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Concentration and foreign trade

M.A. Utton and A.D. Morgan

CONCENTRATION AND FOREIGN TRADE

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CONCENTRATION AND FOREIGN TRADE

THE NATIONAL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH

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PREFACE

The level of sales concentration is widely regarded as an important aspect of industrial structure. It has frequently been used in studies which have attempted to link structure with industrial performance, although it is usually recognised that concentration is only one of a number of structural features that are likely to effect competitive behaviour and performance. For most United Kingdom producers an ever-present and growing source of competition is from foreign trade. It naturally follows that the study of industrial concentration should take account of foreign trade, rather than be confined to domestic production.

Considerations such as these provided the stimulus for the present study which tries to integrate in a number of ways what we know of domestic concentration with the flow of imports and exports. Thus we consider the effect of imports on the measurement of concentration, the import and export performance of industries with different structures, as well as their international trade performance relative to that of other EC countries. We have had to attempt, therefore, the hazardous task of bringing together data from different sources, time periods and countries, and it is this which explains the somewhat lengthy appendices brought together at the end of the book. In two cases we were fortunate in receiving some hitherto unpublished information on exports, and on concentration for 1977, from the Business Statistics Office in Newport. We are very grateful to members of the Office for their assistance in this way.

The project was assisted by a grant from the Office of Fair Trading and we would like to thank Denys Gribbin, Martin Howe, Malcolm Bradbury and Alan Bell for their continued support and encouragement. Both Sig Prais and Peter Hart made detailed and helpful comments on an earlier draft and we were able to rely throughout the study on the guidance of David Worswick and Kit Jones, to all of whom we are very grateful. Successive drafts were typed with great efficiency by Kim Robertson and the computations were as usual carried out with great competence by Muriel Hill and Pam Watts. The complicated final draft was very ably prepared for the printer by Frances Robinson and the index by A. Stewart.

An earlier version of Chapter 2 appeared in the Oxford Economic

Papers in 1982 and we are grateful to the publishers, Oxford University Press, for permission to reprint it here.

Finally, the usual disclaimer holds: neither the Business Statistics Office nor the Office of Fair Trading are responsible for any of the views or interpretations expressed in the study. Together with any errors and shortcomings these are entirely our responsibility.

London, August 1982

M.A.U.
A.D.M.

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SYMBOLS IN THE TABLES

. . .	not available
—	nil or negligible
n.a.	not applicable

CHART

1

INTRODUCTION

The growth of world trade and the increasing penetration of British markets by imports that this brings, has highlighted a number of problems concerning our knowledge of the relationships between market structure and market performance. While a number of commentators have emphasised, for example, that the rate of growth of imports into the United Kingdom has been higher than might be expected from the general growth of international trade, official statistics on seller concentration, which are often used as indices of market power, continue to be published without taking account of imports. Again, until quite recently, econometric analysis of market structure and performance has proceeded without taking explicit account of exports and imports, despite the widely held view that 'foreign competition sets an upper limit to profit margins in an economy (the United Kingdom) where imports compete with home production over almost the entire range of output'.[1]

The importance of the first point was emphasised in the Green Paper on Monopolies and Mergers Policy[2] which also included some illustrative estimates of seller concentration adjusted for imports and exports. Not surprisingly, the examples were sufficient to indicate that in a wide range of manufacturing industries 'effective' concentration, and thus the probable incidence of market power, was considerably lower than an uncritical reading of the published concentration data would suggest. Part of the present study can therefore be seen as an attempt to give a fuller analysis of this important question than was possible for the authors of the Green Paper.

On the other hand those recent investigations of market structure–performance relationships in the United Kingdom that *have* attempted to meet the second point and take account of international trade have, on the whole, been unable to establish a robust, inverse relationship between profitability and the share of imports.[3,4] This is turn suggests that the relationship is more complex than might at first be thought. One point

[1] Bacon, R. and Eltis, W., *Britain's Economic Problem: Too Few Producers*, Macmillan, 1976.

[2] *Review of Monopolies and Mergers Policy*, HMSO, *Cmnd* 7198, 1978.

[3] Lyons, B., 'Price-cost margins, market structure and international trade', University of Sheffield, mimeo, 1979, and Turner, P. P., 'Import Competition and the Profitability of United Kingdom Manufacturing Industry', *Journal of Industrial Economics*, December 1980, do suggest that profits may be significantly and inversely related to i) the share of imports in

that has been made is that the *threat* of imports may be sufficient to curb domestic prices and consequently the expected relationship between market structure and performance does not show up in the empirical analysis. Another increasingly important factor may be the strategy of multinational enterprises. Imports may remain low in heavily concentrated and profitable industries largely because multinational enterprises may have decided that the best way of participating is through direct investment. Thus they may judge that this method, especially if it is accomplished by acquiring an established company, may be the safest way of entering an oligopolistic market with the minimum of disturbance to price and profit levels. In both cases, therefore, profits (and concentration) may remain relatively high without causing an increase in imports. For the remainder of the products where domestic concentration is relatively low, competitive forces at home may in any case ensure that prices are prevented from rising, whatever the level of imports.

Another factor which may have affected the estimation of market structure–performance relationships, bears directly on the present study. The focus of attention in most empirical work for the United Kingdom has been the (three-digit) industry since it is possible to estimate price – cost margins for a wide cross-section of manufacturing industries at this level of aggregation. It is questionable, however, whether the industry defined in this way comes very close to the notion of a market from which the theoretical relationships are derived. Without going into detailed examples, it is generally true that industries include not only groups of different products but, more importantly, a number of components or parts of products which may really constitute distinct markets in their own right. This aggregation problem may have weakened the results obtained from the cross-section analysis of United Kingdom market structure and performance and it is the main reason why we have chosen to work at the more narrowly defined product level. While this has the disadvantage that other structural or performance variables are generally not available for products, it has the great advantage in most instances of coming much closer to the concept of a market and thus is more likely to throw light on the issue of market power which is of direct relevance to competition policy. We have used the product rather than the industry to analyse both of the main questions addressed in the present study, that is, the

domestic sales and ii) to the change in import share, especially where domestic seller concentration is very high.

[4] See also Caves, R. and Khalilzadeh-Shirazi, J., 'International Trade and Industrial Organisation: Some Statistical Evidence', in Jacquemin, A. P. and de Jong, H. W., *Welfare Aspects of Industrial Markets*, Martinus Nijhoff, Leiden, 1977; Hart, P. E. and Morgan, E., Market Structure and Economic Performance in the United Kingdom, *Journal of Industrial Economics*, March 1977; and Khalilzadeh-Shirazi, J., 'Market Structure and Price-cost Margins in United Kingdom Manufacturing Industries', *Review of Economics and Statistics*, February, 1974.

effect of imports and exports on seller concentration, and the relationship between domestic market structure and the flow of international trade.

The period to which the study is confined, 1958–77 (with special emphasis on 1968–75) was, of course, one of very great changes, many of which were directly relevant to the questions we wished to analyse. During the 1960s and early 1970s, for example, there was a high rate of both merger activity and direct foreign investment in Britain which had far-reaching consequences for industrial structure. In addition, the flow of trade was greatly affected by the devaluation of 1967 and the tariff reductions in the early 1970s following the Kennedy Round and Britain's entry into the EC. Thus, overlaying what might be the normal relationship between domestic market structure and international trade, there were these exceptional factors which may have tended to exaggerate or distort the underlying position.

AN OUTLINE OF THE STUDY

In Chapter 2 we analyse in some detail the effect of international trade on product concentration. There is general agreement that the official statistics on average product concentration show a fairly persistent upward trend until the early 1970s when the increase appears to have ceased. One task of this part of the study, therefore, was to assess how this conclusion might be affected once trade, especially imports, is taken into account. The main part of the chapter is thus concerned with a discussion of the trade-adjusted estimates of concentration for a sample of 121 products over the period 1958–77. Matching trade with production data is not easy and since we wished to consider as long a period as possible the sample had to be confined to about one third of the maximum number of products for which concentration data are published. Nevertheless, it is probably representative enough to support the main conclusions.

While the effect of imports was clearly to reduce the average level of effective concentration (an influence that increased throughout the period), there was one group of products where trade had little impact and concentration had remained consistently very high. Products in this category are likely to be of special concern to antitrust authorities and they are therefore singled out for separate discussion in Chapter 3, where we consider both the complexity of competitive behaviour in what are essentially oligopolies and their resulting performance as revealed in a number of official reports from the Price Commission and the Monopolies and Mergers Commission.

The emphasis shifts, in Chapters 4–6, to the relationship between domestic industrial structure and the pattern of import and export growth. Two approaches are used. The first, in Chapters 4 and 5, considers the growth of imports and exports for British industries with different structures. Thus, on theoretical grounds, there are a number of reasons why the growth of imports may be higher where domestic production has remained heavily concentrated for some time, especially if such industries have also been able to acquire tariff protection. The issue is complicated, as Chapter 4 suggests, by the presence of multinational enterprises which may be more willing than domestic firms to pursue an independent policy, based on a global strategy, rather than to acquiesce in any existing collusive arrangements. It is also possible that domestic firms may respond positively to a threat to their market shares from imports by reforming into larger groups or rationalising their existing capacity. We examine both hypotheses in Chapter 4.

Similarly, in the following chapter we analyse, both theoretically and empirically, export growth and the structure of industry. While it is reasonably well established that large firms are responsible for a disproportionate amount of total manufacturing exports, the interaction between seller concentration at the product level and the *growth* of exports has received less systematic attention.

The second approach, used in Chapter 6, considers the growth of imports and exports *relative* to that of other major trading countries. In this case the central question addressed is whether the relative trade performance is systematically related to the level of domestic seller concentration. The results of Chapters 4–6 are thus likely to be important for merger policy. If some mergers are a defensive response to the threat or growth of import penetration they may be viewed more sympathetically than those where the domestic market is insulated from imports. Similarly, if exports respond well where seller concentration has been persistently high, then horizontal mergers which result in a large domestic market share may also yield an increase in exports. If they do not, then such mergers should be treated with greater caution.

Finally, Chapter 7 gives a summary of the main conclusions and discusses a number of policy proposals, especially those that bear on the provision of fuller and more integrated data in the future. The estimates of seller concentration adjusted for imports and discussed in Chapter 2, are set out in the Appendix and offered as a possible starting point for this development.

2

DOMESTIC CONCENTRATION AND INTERNATIONAL TRADE

INTRODUCTION

Studies of market structure and of structure–performance relationships have traditionally placed particular emphasis on market concentration. The level of concentration has often been regarded as an important preliminary indicator of the kind of competitive environment in which the firms have to work and persistently high levels of concentration are likely to attract the attention of the antitrust authorities. It is well known, however, that the available statistical series published in the various Censuses of Production and more recently by the Business Statistics Office (BSO)[1] and used in these studies do not incorporate imports. Thus, although the student of market structure may ideally wish to know the share of, say, the five largest sellers – whatever their location – in the United Kingdom market, he has had to be content with series which recorded the share of the five largest domestic producers in total sales. The latter includes sales made both in the United Kingdom and abroad but does not include imports. In view of the recent growth of world trade and in particular the increased importance of imports in United Kingdom markets, studies of market structure and performance which do not explicitly take account of both imports and exports may seem to an outside observer like playing Hamlet without the Prince of Denmark.

Recently there have been signs of change. A number of studies which have attempted to measure market structure–performance relationships have incorporated concentration adjusted for imports or a separate import penetration variable in their models.[2] Similarly, there have been two

[1] *Statistics of Product Concentration of UK Manufacturers for 1963, 1968 and 1975*, Business Monitor PO 1006, HMSO, 1979.

[2] On the whole the studies for the United Kingdom have not demonstrated a very significant role for imports in explaining inter-industry price-cost margins. See, for example, Caves and Khalilzadeh-Shirazi, 'International trade and industrial organisation'; Hart and Morgan, 'Market structure and economic performance'; Khalilzadeh-Shirazi, 'Market structure and price-cost margins in United Kingdom manufacturing industries'; and Shepherd, W. G., 'Structure and behaviour in British industries, with US comparisons', *Journal of Industrial Economics*, November 1972. Exceptions are Lyons, 'Price-cost margins, market structure and international trade', and Turner, 'Import Competition and the Profitability of United Kingdom Manufacturing Industry', for the United Kingdom and, rather surprisingly, a number of studies of the United States where imports might have been expected to play a more marginal role but where significant results have been recorded. See, Esposito, L. and Esposito, F., 'Foreign competition and domestic industry profitability', *Review of Economics and Statistics*, November 1971; Marvel, H. P., 'Foreign trade and domestic competition',