. One of these conditions was a prohibition on the reselling of yarn without Courtaulds' consent.**

The other instance of price discrimination was in the case of linen where from 1965 onwards it was alleged that Courtaulds discriminated in favour of Lancashire (where Courtaulds had acquired substantial interests) and against the linen industries of Northern Ireland and Scotland.*** Further discussion of this issue will be reserved for the next section concerned with vertical integration.

A further interesting and related phenomenon was reported by the Monopolies Commission. Following the Suez crisis price increases made by Courtaulds in the case of viscose and acetate yarns and viscose staple fibre (all cellulosics) exceeded those made in the case of nylon and acrylic fibres.

---

* Monopolies Commission, p. 116.
** Monopolies Commission, p. 116.
*** Monopolies Commission, p. 121.

This would appear to be an example of a more rapid rate of adjustment of prices to changes in cost in the monopoly case, given that in equilibrium we would expect the elasticity of price with respect to marginal cost to be unitary in all cases where the degree of monopoly is unchanged. In a sense, therefore, this represents another way in which a monopoly position can be and was exploited.

Impact of the British Celanese Merger

We have already established that there are grounds for believing that Courtaulds has been able to achieve and maintain a position of considerable market power within the U.K. over the last half century. We now seek to examine the behaviour and performance of Courtaulds immediately before and after its merger with British Celanese. We will focus our attention on:

(i) the prices of the main products made by Courtaulds which could be expected to be influenced by the British Celanese merger ;

(ii) the ratio of output prices to input price indexes for Courtaulds ;

(iii) the ratio of profits to revenue for Courtaulds and British Celanese ;

(iv) an efficiency measure, as developed in Cowling et. al. (1979), which is a composite of the previous indicators.

The period studied will be 1954 to 1963 inclusive. With the merger taking place at the beginning of 1957 this will give us a span of years

before and after the merger but avoiding the Korean War period in the early 50's, and the period in the 60's when Courtaulds was rapidly extending through into textiles. This period of vertical integration is examined in the next section.

Courtaulds Fibre Prices

Table 2 reports the data on fibre prices as reported by the Monopolies Commission. Their source was Courtaulds but the same pattern of prices is revealed for the U.K. as a whole by the Board of Trade Journal and by Extel Supplementary Cards, "British Industries". The most remarkable feature about the prices of the viscose and acetate textile yarns is their great stability both before and after 1957 but with a marked discontinuity in 1957, with prices going up by more than 10% in that year. An inspection of the monthly data reveals that the price increase took place in January/February whereas the merger was finally consummated in April. This should not preclude the existence of a unified front as far as prices were confirmed prior to the actual sealing of the merger. Clearly negotiations were going on well in advance and the expectation of merger could easily lead to a co-ordinated view about the appropriate price level. This evidence on the prices of these important products of both Courtaulds and British Celanese makes it a little difficult to understand the Monopolies Commission view that there was no evidence of increased prices as a result of the merger. It is not that they examined this sharp discontinuity and found alternative satisfactory explanations but they simply presented the evidence in the appendix and concluded without comment in the main body of the report that there was no evidence for price increases.

In the case of tyre yarn and staple fibre there is no evidence for a change in price at the time of merger and indeed in the 60's these prices have fallen slightly. However if staple fibre was an intermediate product within Courtaulds then this price series may not be very meaningful. In the late sixties the same problem arises in the case of textile yarns since in that period Courtaulds became its own best customer.

If we now examine the price behaviour of other fibres over this period the evidence is quite revealing (see Table 3). The price of cotton yarn fell continuously until 960, and even then did not achieve its position in 1956. In the case of nylon yarn its price fell from 1954 to 1956, remained constant until 1960 and then fell again. Thus rayon yarn stands out as the only case of apprice increase, and a very substantial one at that, in the late fifties. This is consistent with the view that Courtaulds, via its merger with British Celanese, was able to re-establish its position and its market power in at least some of the markets in which it was operating. In the case of staple fibre it can be seen that the pattern of prices for nylon and terylene staple approximated very closely to the pattern for rayon staple - complete stability in the late 50's followed by some limited price reductions in the early 60's. This evidence is therefore consistent with the view that the merger did little to change Courtaulds competitive position in these markets.

Table 2: Courtaulds' Fibre Prices

	Viscoe Textile Yarn (d. per lb.)	Acetate Filament Yarn (d. per lb.)	Viscose Tyre Yarn (d. per lb.)	Viscoe Staple Fibre (d. per lb.)
1954	54.0	70.0	47.0	24.0
1955	54.0	70.0	50.0	24.0
1956	54.0	70.0	49.0	24.0
1957	60.0	78.5	49.0	24.0
1958	60.0	78.5	49.0	24.0
1959	60.0	78.5	49.0	23.06
1960	60.0	78.5	46.0	22.75
1961	61.5	77.5	46.0	22.75
1962	61.5	77.5	46.0	22.75
1963	61.5	77.5	44.0	22.75

Source : Derived from data reported in Table 3 of the Appendix to the Monopolies Commission Report, pp. 92A and 92B.

Table 3: Other Fibre Prices

	Cotton* American Yarn (d./lb.)	Nylon** Yarn (shillings/lb.)	Nylon** Staple (Shillings/lb.)	Terylene** Staple (Shillings/lb.)
1954	52.13	42.08	10.25	-
1955	52.37	38.79	10.25	-
1956	51.93	35.92	10.25	10.50
1957	50.88	35.92	10.25	10.50
1958	49.65	35.92	10.25	10.50
1959	45.26	35.92	10.25	10.50
1960	50.39	31.07	10.25	9.84
1961	52.38	28.50	10.18	9.17
1962	48.21	28.50	9.42	9.17
1963	47.16	25.07	9.42	7.50

* Source : Board of Trade Journal
** Source : Extel : Supplemental Cards "British Industries".

Ratio of Output Prices to Input Prices

We have up to this point simply observed the movement, or lack of movement, in the prices of the various fibres produced by Courtaulds. However inferences about changes in market power must be qualified since changes in input prices and productivity have not yet been examined. Thus although we observed a sharp change in the price of some of Courtaulds products in 1957 this may be ascribable to a sharp change in the price of inputs. Equally well however, we would not expect that output prices would keep pace with input prices given that it is frequently alleged that it is the science-based industries like man-made fibres where we can expect the most rapid rates of productivity growth. Table 4 reports output and input price indexes which relate to the fibre products produced by Courtaulds and British Celanese. Both the fixed-weight and the chained index of output prices show an increase of about five per-cent in 1957 with a subsequent tendency to fall over time. The materials and fuels price index (P_M) shows a similar pattern but the change from 1955 to 1956 is less than one percent. Labour earnings (P_L) obviously show a continuous tendency to rise, from 100 in 1954 to 162 in 1963, but it should be noted that labour costs as a share of total costs are quite small in this industry and show a tendency to fall over time (21.6% of labour, materials and fuel cost in 1958, falling to 20.5% in 1963). The aggregate input price index (P_I) shows a fairly steady tendency to increase over time leaving the ratio of output price index to input price index (P_O/P_I) moving down from a high level in 1954 but rising again in 1957, subsequently showing a gentle decline. In fact from 1957 to 1963 the ratio falls by about 8% - not a very remarkable fall for a six year period having in mind that a high rate of productivity growth might be expected. Certainly this observation would be quite consistent with an increasing divergence between price and marginal cost if we assume

Table 4 : Estimated k for Courtaulds and British Celanese

	(1) P_0^1 1958 weights	(2) P_0^2 chained	(3) P_M materials & fuels	(4) P_L Labour Earnings	(5) P_I 1958 weights	(6) P_{0/P_I}^1	(7) $(\Pi/R)_C$	(8) $(\Pi/R)_{BC}$	(9) $(\Pi/R)_{C+BC}$	(10) $k_{(C)}$	(11) $k_{(BC)}$	(12) $k_{(C+BC)}$
1954	94.9	100.0	100.0	100.0	100.0	0.949	0.390	0.272	0.362	0.579	0.691	0.606
1955	92.6	101.2	101.9	105.1	102.6	0.903	0.400	0.218	0.358	0.542	0.706	0.580
1956	95.8	99.6	103.6	111.3	105.3	0.910	0.358	0.160	0.312	0.584	0.764	0.626
1957	100.0	105.0	104.7	113.8	106.7	0.937			0.242			0.710
1958	100.0	100.0	103.5	119.5	106.9	0.935			0.294			0.709
1959	97.7	97.7	100.6	126.6	106.2	0.920			0.229			0.709
1960 (Feb)	96.4	98.8	100.5	135.5	108.1	0.892			0.341			0.588
1961	96.7	100.3	100.3	149.3	110.9	0.872			0.297			0.613
1962	96.7	99.9	97.5	153.5	109.6	0.882			0.766			0.648
1963	95.9	99.2	97.1	161.5	111.0	0.864			0.340			0.570

Notes: 1. P_0^1, P_0^2 are weighted indexes of the prices reported in Table 2. The weights are derived from the quantities reported in Table 3 of the Appendix to the Monopolies Commission Report. The indexes are intended to be representative of Courtaulds and British Celanese, before and after the merger. In order to achieve this acetate yarn production for 1954, 1955, 1956 is assumed equal to production for Courtaulds in 1957 (i.e. 48.4 million lbs.) since British Celanese was primarily an acetate producer but we have no record of its production prior to the merger.

2. P_M is derived from estimates provided by the Department of Industry (see Chapter 13 for details).

3. P_L is an index of the average hourly earnings of male, manual workers working in the Production of Man-Made Fibres. Source : Statistics of Incomes, Prices, Employment and Production, Ministry of Labour, No. 1. April 1962 - No. 29, June, 1969.

4. Π/R is the ratio of net profit before tax in total to sales revenue for fibres. This ratio was taken because of the lack of profit data for fibres only and the lack of total revenue data for the firms in question.

5. k is the efficiency measure proposed .

a productivity growth rate of more than $1\frac{1}{2}\%$ p.a., which is itself well below the national average.

The Ratio of Profits to Revenue (Π/R)

The ratio of profits to revenue is a further indicator of market power. If we assume constant costs then it is equal to the Lerner index of monopoly. However when we are observing its variation over time, particularly in an industry like man-made fibres, we can expect that a large part of any change could be due to variation in the degree of capacity utilisation. Thus all we can really do is to check for any apparent trend in the variable. In fact the empirical work is made very difficult by the paucity of data. Total revenue data for the two companies was not available for the time-period in question but it was possible to synthesize the sales revenue each company received from its various fibre interests. Courtaulds revenue was derived directly from the quantity and price data reported by the Monopolies Commission and British Celanese revenue was estimated from data on total U.K. production for each fibre, data on Courtaulds production and data on the capacity of British Celanese and the other much smaller producers of rayon. Ideally we would then take the ratio of profits, from the various rayon interests of Courtaulds and British Celanese, to these estimates of their revenue from rayon. However this was unavailable for this period and so we have a ratio of profit, from all activities, to revenue from only rayon activities. The ratio as calculated is obviously quite inaccurate but so long as the share of rayon in sales revenue remains roughly constant and the ratio of profits to revenue in other activities also remains roughly constant, then the estimate of Π/R may give a guide to the changing market power

and/or efficiency of Courtaulds in the U.K. rayon market. The estimates are reported in Table 4. The only comparisons which should be made are down a particular column. Courtaulds and British Celanese cannot be directly compared since Courtaulds appeared to be more diversified than British Celanese. Thus the Courtaulds profit-revenue ratio will be expected to be larger than that for British Celanese. The magnitude of the merger, with reference to the rayon market, comes across from our estimates of sales revenue. Although British Celanese was much smaller than Courtaulds in terms of assets our estimates suggest that its sales revenue in the rayon market was almost one-third of that for Courtaulds, (e.g. in 1956 £15.8 m. compared with £50.8 m.). Thus it is apparent that in terms of that market the merger was indeed a potentially significant one.

Looking down column (9) our estimates indicate a decline in the ratio of profit to revenue for the initial post-merger period followed later by a return to something like the pre-merger position.

Estimates of Efficiency (k)*

These estimates combine the information provided by the ratio of output to input prices with the ratio of profit to revenue with the aim of isolating any changes in the efficiency of resource use following from the merger. We see that following the merger the efficiency of the combined enterprise tended to fall and only succeeded in re-establishing the pre-merger position after three years had elapsed. This would suggest that there were real transitional costs but that these were not rewarded by subsequent efficiency gains. There are no indications of the cost savings which were argued for by Courtaulds in its submission to the Monopolies Commission.

---

* k is defined as $\frac{p_o}{\quad}$ $(1 - \frac{\Pi}{R})$ and may be interpreted as an index of real output - its properties are discussed in Cowling et. al.

Obviously it can be argued that the data is not very accurate and also that changes in k can be ascribed to cyclical movements. Nevertheless any significant change in efficiency should show through over the period in question. It must also be pointed out that it is unlikely that the bias in comparisons over time will be severe since it was only in the period after 1963 that Courtaulds became significantly involved in the textile industry. The progress of Courtaulds in the subsequent, evolutionary period is examined in Chapter 9.

The Rayon Monopoly and the State

The case of cellulosic fibres was referred to the Monopolies Commission in 1965. In 1968 the Monopolies Commission reported and made various recommendations. Essentially the Commission's view was that the 'monopoly of production had to be accepted' since size brought substantial benefits but that regulatory policies be adopted which would modify the behaviour of Courtaulds. They recommended:

(i) reductions in tariffs (to 10% for staple fibres and 15% for yarn);

(ii) price discrimination should be ended;

(iii) Courtaulds' franchise arrangements with EFTA producers should be ended, and

(iv) further acquisitions in the textile and clothing industries should be stopped where Courtaulds share of capacity or sales in that sector exceeded 25%.

Our results cast doubt on the premise underlying this policy prescription and suggest that a structural solution to this monopoly problem might be

followed with little fear of efficiency losses. This inference is also supported by evidence provided by Courtaulds to the Commission regarding its own policy on production. Courtaulds apparently decided that the production of staple fibre should be divided between two separate factories (this was in the late 60's), with the larger factory being organised as a series of small flexible units, and that the production of yarn be divided between several small factories. Since apparently scale economies at the plant level do not justify concentration in single large plants the alleged economies must be at the firm level and are not linked with being a large cellulosic fibre producer. In terms of technological progress the argument could go either way but Courtaulds record does not look promising. It bought the initial patent rights to rayon and it bought into the production of nylon, the two major discoveries over the previous sixty years.

Nevertheless the recommendations relating to behaviour were fairly stringent and might be expected to have an impact on Courtaulds position. The then Board of Trade reacted to the Commissions findings by asking for Courtaulds comments and fifteen months later came up with a rather watered-down set of proposals. Courtaulds had agreed to end price discrimination and its EFTA arrangements but the Board of Trade had decided that no change in tariff policy was necessary and the textile acquisitions recommendation lapsed. It should be noted that there was no suggestion that Courtaulds holdings of shares in EFTA companies should be sold.

Conclusions

The merger between Courtaulds and British Celanese should be seen as an attempt to preserve the degree of monopoly in the cellulosic fibres industry in the face of tendencies which were leading to its reduction. Indeed the history of the cellulosic fibres industry in the U.K. can be seen as a sequence of acquisitions of monopoly positions by Courtaulds followed by a variety of changes leading to its expected demise, followed in turn by vigorous and effective action by Courtaulds to re-establish its former control. Thus it is an excellent example of both the direct social costs of monopoly, via loss in consumer surplus and the indirect social costs implicit in the attempts by capital to both secure and maintain monopoly positions. There were no indications of cost savings following the merger.

II. Vertical Integration via Merger : Courtaulds and the Textile Industry

The History of Acquisitions

Over the course of the sixties and early seventies Courtaulds carried through a continuous stream of mergers with firms operating in various segments of the textile industry. As a result of these mergers, plus investment in textile plant and equipment, Courtaulds emerged in a position of dominance in most sectors of the industry.* A rather narrowly based cellulosic monopoly was transformed into a vertically integrated fibre-textiles firm. A list of major acquisitions is reported in Table 5 where it can be seen that the process began with a bang in 1963 with seven substantial acquisitions concentrated largely in the Knitwear, Hosiery and Garment sectors. The eight acquisitions in the following year included two very large spinning companies, Fine Spinners and Doublers (with an acquisition price of more than £12 million) and the Lancashire Cotton Corporation (more than £16 million). There followed a lull in activity during 1965 and 1966, but this was followed by a further spate in 1967 and 1968, the twelve acquisitions in 1968 including some quite large ones (eg. Northgate Group (£6 million plus) and Ashton's). The acquired companies covered the whole range of textile activities (Spinning, Hosiery, Knitwear, Foundation Garments, Wholesaling), but also included International

---

* Knight (1974) reports that over the period 1962 through 1969 out of a total of £175 million spent on acquisitions, £146 million was spent on acquisitions in the textile industry.

TABLE 5

Courtaulds Acquisitions 1963-1974

Date Acquired	Company	Business
1963		
July	Foster Clay & Ward	Knitwear mfr.
August	Bairns Wear Ltd.	Knitwear, childrens wear, rug wools, yarns & knitting.
October	Morton Sundour Fabrics	Furnishing fabric mfr.
October	Berne Silk Ltd. Victor Marks Ltd Lester and Cann Ltd.	Fabric mfr. & merchant converters.
November	Susan Small Holdings Ltd.	Garment mfr.
December	James Nelson Ltd.	Acetate flake
December	Meridian Ltd.	Underwear, knitted outerwear, hosiery mfr.
1964		
January	George Brettle & Co	Hosiery mfr.
January	Barracks Fabrics Printing Co.	Fabric printing
March	Fras.Hinde and Sour Ltd.	
June	Premier Dyeing & Finishing (Holdings)	Dyeing and finishing.
August	Fine Spinners & Doublers	Yarn spinning and doubling.
September	Lancashire Cotton Corporation	Yarn spinning & doubling.
September	J & J Hayes Ltd. & Greenhalgh & Shaw Ltd.	Carpet yarns, yarn spinning.
December	Spray & Burgess	

cont...

Table 5 cont...

Date Acquired	Company	Business
1965		
January	Joseph Sunderland & Co.Ltd.	Weaving
January	Samuel Heap and Son	Dyeing and finishing
October	Derby & Midland Mills (1935)	Garment mfr.
1966		
January	Kayser Bondor Ltd.	Hosiery mfr.
June	Aristoc Ltd	Hosiery mfr.
October	Ballito Hosiery Mills Ltd	Hosiery mfr.
1967		
June	Wolsey Ltd	Knitted outerwear and underwear mfr.
August	R & W.H.Symington (Holdings) Ltd.	Foundation garments
September	Bell Nicholson & Richard Lunt (Group) Ltd.	Textile wholesaling
September	Bradbury Greatorex & Co.Ltd.	Textile wholesaling
September	S.C.Larkins & Sons Ltd 60% interest in MaGanie (London) Ltd.	Textile wholesaling
November	Samuel Farmer & Co.Ltd.	Hosiery, underwear and knitwear.
December	Sharp Perrin & Co.Ltd.	Garment mfr and childrens wear.
1968		
January	I & R Morley Ltd.	Knitted outerwear, hosiery, underwear.
February	Prew Smith Knitwear Ltd	Knitwear mfr.
February	M.Duke & Son	Garment mfr.

cont...

Table 5 cont...

Date Acquired	Company	Business
1968		
February	Henry Lister & Sons Ltd.	Fabric mfr.
February	Clutsom-Penn International Ltd.	Elasticated fabric mfr.
March	Northgate Group	Foundation wear, lingerie, outerwear.
March	Sir Thomas & Arthur Wardle Ltd	Dyers and finishers, chemical mfr.
March	Contour Hosiery Ltd.	Hosiery mfr.
July	Ashton Bros & Co.(Holdings) Ltd.	Spinning, weaving, dyeing, finishing and converting.
August	International Paints	Paint & varnish mfr.
July	R. Rowley & Co.Ltd	Garment mfr.
November	Moygashel Ltd.	Spinning, weaving, dyeing, finishing & fabric mfr.
1969		
February	Hunter Barr & Co.Ltd.	Hosiery mfr.
April	Lindsay Bros.(Belfast) Ltd. & G.Rushbrook Ltd.	Fabric mfr.
	Celanese Building Components	Building materials
	Shorko Films	
	Percy Taylor	Hosiery
1970		
January	Charles Turner & Co.Ltd.	
1971		
September	C.H.Fletcher & Berry & Fletcher Ltd.	
	D.S.Howland Ltd.	Garments
	Tubbs Lewis	
	BTB Paints	
	Hughes & Young	

Table 5 cont..

Date Acquired	Company	Business
	West-Riding Hosiery Ltd	Stockings and Tights
	Crepe Weavers Ltd	Knitted Fabric.
	Morna Fabrics (1949)	Knitted Fabric
1972		
	Harwood Cash & Co.Ltd.	Cotton Doubling
1973		
	H.Harrison and Co.Ltd.	Dyers.
	Lansil Ltd.	Acetate and Triacetate Flake and Yarn
1974		
	Swan Lane Spinning Ltd.	Spinning and Doubling
	John Ferguson	Jersey

Source: Extel Statistical Services.

Paints. One perhaps significant aspect of this period was that the Monopolies Commission report on Cellulosic Fibres, and therefore on Courtaulds, was being drafted and finally presented in 1968. The recommendations, as we see later, included what amounted to a call for a standstill on Courtaulds takeovers in the textile industry but the government delayed acting on the report until the following year, 1969. From 1969 onwards acquisitions of textile companies continued but at a reduced rate. One major attempted acquisition, that of English Calico in 1969, was aborted after government intervention.

It will be seen from the above list that weaving is mainly significant by its absence. Knight (1974) reports that the weaving industry was rather fragmented, or dominated by small private companies which proved difficult to acquire. Courtaulds therefore set up large new weaving plant on green-field sites, like Skelmersdale, away from the traditional weaving areas. As a result of this real investment, together with the large-scale acquisitions in the other sectors, Courtaulds helped to transform the industry. To establish some of the effect of this on market structure Herfindahl measures of concentration are reported in Table 10.2 for various segments of the textile industry. It can be seen that there is a remarkable correspondence between concentration increase and those industries into which Courtaulds was integrating. Other sectors of textiles revealed a largely unchanged or reduced level of concentration over this period.

This chapter will first examine theoretically the possible consequences of an extension of vertical control by a monopoly supplier of an intermediate good. The particular characteristics of Courtaulds and

TABLE 6

Herfindahl Concentration Measures for Textiles *

M.L.H.		1963	1968
412	Spinning	0.0260	0.0414
413	Weaving	0.0091	0.0214
414	Woollen & Worsted	0.0094	0.0110
415	Jute	0.0808	0.0795
416	Rope	0.0669	0.0761
417	Hosiery	0.0104	0.0191
418	Lace	0.0243	0.0207
419	Carpets	0.0376	0.0455
421	Narrow Fabrics	0.0239	0.0253
422(1)	Household Textiles	0.0084	0.0121
422(2)	Canvas	0.0107	0.0066
423	Textile Finishing	0.0197	0.0336

* We are grateful to Michael Waterson for allowing us to use his estimates. They are based on Census of Production data. All the measures are biased down due to the method of estimation but comparisons of the estimates for 1963 and 1968 should serve to illustrate the process of structural change.

the textiles industry will then be examined so that we will be in a position to develop our theoretical expectations of the consequences of this series of mergers. We will then confront these predictions with empirical evidence on the economic performance and behaviour of Courtaulds.

The Impact of Vertical Control

It is obvious that vertical integration will tend to take place when costs are lowered by substituting planning for the price mechanism. It has been argued that market intermediation can involve significant transactions costs and that an extension of the firm can avoid many of these. Thus haggling, although privately productive, is socially wasteful; the market for information poses many problems and imposes large screening costs; contracts, although not difficult to arrange in a static world, can become difficult to engineer in a changing world where devices introduced to allocate risk may themselves impose monitoring costs. Similarly it may be difficult for independent firms to adapt to stochastic shocks which affect the relationship between them. For these sorts of reasons it has been suggested that vertical integration can lead to significant gains both to the participants and to society in general (see Williamson (1971)). It must, however, be recognised that the extension and increasing complexity of organisations can lead to inefficiency. The underlying issue is not whether significant transactions costs exist when using market intermediation but whether transactions costs are significantly reduced by replacing market intermediation with a bureaucratic process, i.e. whether intra-firm transactions costs are lower than inter-firm.

The managerial discretion literature clearly indicates that large, opaque organisations can be expected to generate considerable slack given that this will usually reflect the interests of managers. Under managerial control vertical integration may proceed in the absence of economies.

Up to this point we have proceeded as if there were no market power implications connected to the process of vertical integration. However in the case of monopoly at the level of an intermediate good, which accurately describes Courtaulds position in the market for cellulosic fibres, the general case is one where a vertical extension of control does imply the acquisition of market power where the market for the final product is initially competitive, even in the absence of dynamic effects, predatory pricing or price discrimination. As demonstrated by Machlup and Taber (1960), in the case of successive monopoly vertical integration will simultaneously result in price-reduction and increased profit. To the extent that monopolies are allowed to exist and their behaviour is unregulated vertical integration represents a third-best welfare optimum. This is not generally the case where the vertical extension is into a competitive industry. We will normally be faced with a welfare trade-off similar in character to the case of horizontal merger. We now turn to establishing this result and the determinants of the trade-off. The analysis at this point will rely heavily on Warren-Boulton (1974).

Texts in industrial economics have tended to expound the view that the vertical extension of monopoly has no market power implication. Thus it was observed that the monopoly supplier of an intermediate good could set a price for that good which would appropriate all the monopoly rents which were available for appropriation in the market for the final product. This can be true if one important assumption is met,

that of fixed proportions in the production of the final product. If this assumption is replaced then it is immediately obvious that further profits can be appropriated by a vertical extension of control since such an extension would allow the firm to choose the cost-minimizing input mix which the independent final product producer could not do because of the monopoly pricing of the intermediate good (see McKenzie (1951); Vernon and Graham (1971)). Thus, as in the successive monopolies case, it was suggested that vertical control would represent a third-best welfare optimum. Input distortions caused by monopoly could be eliminated and thereby both private profit and social welfare would be increased. But there is a further facet to the problem. In the process of establishing control over the input-mix the vertically integrated monopoly is also establishing control over the final market for the other inputs which it did not previously control. Using Courtaulds as an example, the extension of Courtaulds monopoly (of cellulosic fibres) into the textile industry would not only give it control over the use of cellulosic fibres in the production of textiles *, but would also give it control over the market for textiles which can be seen as a combination of cellulosic and other fibres. Thus Courtaulds establishes control over the other fibres which it has not previously controlled. The important question now resolves itself into whether or not the elimination of the input distortions following vertical integration will more than compensate for the extension of market power in the textile market, taking as given, Courtaulds monopoly pricing of cellulosic fibres. The theoretical framework for resolving this question is due to Warren-Boulton (1974), following earlier work by Schmalensee (1973) and Burstein (1960).

---

* This in itself would tend to result in the substitution of cellulosic fibres for natural fibres since the appropriate transfer price for cellulosic fibres would be their marginal cost whereas previously the independent textile company had to pay the monopoly price. Insofar as natural fibres are priced at marginal cost this adjustment following vertical integration would both raise profits and welfare.

For a trade-off to exist the price of the final product must rise as a consequence of vertical control, for if this were not the case then vertical control, by eliminating input distortions caused by monopoly in factor markets, would be unambiguously beneficial, at least in a second or third-best sense. Making reasonable assumptions about cost and demand conditions allows Warren-Boulton (1974) to obtain the result that the price of the final product can be expected to increase following vertical control. To get the result he assumes a C.E.S. production function, constant costs in the production of each input and a constant elasticity of demand for the final product. In particular cases he can derive the result analytically but generally he relies on simulation. As Schmalensee (1973) discovered earlier this result is quite sensitive to assumptions about demand and cost conditions, but it is not unreasonable to accept the above characterisation of the fibre-textile industry. It is also necessary to point out that Schmalensee is assuming monopoly pricing for the final product after vertical control and obviously the outcome will also be dependent on the extent of vertical integration, i.e. how many firms are integrated and how many are left independent. The usual question of concentration in the final goods market thus arises but it is necessary to mention at this point that this is not generally independent of the question of vertical control and will be taken-up later.

If we accept the Warren-Boulton results as indicative of the expected outcome then we are faced with the usual sort of welfare tradeoff discussed in Chapter 2. The rise in monopoly profits following vertical control consists of two components, one due to a change in efficiency and one due to a change in price. The magnitude of the change in profit will therefore be conditional on the importance of the monopolized input in the production of the final product (i.e. on ∂, the share of cost due to the monopolised input) and on the elasticity of demand for the final product (η). As ∂ and η fall so the

incentive for vertical control increasingly becomes the achievement of market power rather than the elimination of inefficiency. Warren-Boulton's results show that so long as $\sigma \geq 1$ we may expect welfare to fall following vertical control, the fall being greater the lower are ∂ and η. The history of the textile industry would support the view that σ has increased and ∂ and η have declined. During the post-war period, as described in the discussion on the Courtaulds/British Celanese merger (Chapter 5), the advent of nylon, qualitative improvements in cotton cloth, and later the introduction of polyester fibres, implied a marked increase in competition for rayon, consistent with an increase in the elasticity of substitution between rayon and other fibres ($\sigma \uparrow$) and a fall in the share of rayon ($\partial \downarrow$). Given that the price elasticity of demand for textiles may be historically declining ($\eta \downarrow$), see, e.g. Houthakker and Taylor (1970), then we have a picture of Courtaulds extending its control into textiles at a period in history when the market conditions would support the hypothesis that the incentive was market power rather than the elimination of inefficiency. An extension into textiles by Courtaulds at an earlier point in its history would have been more consistent with the elimination of inefficiency argument. There remains however, the possibility of the elimination of transactional inefficiencies as discussed earlier but before we look at the evidence it is necessary to discuss further implications of vertical control which will tend to reinforce the market power hypothesis.

A vertical extension of control as well as having a direct effect on market power also provides the preconditions for various indirect effects. By controlling the price of some inputs the vertically controlled enterprise can squeeze out independent private producers by an appropriate pricing policy. To be effective as an instrument for creating monopoly

we have to assume that firms squeezed out cannot easily re-enter or enter the production of intermediate goods. Its effectiveness is thus predicated on the existence of barriers to entry to the intermediate goods industry. It is not difficult to think of many impediments to the entry of small textile firms into the production of rayon. The technology is certainly quite different and there are no small firms lying around to be taken over - this has been preempted by Courtaulds earlier activities. Given that they were also faced with another very dominant seller in the case of nylon (I.C.I.) and with high tariffs on man-made fibre imports their position was clearly difficult. Indeed the 1970 textile recession led to claims by independent textile producers of predatory pricing by Courtaulds (see Guardian, 25.7.70)

We can thus see that what might appear as a third best welfare optimum can be expected to make the first-best infeasible as a dynamic consequence. Any trade-off analysis of the comparative-static type that we have discussed must recognise this. This would suggest that we err on the side of caution in accepting efficiency arguments.* One dynamic aspect of vertical control which may appear beneficial at first sight is the impact on the introduction of new products. The extension into textiles can be seen as providing a more secure base for the introduction of new fibres by Courtaulds in a situation where I.C.I. (e.g. in the case of nylon and polyester) already had a dominant position. Thus vertical integration may allow the emergence of greater competition in the market for these newer fibres. The problem

---

* Other dynamic consequences related to the entry conditions for new firms would appear to work in the same direction, although they may be regarded as of less importance in this particular case.

is that this could create the same problem of input distortion which we have already discussed. Courtaulds as an inefficient producer of these newer fibres could still find it profitable to introduce them because of I.C.I's monopoly pricing. This would be a further example of waste induced in the pursuit of monopoly profits. Only if the security provided by vertical integration induces truly new innovations will the preconditions for increased welfare be met. Such innovations could of course include new methods of producing existing fibres as well as new fibres.

We turn now to evidence on changes in Courtaulds efficiency and market power over the period 1963 to 1974.

The Empirical Evidence

Courtaulds started the period in 1963 as essentially a man-made fibre producer and ended it as the dominant firm in the textile industry. At the end of this period Courtaulds was processing a large fraction of its own fibre production by spinning, weaving or knitting, together with some making-up of clothes, wholesaling and treatment of textiles. Most of the significant mergers had taken place by the end of 1968 and we therefore have a run of six years since that point with which to evaluate Courtaulds as an integrated textile producer. From 1963 to 1968 a rapid process of acquisition was in train. It can be viewed as a transitional period when more and more of Courtaulds output was being consumed in its own subsidiaries.

Analysing Courtaulds sales to third parties over the period 1969 through 1974, that is the period subsequent to the period of most

active acquisition, we see that Textile Processing in total accounts for about 50%, Man-made Fibresabout 35% with a variety of activities including packaging and paint accounting for the remaining 15%.* Cotton Type Spinning and Weaving accounted for roughly 18%, Hosiery, Knitwear and Garments roughly 22%, and other Textiles and Textile Wholesaling about 9%. These figures relate to sales (both domestic and export) arising from U.K. production. Overseas production comprised almost a quarter of total output over this period.

Table 10.3 reports estimates of output and input price indexes for Courtaulds. It can be seen that in the case of the composite indexes the ratio of output price relative to input price has shown a persistent tendency to fall over the period, with perhaps a very slight rise in 1974. The average rate of decline has been of the order of 3% p.a. with the rate of decline since 1968 being rather less than the rate before that point. On the face of it this would seem to indicate either a steady improvement in efficiency and/or a fall in market power, a piece of evidence that may suggest some beneficial consequences arising from vertical integration. However, if we disaggregate then we find that whereas the Man-made Fibre price ratio shows a persistent and steady decline averaging over 4% p.a., the price ratio for Household Textiles shows a very modest decline averaging only 0.6% p.a** The data for Household Textiles also indicates a

---

* See F.Fishwick and R.B.Corm (1975) p.192.

** Other textile output price indexes span the Household Textiles index. Cotton Spinning and Weaving show a higher rate of growth whereas Hosiery and Knitwear show a lower rate.

tendency for the output price to rise relative to the input price over the period since 1970. It is difficult to see how, on this evidence, the apparent gain in efficiency can be due to vertical integration.

Table 7 also reports estimates of the ratio of profit before tax to sales revenue (Π/R) for Courtaulds over the same period. If we argue that the primary impact of Courtaulds restructuring of the textile industry would be felt within the U.K. then the profit and sales figures should refer to the U.K. * However this breakdown is not available so our Π/R estimates relate to the worldwide operations of Courtaulds. In 1969 Courtaulds total, worldwide sales to third parties were £577 million, and their U.K. turnover was £452 million (domestic sales plus exports), but no profit figures are available for this split.

Column (6) of Table 10.3 reveals that the profit-revenue ratio was initially quite high (1963/65), then declined steadily to a minimum in 1971, subsequently climbing back to a similar position as in the early sixties.** This history could reflect general movements in the textile industry but is also consistent with adjustment problems posed by the rapid vertical extension into textiles through the sixties and early seventies.

---

* It could be argued that Courtaulds market power vis-a-vis foreign buyers has also increased as a result of the restructuring of the industry.

** As mentioned in Chapter 4, we would expect that the vertical extension of a firm will in itself tend to raise the profit-revenue ratio given that we are not accounting for the cost of capital. This in turn implies that k will be biased down as vertical integration proceeds. Our estimates will therefore overstate any efficiency improvement resulting from vertical merger.

TABLE 7

Estimated k for Courtaulds 1963-1974

	(1) P_o^c	(2) P_I^c	(3) P_o^c/P_I^c	(4) P_o^M/P_I^M	(5) P_o^T/P_I^T	(6) Π/R	(7) k
1963	100.00	100.00	1.000	1.000	1.000	0.127	0.873
1964	100.07	102.59	0.975	0.955	0.986	0.146	0.833
1965	99.83	106.34	0.939	0.909	0.981	0.121	0.825
1966	97.70	109.64	0.891	0.854	0.968	0.109	0.794
1967	93.78	112.60	0.833	0.798	0.964	0.092	0.756
1968	97.25	120.82	0.805	0.763	0.928	0.091	0.732
1969	99.67	125.34	0.795	0.737	0.916	0.088	0.725
1970	102.66	136.88	0.750	0.690	0.910	0.083	0.688
1971	107.26	148.49	0.722	0.656	0.913	0.064	0.676
1972	111.74	159.60	0.700	0.625	0.915	0.067	0.653
1973	127.67	187.56	0.681	0.588	0.943	0.088	0.621
1974	168.18	244.85	0.687	0.559	0.939	0.122	0.603

Notes:

1. P_o^c is a composite output price index for Courtaulds with weights derived from Fishwick and Corum (1975).

2. P_I^c is a composite input price index; 0.6 (Man-made Fibre Input Price Index) + 0.255 (Textile Wage Index) + 0.145 (Cotton Price Index), intended to reflect price changes in those inputs entering the vertically integrated enterprise. The weights are based on Census of Production data.

3. P_o^M, P_o^T are respectively the output price indexes for Man-Made Fibres and Household Textiles, derived from Department of Industry sources (see Chapter 4 for details).

4. P_I^M, P_I^T are respectively the input price indexes for Man-made Fibres and Household Textiles, derived from Department of Industry sources (see Chapter 4 for details).

5. Π/R is the ratio of Courtaulds net profit before tax to Courtaulds sales revenue.

6. k is the efficiency measure proposed.

The efficiency measure (k) reported in column (7) suggests a steady improvement in efficiency for Courtaulds over the 1963/1974 period. The fall in profitability has not been as great as would have resulted from the fall in the ratio of output to input prices in the absence of any improvement in efficiency. It is important to note, however, that the fall in profitability for Courtaulds as a whole cannot be explained by any tendency for the price of textiles to fall relative to their input costs. The data tends to demonstrate that Courtaulds efficiency has grown because of productivity growth in the area of man-made fibres rather than in textiles and therefore has little connection with the vertical extensions of Courtaulds over this period.

Courtaulds, the Textile Industry and the State

The period of our analysis in this section, 1963 through 1974, was one of intense interaction between Courtaulds and the state. The Monopolies Commission investigation of Courtaulds dominant position in cellulosic fibres was initiated in 1965 and completed in 1968. The Commission concluded that continued acquisitions by Courtaulds in the textile industry could be against the public interest. It was recommended that no further acquisitions by Courtaulds should be allowed in any sector of the textile or clothing industries (including wholesaling and retailing) if Courtaulds share of capacity or sales in that sector exceeded 25%. In fact at that point in time (mid-1968) it was estimated that Courtaulds market share for spinning was 30%, for filament weaving 22% and for warp knitting 35%*. In response

* See the Financial Times, July 2nd 1969.

to the recommendations the Board of Trade asked for a confidential statement from Courtaulds and the President (Douglas Jay) announced that there would be a review of tariffs and that he would have discussions with the company.* Courtaulds now sought to convince the Board of Trade that the Commission was wrong. Courtaulds had in fact, in previous discussions with the Board of Trade, argued for raising textile tariffs to the average level, whereas now it was set against reducing fibre tariffs to the same average.** Finally, on July 22nd 1969, fifteen months after the Monopolies Commission report came out, the government announced no change in tariffs and the acquisitions recommendation lapsed with the takeover of the issue by the Dell committee. Despite the recommendations of the Monopolies Commission a major acquisition (Ashton Bros.) went through in July 1968 and other smaller acquisitions followed in the same year and in the following year. However, in January 1969 Courtaulds made a bid for English Calico, the third largest British textile company, but the bid was withdrawn in February 1969 at the request of the government. As can be seen in Table 10.1 other acquisitions continued to be made in each year up to 1974. Clearly the recommendations of the Monopolies Commission concerning the textile industry were not being acted on.

The interaction between Courtaulds and the State was not only via the Monopolies Commission and the Board of Trade. As already discussed, the government decided against a tariff reduction in the case of cellulosic fibres but in the same year (1969) tariffs on Commonwealth imports of textiles were

---

* This process is fully documented in Knight (1974) pp. 130-140.

** Table 1 reveals the very high tariff rates on man-made fibres.

imposed following the recommendations contained in a Textile Council report. The sub-committee which drafted the report was in fact chaired by a Courtaulds director and also included A.M. Alfred, the company's chief economist, see Counter Information Services (1974). Courtaulds have been quite open about their attempts to secure a more restrictive import policy for textiles and have linked their acquisition of a dominant position in textiles to the achievement of this aim. Arthur Knight, their current chairman, explains that the acquisition of one-third of the Lancashire textile industry was "... necessary to have any prospect of influencing government attitudes about imports", Knight (1974), p.49. The evidence would suggest that this assessment may have been close to the truth. Not only were tariffs introduced in 1969 but also, despite a promised lifting of quotas in 1972 following their imposition in 1966, the quotas were reimposed in 1971, see Counter Information Services (1974).

Knight also reveals another interesting facet of the interaction between the State and Courtaulds. At first sight one might conclude that the emergence of I.C.I. in a position of power in both man-made fibres and textiles would be seen as a threat by Courtaulds. Knight, however, concludes that "... to have I.C.I. as a strong vertical fibre-textile group would suit Courtaulds interests taking the long view, because the interests of the two groups in dealing with Whitehall would coincide more than they would diverge, and it would thus strengthen any efforts to influence government policy".

We conclude that the vertical extension of Courtaulds into the textile industry was not only intended to consolidate and possibly extend

Courtaulds product market power in a direct sense but was also seen as an instrument by which its dominant position could be secured by political influence. If another dominant firm like I.C.I. followed suit then this would serve the same end .

General Conclusions

Both the earlier acquisitions to secure a rayon monopoly and its more recent acquisitions in textiles have not led to any detectable improvement in the efficiency in the use of resources by Courtaulds. They have however resulted in the concentration of substantial economic power and there is evidence that it has been used to secure both the profitability and the market dominance of this major corporation.

References:

Burstein, M.L. (1960), "A Theory of Full-Line Forcing", Northwestern Law Review, 55 (February) : 62-95.

Counter Information Services, Courtaulds Inside-Out (1974).

Cowling, K., Stoneman, P., Cubbin, J., Cable, J., Hall, G., Domberger, S., and Dutton, P., (1979), Mergers and Economic Performance, Cambridge University Press, London.

Cubbin, J., and Hall, G. (1979), "The Use of Real Cost as an Efficiency Measure : An Application to Merging Firms", Journal of Industrial Economics (forthcoming)

Fishwick, F., and Corm, R.B., (1975), A Study of the Evolution of Concentration in the U.K. Textile Industry, Commission of the European Communities, (October) 192.

Houthakker, H., and Taylor, L.D., (1970), Consumer Demand in the U.S. 1929-70, Harvard University Press, Cambridge, Mass. U.S.A.

Knight, A., (1974), Private Enterprise and Public Intervention, Allen-Unwin, London, England.

Lewis, K.A. (1971), "Multimarket Demand Functions in the Presence of Supply Constraints: International Demand Functions for Cotton and Wool", Southern Economic Journal, October.

Machlup, F., and Taber, M., (1960), "Bilateral Monopoly, Successive Monopoly and Vertical Integration", Economica, 27 (February) : 101-19.

Markham, J.W., (1952), Competition in the Rayon Industry, Harvard University Press, Cambridge, Mass.

McKenzie, L., (1951), "Ideal Output and the Interdependence of Firms", Economic Journal, 61 (December) : 785-803.

Monopolies Commission, (1968), Man-made Cellulosic Fibres : A Report on the Supply of Man-made Cellulosic Fibres, H.M.S.O., March.

Schmalensee, R., (1973), "A Note on the Theory of Vertical Integration", Journal of Political Economy, 81 (March/April) 442-45.

Vernon, J.M. and Graham, D.A. (1971), "Profitability of Monopolization by Vertical Integration", Journal of Political Economy, 79, (July/August) : 924-25.

Warren-Boulton, F., (1974), "Vertical Control with Variable Proportions", Journal of Political Economy, 92 (July/August) : 783-802.