



## Durham E-Theses

---

*Some economic considerations pertaining to the  
conduct and performance of large scale and small  
scale enterprise in factor markets*

Rabey, Grant F.

### How to cite:

---

Rabey, Grant F. (1976) *Some economic considerations pertaining to the conduct and performance of large scale and small scale enterprise in factor markets*, Durham theses, Durham University. Available at Durham E-Theses Online: <http://etheses.dur.ac.uk/9907/>

### Use policy

---

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in Durham E-Theses
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full Durham E-Theses policy](#) for further details.

## ABSTRACT

M.A. Thesis      Some Economic Considerations Pertaining to the  
Conduct and Performance of Large Scale and  
Small Scale Enterprise in Factor Markets.

This thesis begins with the view of some writers that factor markets may have been relatively neglected in economic analysis, and that given trends in industrial concentration and the possible backward market effects, this could represent a significant oversight. The overall objective is to analytically assess the relevance of this view. Within this analytical framework, the importance attached to the dynamics of factor market trading relations necessitates the consideration of both their economic, and organisational/behavioural implications.

The thesis starts with a general verification of the increasing trend in industrial concentration and then examines the role attributed to factor market considerations. The apparent benefits of large scale purchasing leads to a review of economic theory which examines the conduct and performance implications of the various types of factor market structures. Relative bargaining power is identified as a prime determinant of outcomes in imperfectly competitive trading relations, and it is presented as being a function of organisational dependency. A number of joint economic and organisational/behavioural determinants of dependency are reviewed. This review also indicates that large buying units may use their relative bargaining power to reduce uncertainty in the acquisition of inputs. These dynamic aspects of market conduct are discussed under the heading of 'vertical quasi-integration'. The analysis then changes focus and places the dominant large buyer/smaller supplier situation into a wider macroeconomic context. This involves the conceptualisation of the dominant firm as a 'propulsive' or key industry fostering industrialisation and through its role as a growth pole, regional development. The need to consider the dynamic, organisational facets of trading relations in industrial linkage studies is reiterated. The thesis concludes by confirming the need for more information about factor markets, and it offers a relevant conceptual context and investigative framework for meeting that need.

University of Durham

Degree of Master of Arts

Some Economic Considerations Pertaining  
to the Conduct and Performance of Large Scale  
and Small Scale Enterprise in Factor Markets

Thesis Submitted by : Grant F. Rabey  
December, 1976

The copyright of this thesis rests with the author.  
No quotation from it should be published without  
his prior written consent and information derived  
from it should be acknowledged.

## TABLE OF CONTENTS

|   | <u>PAGE</u> |
|---|-------------|
| Abstract  |             |
| Title Page  |             |
| Table of Contents   |             |
| <br>  |             |
| <b>CHAPTER 1</b>  |             |
| <b><u>INTRODUCTION</u></b>  | 1           |
| The Establishment of the Conceptual Framework                                       | 1           |
| The Relationship Between Structure, Conduct and Performance                         | 8           |
| Footnotes and References  | 10          |
| <br>  |             |
| <b>CHAPTER 2</b>  |             |
| <b><u>"THE LONG TREND TOWARD CONCENTRATION ..."</u></b>                             | 11          |
| Introduction  | 11          |
| Structural Indicators: The Use of Concentration Measures                            | 12          |
| Relevant Trends in Industrial Concentration   | 15          |
| Factor Market Structural Arrangements   | 25          |
| Some Contributory Factors in the Process of Industrial Concentration                | 30          |
| Footnotes and References  | 36          |
| Appendix 2-1. Some Problems and Deficiencies Associated with Concentration Measures | 39          |
| <br>  |             |
| <b>CHAPTER 3</b>  |             |
| <b><u>FACTOR MARKET BUYERS AND ECONOMIC THEORY</u></b>                              | 43          |
| Introduction  | 43          |
| Buyer Concentration and Relevant Forms of Market Structure                          | 45          |
| Monopsony   | 48          |
| Monopsonistic Discrimination  | 52          |
| Bilateral Monopoly  | 56          |
| Oligopsony, Bilateral Oligopoly and Countervailing Power                            | 58          |
| The Large Firm and Imperfectly Competitive Suppliers                                | 75          |
| Two Empirical Studies on Factor Market Concentration                                | 82          |
| Conclusion  | 88          |

|  | <u>PAGE</u> |
|--|-------------|
| CHAPTER 3 (continued)  |             |
| Footnotes and References   | 93          |
| Appendix 3-1. Monopsony and the Input Supply Curve                           | 97          |
| Appendix 3-2. Derivation of Marginal Revenue Product                         | 98          |
| <br>   |             |
| CHAPTER 4  |             |
| <u>THE LARGE BUYER AND SUPPLIER DEPENDENCY</u>                               | 99          |
| Introduction   | 99          |
| The Emergence of Dependency in Trading Relations                             | 101         |
| Some Further Aspects of Supplier Dependency                                  | 116         |
| Conclusion   | 129         |
| Footnotes and References   | 132         |
| <br>   |             |
| CHAPTER 5  |             |
| <u>VERTICAL QUASI-INTEGRATION</u>  | 135         |
| Introduction   | 135         |
| Motives Behind Vertical Integration: A General Theoretical Review            | 138         |
| Implications of Vertical Integration: Some Relevant Consequences             | 149         |
| Conclusion   | 156         |
| Footnotes and References   | 159         |
| <br>   |             |
| CHAPTER 6  |             |
| <u>SPATIAL APPROACHES TO FACTOR MARKET TRADING RELATIONS</u>                 | 161         |
| Introduction   | 161         |
| 'Satellites' and Growth Poles  | 164         |
| Industrial Linkage and Agglomerative Forces                                  | 176         |
| Conclusion   | 188         |
| Footnotes and References   | 191         |
| <br>   |             |
| CHAPTER 7  |             |
| <u>SOME CONCLUDING COMMENTS ON LARGE SCALE ENTERPRISE AND FACTOR MARKETS</u> | 194         |
| Introduction   | 194         |
| Factor Market Operations and the Advantages of Size                          | 196         |

|   | <u>PAGE</u> |
|---|-------------|
| CHAPTER 7 (continued)   |             |
| The Large Enterprise as a Propulsive Industry: A<br>Re-conceptualisation                                  | 202         |
| Conclusion  | 209         |
| Footnotes and References  | 211         |
| Appendix 7-1. A Note on a Possible Investigative<br>Framework for Large Enterprise Supply<br>Environments | 212         |
| <u>BIBLIOGRAPHY</u>   | 217         |

## CHAPTER 1

### INTRODUCTION

#### The Establishment of the Conceptual Framework

The available data relevant to the operations of firms within factor markets have, according to a number of economists, been somewhat unsatisfactory, and even incomplete. In 1948 M.A. Adelman made the following observation:

"The great bulk of business transactions are sales by one firm to another; yet economic analysis has almost neglected these industrial markets in favour of consumer markets".(1)

A not unrelated point was made four years later by J.K. Galbraith, this time within the context of his theory of countervailing power, as follows:-

"The long trend toward concentration of industrial enterprise in the hands of relatively few firms has brought into existence not only strong sellers, as economists have supposed but also strong buyers as they have failed to see."(2)

Thus, while Adelman seemed to be offering a general comment about the virtual neglect of factor market considerations in economic analysis, Galbraith linked this neglect to the ominous portent of industrial concentration, and through

this, to the creation of large buyers within factor markets. However, what is particularly remarkable is that a review of the current literature reveals that this overall assessment of indifference conveyed in the above, has not really changed, that is, that industrial markets continue to remain a relatively unexplored area of study.

A good example of this is apparent in an article by S.H. Lustgarten, who comments as follows:

"Although theory predicts that the incidence of monopsony is an important element of market structure, the entire body of recent literature has dealt exclusively with the structure of the sellers."(3)

Lustgarten indicates that this is primarily attributable to the implicit assumption in past studies that buyers are atomistic. A review of two fundamental and influential writers within this area, Joan Robinson and J.S. Bain, illustrates rather effectively the basis upon which such an assumption might have been founded:

"But to postulate that competition among buyers is perfect is far more realistic than to postulate that competition among sellers is perfect, since the number of buyers in any ordinary market is large relatively to the number of sellers."(4)

"In the great majority of industries, the suppliers face markets made up of many buyers, all relatively small."(5)



However, Lustgarten states that in fact, "... the majority of transactions in the United States economy involve sales between business firms in which the number of buyers is often small enough so that each can have a significant influence on market price."(6) An interesting, but unresolved variance of ideas which serves to highlight the apparent need for more information.

In respect of the link between concentration trends and factor markets, it is possible to quote two United Kingdom economists, S. Aaronovitch and M.C. Sawyer, who revealed an orientation broadly similar to that offered by J.K. Galbraith over twenty years earlier.(6) These two writers indicate that in conventional economics aggregate levels of concentration have little meaning because the theory is primarily concerned with the ability of firms to exercise economic power in unitary or single markets. This approach means that:

"The power of a firm is no more than the sum of the power it exercises in each market in which it operates. It is argued that it is through the exercise of monopoly power that the mis-allocation of resources arises and that is the main concern of the economist."(7)

However, Aaronovitch and Sawyer argue that, "... firms operate in factor markets as well as product markets, and their economic power in the capital and labour markets arises from their share of the total economy."(8) Thus, in general terms, their argument, like Galbraith's,

highlights the potential relevance and importance of concentration levels within a context which also includes the factor market operations of powerful buyers.

On the basis of the preceding it would seem that a significant area of economic analysis may have been to a degree overlooked, and thus, relative to consumer market studies, also under developed. In this thesis an attempt is made to examine some of the existing economic theory and related empirical evidence relevant to factor market, buyer/supplier trading relations in order to determine, through a critical review and analysis of the more general topics considered but particularly by focusing upon concepts concerning the role of large scale buyers, some of the more interesting aspects and implications arising out of these trading relations. Within this general framework, the thesis has been organised so that each chapter considers one of a number of specific compound questions which have been evolved from the topics suggest in the above, and these are as follows:

- a) Is there a 'long trend toward concentration', and in broad terms, what sort of consideration has been given to factor market conditions in the literature on trends in industrial concentration; but especially, to large scale enterprise which, through concentration, may have become dominant buyers in industrial markets? (Chapter 2)
- b) Assuming that there may be advantages to be gained within factor markets from concentration,

the next question is what are some of these advantages? To start with the thesis considers this question within the context of conventional, essentially static market theory. Thus, generally speaking, how are the various forms of factor market structures dealt with by conventional economic theory, and what are some of the more important conduct and performance predictions associated with imperfect factor markets involving dominant buyers? (Chapter 3)

- c) While preceding questions may discuss some of the possible outcomes of imperfectly competitive factor market trading relations, and as a consequence why there may be specific advantages available to dominant buyers, it leaves largely unanswered the question of how buyer/supplier relations may develop to the extent that eventually the dominant buyer acquires its superior bargaining power. Therefore, based upon the information uncovered by the two preceding questions, what are some of the fundamental mediating conditions which help to determine the outcome of buyer/supplier relations in imperfect dominant buyer, factor markets? (Chapter 4).
- d) Returning to the question of how dominant buyers may capitalise upon their superior bargaining power, the thesis moves away from the more or less static basis for examining factor market relations employed by conventional market theory,

and considers some of the dynamic aspects of inter-firm trading behaviour. This approach involves such topics as the transfer of information and the general reduction of transactions costs. Thus, within this dynamic framework, what sorts of additional considerations may motivate or influence dominant buyers so that they re-formulate their profit maximising objectives and undertake different strategies, and moreover, how are these alterations reflected in their market conduct? (Chapter 5)

x

- e) Having examined some of the more 'micro', behavioural aspects of trade between factor market buyers and suppliers, the thesis broadens its focus in order to analyse inter-industry links in relation to both the notions of economic space, and industrial development. Therefore, what sort of role has been ascribed to large scale, dominant factor market buyers within the wider context of the 'macro' industrial environment? (Chapter 6).

It is important to note that in considering the subject of imperfectly competitive buyer/supplier relations in factor markets, the analysis has been influenced by the relative unavailability of empirical evidence. This has meant that in the discussion of particular topics it has sometimes been necessary to move outside of strictly economic concepts in order to clarify the arguments. Moreover, this has also meant that in considering the five questions outlined above, the

thesis has included a number of diverse elements which have been related in a variety of different ways. The result is that the primary orientation of the thesis must be analytical and that, while in many cases the exact nature of the elements and their relationships may <sup>be</sup> worthy subjects for empirical study, the ultimate objective of this work has been to foster understanding by simply specifying the general conditions involved in each topic. X

## The Relationship Between Structure, Conduct and Performance

The importance of market structure in most economic studies involving the pure theory of the firm and industrial organisations can usually be attributed to the related predictive implications which involve the organisations' conduct and performance. This section briefly considers the general concept of the structure-conduct-performance relationship with a view to defining the terms, and establishing the overall approach to be adopted by this thesis.

For the purpose of the thesis, the three components of the relationship will be defined as follows:- Structure refers to the aspects of an industry' environment which are relatively fixed and objective, e.g. a highly concentrated oligopoly; behaviour or conduct refers to the pattern of decisions made by the managements of the component firms (including decisions which may themselves be reactions to structural influences); and performance is evaluated in relation to the relevant, or ultimate norms of economic welfare.(9) In a more limited sense, 'market performance' may also be defined in terms of how prices and output are effected.

In its formative state the structure-conduct-performance relationship was often represented as a type of analytical scheme which tended to form a series of connected and sequential steps.(10) On that basis, starting with structural information, it was felt that it might be possible to predict conduct, and consequently, to also infer performance. However, recent thought has moved beyond this somewhat static

conception of the relationship, and has developed a realisation that the three elements may have been considered in an incomplete theoretical framework. It has been suggested that a more complete approach would be one which considered these elements to be dynamic and interactive, that is, for example, an approach which takes into consideration the fact that .... "Performance leads back to changes in structure and conduct."(11)

In the next chapter, and in the subsequent one, the traditional form of the relationship is used in the discussions involving concentration trends and the conduct and performance implications of imperfect markets. However, when the analysis eventually proceeds beyond the more static parameters of economic theory to evaluate such topics as the implications arising from the need of industrial buyers to organise and control the inward flow of inputs over their production cycles, then the dynamic, adaptive responses of buyers and suppliers take precedence. This is partly because, as it will be shown, a dominant buyer's conduct may significantly affect both market structure and seller performance, but more importantly, this orientation is given prominence because ultimately, trading relations tend to be inherently dynamic and adaptive, and may therefore only be adequately evaluated within that type of conceptual framework.

CHAPTER 1

Footnotes and References

1. Adelman, M.A., "The Large Firm and Its Suppliers", The Review of Economics and Statistics, 1949, Vol. 31, p. 113.
2. Galbraith, J.K., American Capitalism: The Concepts of Countervailing Power, Revised Edition, Houghton Mifflin Company, Boston, 1956, p. 111.
3. Lustgarten, S.H., "The Impact of Buyer Concentration in Manufacturing Industries", The Review of Economics and Statistics, 1975, vol. 57 no. 2, p. 125.
4. Robinson, J., The Economics of Imperfect Competition, Macmillan and Co., London, 1933 p. 217.
5. Bain, J.S., Industrial Organisation, Second Edition, John Wiley & Sons, Inc. New York, 1968. p. 150.
6. Aaronovitch, S. and Sawyer, M.C., Big Business, Macmillan Press Limited, London, 1975, pp. 116-117.
7. *ibid.*
8. *ibid.*
9. McKie, J.W., "Market Structure and Function: Performance Versus Behaviour", in Markham J.W. and Papenek, G.F., eds, Industrial Organisation and Economic Development, Houghton Mifflin Co., Boston, 1970 p. 4.
10. Phillips, A., "Structure, Conduct and Performance - and Performance, Conduct and Structure?", in Markham and Papenek, *op. cit.*, pp. 26 - 27.
11. *ibid.*, p. 27.



CHAPTER 2

"THE LONG TREND TOWARDS CONCENTRATION . . . ."

Introduction

The primary objective of this chapter may be summarised as an attempt to present some supportive evidence, of both an empirical and theoretical nature, that there is indeed a continuing trend towards the creation and survival of increasingly large selling organisations, and therefore, on a logical basis, also large purchasing units - but that there is also a large measure of uncertainty about the contributory factors. The proxies generally used for validating this trend in economy wide, or specific industry market structures consists of a number of different concentration measures, and a brief survey of some of these is produced. In considering the theoretical factors involved in concentration, special attention is devoted to two topics; the proportionate or Gibrat effect in the concentration process, and the ability of large firms to exercise superior buying power. The chapter also briefly outlines the types of market structures which may have emerged as a result of the concentration process and those which are of particular relevance to this analysis.

Structural Indicators: The Use of Concentration Measures

In purely economic terms, measures of concentration attempt to serve as functional and quantifiable proxies for the description of various market structures. In his book on industrial structure, J.F. Pickering indicates that these are basically two types of concentration measure and that these two varieties can be differentiated by their respective levels of aggregation.(1) The first type are termed measures of 'market concentration' and they are directed towards levels of concentration in particular industries. Dr. Pickering goes on to state that most structure-conduct-performance studies are conducted on the basis of market or industry concentration measures. These measures enable a situation to be characterised as one of a number of possible market conditions, e.g. oligopoly or monopoly, and consequently, permit the inclusion of the associated predictions in terms of specific and recognisable patterns of conduct and performance. The second type of structural indicators are termed 'aggregate concentration' measures and they attempt to describe economy wide concentration levels. Aggregate concentration measures appear to include a number of complex variables in their formulation, and this means that the conclusions which may be drawn are more tenuous. It has been suggested that high levels of aggregate concentration may be significant because of the relevant organisations' abilities to influence economic policy, and hence, their actions take on a polemical, and often a political nature. In addition, it has also been postulated that large diversified organisations may be unresponsive to market indicators and may use their

broad resource bases to dominate individual markets. However, in offering these somewhat problematical and theoretical justifications for being concerned about aggregate concentration measures, Dr. Pickering eventually admits that there is a dearth of empirical evidence on the:

"... actual political and economic impact of very large firms in a society and there is not much information at present on the effects of high levels of conglomeration that such high aggregate concentration would imply."(2)

Nevertheless, he does conclude that excessively high levels of aggregate concentration would very likely be economically unnecessary and socially undesirable. In collecting statistics on concentration trends both types of measures have been surveyed. Because they both tend to generally point in the same direction in terms of the existence of larger factor market buying units, it has not been considered necessary to reconcile their somewhat different implications.

In general terms, it is possible to identify a number of problems associated with concentration measures themselves, and while these problems may be somewhat technical in nature, they do qualify the use of such measures. Appendix 2-1 presents a more detailed review of these problems and so it is only necessary to briefly summarise them. In the preparation of concentration measures two problems which may arise concern the selection of the size variables to be employed, and their continuity from time period to time

period. Simply put: there exists the risk that some size variables, e.g. asset levels, may mask important factors or underlying associations, e.g. a positive relationship between capital intensity and firm size. In an attempt to overcome the problem that different measures may give different results, several types of size variable from a number of different studies were used to evaluate concentration trends. A second type of qualification, which is much more fundamental to the analysis, relates to the inherent limitations of concentration measures. Briefly, these deficiencies exist for the following reasons:- because of the difficulties of identifying a product's or market's boundaries; because national statistics hide regional aberrations; because key structural elements, such as vertical integration and entry conditions, are not reflected; because behavioural relations in markets are ignored; and because foreign transactions may be unaccounted for. In the final analysis the problems and deficiencies serve as reminders that not too much of a specific nature can be predicated upon the basis of available concentration statistics alone.

Relevant Trends in Industrial Concentration

In an article dealing with the growth of industrial concentration S.J. Prais states that the writings of the classical English economists reveal little evidence of a concern for the process. (3) (4) However, Prais continues on to illustrate, using the writings of Alfred Marshall, how it is possible to 'infer' what Marshall's ideas were on the influences affecting the size distribution of firms. Prais follows the famous 'trees in the forest' analogy from its initial appearance in 1890 in the first edition of Principles of Economics, to the modified version which appeared in the sixth edition and which was published in 1910. The change is significant and worth citing as it is presented by Prais:

The 1890, first edition, refers to the growth of trees and how they become stronger as they emerge into the light and air but that they eventually 'lose vitality' and give way to others;

"And as with the growth of trees, so it is with the growth of businesses."

The 1910, sixth edition, follows the same lines of reasoning in terms of the analogy itself but this key quotation undergoes a material change;

"And as with the growth of trees, so it was with the growth of businesses as a general rule before the great recent development of vast joint-stock companies which often stagnate but do not readily die."

Prais suggests that while there may have been a realisation that the natural forces which had stabilised changes in the

sizes of firms in the past (e.g., distribution of ability and wealth, technical and market constraints) were no longer exerting the same influences; little attention was actually devoted to the topic until the 1930's. In this period he identifies two notable developments; the publication of The Modern Corporation and Private Property by A.A. Berle and G.C. Means(5) in 1932, and the publication of R. Gibrat's Les Inéqualités économiques (6) in 1931. Berle and Means drew attention to the role of the large industrial corporations in the United States, and in brief terms, Gibrat postulated that the logarithms of firms' sizes were distributed normally. Prais examines Gibrat's law in some detail but for the purposes of this section it can be reviewed very briefly. In statistical terms Gibrat's law of proportionate effect states that all firms <sup>have the same chance</sup> ~~tend~~ to grow at equal proportionate rates. Thus, it is predicted that concentration will increase. This is because, unlike many physical phenomena which have their absolute sizes distributed normally due to the existence of tendencies to regress towards a mean (e.g. human heights); an economic phenomenon, like firm sizes, has its regressive influences outweighed by anti-regressive influences. Reasons why this may be so are examined in the next section. To summarise, Prais has drawn a direct line from Marshall's acknowledgement of the longevity of the 'tall' and 'strong' to Berle and Means' empirically based recognition of role of the large firm in society, and then to reinforce his point, has produced Gibrat's statistical law to hint that the trend may be inevitable.

In empirical terms Prais' study in conjunction with P. Hart has concluded that a 'Gibrat-type process' was evident in Britain and was probably the most important long-run factor explaining the rise in concentration. (7) Their study examined the growth of quoted industrial companies in Britain from 1885 to 1955. In effect, Hart and Prais concluded not only that "... the dispersion of firms' sizes was increasing over time..." but that "...this can be explained by the hypothesis that the growth of firms was random and multiplicative in nature."(8) In their book on the topic of industrial concentration, S. Aaronovitch and M.C. Sawyer reveal that they appear to agree with Hart and Prais by indicating that the typical size-distribution of firms is in fact close to a log-normal distribution. (9) However, they proceed to point out that this approach does have at least one disadvantage;

"... it is not entirely clear that there is any underlying theory of industrial behaviour other than the one based upon 'random' behaviour."(10)

In this context, they continue, the "... growth of the firm is random with respect to economic factors."(11) It would seem therefore that the applicability of Gibrat's Law and its associated 'randomness' may imply some degree of ignorance about the growth process itself. In terms of the objectives of this chapter, the fact that the process is not fully understood does not diminish the importance of the ultimate conclusion that there appears to have been an empirically verifiable trend of rising concentration (at least up to 1955).

It is possible to consolidate this conclusion and extend it to more recent times, by surveying some relevant studies and their statistics. This survey involves both types of concentration measures but begins with market or industry concentration levels in the manufacturing sector. In their evaluation of the progress of concentration trends over time Aaronovitch and Sawyer used a number of basic investigations as their raw material, and they were as follows:- (12)

- Year in Question - 1935 : Leak and Maizels (13),  
Board of Trade (14)
- 1951 : Evely and Little (15)
- 1958 : Armstrong and Silberston(16).  
Shepherd(17)
- 1963 : Sawyer (18), Shepherd(19)

Attempting to combine all of these studies is a complex process and introduces a number of problems.(20) However, Aaronovitch and Sawyer conclude that while they were not able to make exact comparisons covering the whole period extending from 1935 until 1968 (1968 from their own calculations), they were able to state that for each sub-period examined, concentration had shown an increase, and that the rate of increase appears to have accelerated towards the end of the entire period. In order to obtain the statistics upon which this conclusion is based it is necessary to go to a different source. In a separate article, the same authors present some figures on the rate of change in concentration in British manufacturing from 1935 to 1968, and these figures are reproduced in Table 2-1 which follows: (21)



Table 2-1

Rates of change in concentration 1935-1968

|                           | 1935-51(a)<br>% | 1951-58(b)<br>% | 1958-63(c)<br>% | 1963-68(c)<br>% |
|---------------------------|-----------------|-----------------|-----------------|-----------------|
| Actual change over period | +7.22           | +5.21           | +8.27           | +8.66           |
| Annual rate of change     | 0.44            | 0.73            | 1.60            | 1.67            |

Source: Aaronovitch, S., and Sawyer, M.C., "The Concentration of British Manufacturing", Lloyds Bank Review, 1974, October p.15

Notes: (a) Determined from three-firm concentration ratios based on employment and taken from Leak and Maizels (22) and Evely and Little.(23)

(b) Determined from concentration ratios based on employment and taken from Armstrong and Silbertson.(24) x

(c) Determined from five-firm concentration ratios based on sales and taken from Sawyer.(25)

From Table 2-1 it is apparent that for the four sub-periods given there was within each sub-period an actual increase in concentration. Moreover, the annual rate of change has, over the entire range of sub-periods given, shown an increase which approaches a multiple of four.

The writings of K.D. George represent another substantive source which uses the most recent evidence available to come to primarily the same conclusions as above for the 1958 to 1963, and 1963 to 1968 sub-periods. In his article on industrial concentration in the United Kingdom, which was published in 1972, K.D.George came up with the following overall results for the 1958 to 1963 sub-period:(26)

- (a) There had been a significant increase in the average five-firm sales concentration ratio level of from 54.4 per cent in 1958 to 58.9 percent in 1963 (209 products analysed).
- (b) Out of the 209 products analysed 67 percent had shown an increase and 32 percent a decrease in concentration.
- (c) The industry groups which revealed the highest increases were: food and drink; vehicles; textiles; leather clothing and footwear.

George points out that the industries which showed the highest increases, along with electrical engineering, were also heavily affected by acquisitions and mergers in the 1960's.

In 1975 K.D. George published a follow-up article which was intended to extend his analysis.(27) In his examination of the 1963 to 1968 sub-period for the U.K., he was able to use the most recent 1968 Census of Production figures which were made available in 1974. In general terms he found that for the roughly 150 products for which comparisons could be made, using five-firm ratios, the unweighted average concentration ratios in 1958, 1963 and 1968 were 56.6 per cent, 59.6 percent and 65.4 percent respectively. As a result he was able to pointedly conclude that the average increase in concentration from 1963 to 1968 was nearly twice the average for 1958 to 1963. Table 2.2 presents some of the findings in more detail as follows:-

Table 2-2

Concentration Statistics

| Industry Group                       | No. of Products | Weighted Concentration Ratios(a) |      |        | No. of Products in which concentration |                             |    |   |
|--------------------------------------|-----------------|----------------------------------|------|--------|--|-----------------------------|----|---|
|                                      |                 | 1963                             | 1968 | Change | (b)<br>Increased<br>All 10%            | (c)<br>Decreased<br>All 10% |    |   |
| Food, drink<br>tobacco               | 42              | 78.8                             | 81.5 | + 2.7  | 25                                     | 2                           | 15 | - |
| Chemicals and<br>allied              | 47              | 75.4                             | 78.9 | + 3.5  | 21                                     | 5                           | 25 | 1 |
| Metal Manufactures                   | 20              | 63.7                             | 75.3 | +11.6  | 17                                     | 6                           | 3  | - |
| Plant Machinery &<br>Instrument Eng. | 40              | 49.7                             | 53.9 | + 4.2  | 24                                     | 8                           | 15 | 5 |
| Electrical Eng.                      | 27              | 66.4                             | 75.9 | + 9.5  | 24                                     | 10                          | 3  | - |
| Vehicles                             | 9               | 87.7                             | 93.4 | + 5.7  | 8                                      | 1                           | 1  | - |
| Metals n.e.s.                        | 21              | 55.3                             | 58.3 | + 3.0  | 13                                     | 2                           | 8  | - |
| Textiles                             | 28              | 41.6                             | 52.8 | +11.2  | 25                                     | 11                          | 3  | - |
| Leather, clothing &<br>Footwear      | 19              | 27.3                             | 32.2 | + 4.9  | 14                                     | 7                           | 5  | 1 |
| Bricks, pottery,<br>glass, cement    | 16              | 59.7                             | 65.4 | + 5.7  | 13                                     | 6                           | 2  | - |
| Timber, furniture                    | 9               | 22.2                             | 23.4 | + 1.2  | 4                                      | 1                           | 4  | - |
| Paper, printing,<br>publishing       | 10              | 51.4                             | 52.4 | + 1.0  | 5                                      | -                           | 5  | - |
| Other                                | 14              | 62.5                             | 60.7 | -1.8   | 9                                      | 2                           | 5  | - |
| All manufacturing                    | 302             | 63.9                             | 69.4 | +5.5   | 202                                    | 61                          | 94 | 7 |

Source: George, K.D., "A Note on Changes in Industrial Concentration in the United Kingdom", Economic Journal, 1975 vol. 85 pp. 124-128. Data taken from: Department of Industry. Report on the Census of Production 1968 part 158, Summary tables: Enterprise Analyses, table 44, H.M.S.O. 1974.

- Notes: (a) Weighted according to total sales of each product as in 1968 Census of Production.
- (b) Concentration measure used was five-firm sales concentration ratio.
- (c) For six products there was no change.

Looking first at the large increases in concentration, i.e. greater than or equal to 10 per cent, George remarks that out of the 202 increases, 61, or 30 per cent were in the large category; while in the 1958 to 1963 sub-period the comparable proportion was only 18 per cent. On an individual industry basis he makes the general observation that those industries in which big increases of concentration took place were also the ones in which merger activity was especially strong in the 1960's. The industries which stand out are as follows:- metals, electrical engineering, vehicles, textiles, leather clothing and footwear, and bricks pottery glass cement. Of special note are metals which reflects the rationalisation of steel in 1967, and electrical engineering in which 10 of the 24 increases were greater than or equal to 10 per cent, and these were in transformers, switchgear, domestic appliances and electronic and radio communications equipment. In the final analysis, George's figures reveal that for the sub-period 1963 to 1968 there was an overall predominance of concentration increases among the 302 products examined, and they therefore also accord with the general conclusion reached by Aaronovitch and Sawyer.

One of the weaknesses of market or industry concentration measures is that they do not take account of the extent to which the same firms are able to operate in a number of different economic sectors, and are thus able to wield significant levels of influence. However, the advantage of aggregate measures of concentration, and the reason why they are particularly relevant, is the fact that they

- 22 -

give a somewhat rough guide to the total power of firms. Table 2-3 presents a number of standard aggregate concentration measures extended over time and the data revealed that with few exceptions the shares of the largest firms in terms of employment (1935 to 1971) and net output (1909 to 1970) have been steadily increasing.(28)

Table 2-3

Aggregate concentration in manufacturing sector by employment (1935-1971): by output (1909-1970) in the U.K.

(a) Share (%) of largest firms in employment (firms ranked by employment)

| Number of Firms | 1935 | 1958 | 1963 | 1968 | 1970 | 1971 |
|-----------------|------|------|------|------|------|------|
| 50              | 15   | 21.1 | 24.3 | 29.4 | 31.8 | 31.5 |
| 100             | 22   | 27.7 | 32.6 | 37.8 | 40.5 | 39.7 |
| 200             | 28   | 35.3 | 42.0 | 47.1 | 49.3 | 49.0 |

(b) Share (%) of largest firms in net output (firms ranked by output)

| Number of Firms | 1909 | 1924 | 1935 | 1949 | 1958 | 1963 | 1968 | 1970 |
|-----------------|------|------|------|------|------|------|------|------|
| 50              |      |      |      |      | 24.7 | 27.9 | 32.4 |      |
| 100             | 16   | 21   | 24   | 21   | 32.3 | 37.4 | 42.0 | 46*  |
| 200             |      |      |      |      | 41.0 | 47.9 | 52.5 |      |

\* Estimate (from source)

Source: Aaronovitch, S., and Sawyer, M.C., Big Business, Macmillan, 1975, p. 117.

This increasing trend as evidenced in the above aggregate concentration measures has led one authority on the subject, namely S.J. Prais, to speculate that at the current rate of increase (i.e. current in 1973) the largest one hundred manufacturing firms may account for two-thirds of net manufacturing output by 1983. (29) This type of speculation

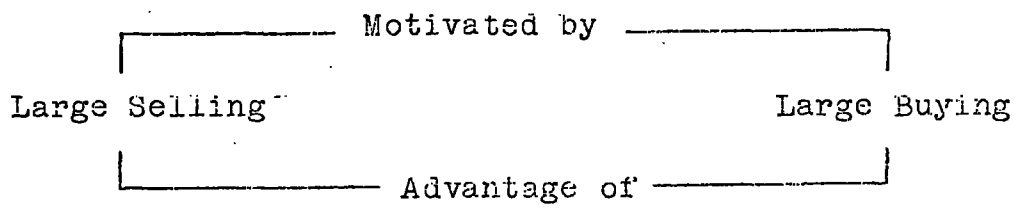
aside, on the basis of the above information it is possible to conclude that, subject to their own limitations, both the industry and aggregate measures do confirm an overall increasing trend in concentration.

Factor Market Structural Arrangements

Within the overall framework of the thesis it was intended that this chapter, in accomplishing its primary objective of confirming the existence of a long run secular increase in concentration, should also achieve at least two subsidiary aims.

One aim was to show that there was a sound theoretical underpinning for believing that the creation of large sellers in the manufacturing sector may, pari passu, mean the creation of large buyers. At the beginning of the chapter it was postulated that the parallel growth of large sellers as significant, factor market buyers could be accepted on the basis of logical argument alone. However, as the following diagram illustrates, this logical argument could be greatly strengthened and unified if it could be shown that there exists a circularity of motivation.

Figure 2-1  
Circularity of Size Motives

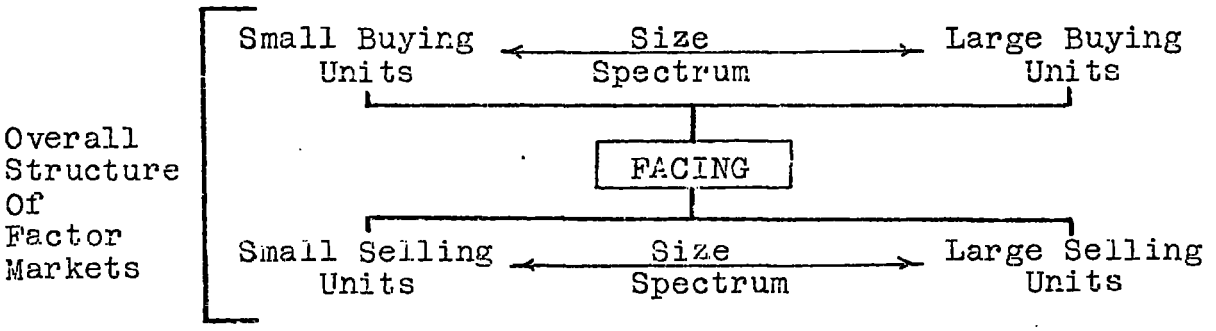


In effect Figure 2-1 suggests that a large seller could be partially motivated to grow so that it becomes a large buyer; and the ability to behave as a large buyer, represents one of the positive advantages of being a large seller. This argument will be developed in the next section but its structural implications are considered in this one.

Another subsidiary aim of the chapter is to, in general terms, describe the structural arrangements or components of factor markets which are of particular relevance to this analysis. On the basis of what has already been surveyed, it is apparent that factor markets must certainly be in part composed of large selling and large buying units. Looking at both sides of the market the situation may be fairly represented by the following schema:

Figure 2-2

Total Factor Market Structure



This far, the analysis has only confirmed the existence of the large units in this schema and so it is necessary to validate the existence of the other sizes of trading units. x

Obviously, given the complexity of general economic trading patterns and the vast number of differences between the input and output co-efficients of various productive processes; there is every reason to believe that large scale enterprise buyers will not purchase significant quantities in terms of each input's total market, of all their sundry factors of production. Moreover, while the



statistics confirm a growing role for large firms within key areas of economic activity, there still exists a fairly large number of small and medium sized firms in most of the industry groupings in the manufacturing sector. Table 2-4 below summarises the rough size distribution of manufacturing establishments in 1972 according to Standard Industrial Classifications (S.I.C.)(30) It is noteworthy that the SIC descriptions in Table 2-4 closely follow those industry groupings presented in Table 2-3 in relation to increases in concentration.

Table 2-4

Proportions of Units by Employment Size by SIC Order United Kingdom

| <u>SIC Order</u> |                                      | Proportion of Units Employing<br>From 11 to 199 Employees |
|------------------|--------------------------------------|---|
| III              | Food drink and tobacco               | 81.9  |
| V                | Chemicals and allied                 | 79.1  |
| VI               | Metal Manufacture                    | 78.7  |
| VII              | Mechanical Engineering               | 88.5  |
| VIII             | Instrument Engineering               | 86.4  |
| IX               | Electrical Engineering               | 77.6  |
| XI               | Vehicles                             | 77.0  |
| XII              | Metals n.e.s..                       | 92.7  |
| XIII             | Textiles                             | 82.6  |
| XIV              | ) Leather, cloting and<br>) Footwear | ) 91.5  |
| XV               |                                      |   |
| XVI              | Bricks, Pottery, glass, cement       | 86.4  |
| XVII             | Timber, Furniture                    | 96.0  |
| XVIII            | Paper, printing, publishing          | 89.9  |
| XIX              | Other                                | 88.5  |
|                  | Total                                | 87.4  |

Source: Department of Industry, Business Monitor PA 1003 1972.  
H.M.S.O. 1975

The size range of from 11 to 199 employees was chosen for Table 2.4 because this was the statistical definition given to a small firm belonging to the manufacturing sector by the Bolton Committee inquiry into small firms. (31) (32) The major deficiency with the information in Table 2-4 is that the manufacturing unit refers to an establishment, and not to a separate legal entity, or enterprise. As suggested in Appendix 2-1 an enterprise may have more than one establishment, and so, included in the proportions shown in the table there are almost certainly a large number of establishments which are either wholly owned by, or are branches and subsidiaries of, large firms. Since most Census material is collected on an establishment basis, it is difficult to overcome this problem and it becomes necessary to use somewhat crude data in order to gain an impression of the size dispersion of enterprises. The Bolton Committee was faced with the same problem but managed to come up with the following incomplete set of statistics:(33)

Table 2-5

Number of Establishments and Enterprises in Manufacturing in the U.K., 1924-1963 (Thousands)

|      | <u>Establishments</u> |              |               | <u>Enterprises</u> |              |               |
|------|-----------------------|--------------|---------------|--------------------|--------------|---------------|
|      | <u>Total</u>          | <u>Small</u> | <u>Larger</u> | <u>Total</u>       | <u>Small</u> | <u>Larger</u> |
| 1924 | 163                   | 160          | 3             | -                  | -            | -             |
| 1930 | 168                   | 164          | 4             | -                  | -            | -             |
| 1935 | 148                   | 144          | 4             | 140                | 136          | 4             |
| 1948 | 108                   | 103          | 5             | -                  | -            | -             |
| 1951 | 102                   | 96           | 6             | -                  | -            | -             |
| 1954 | 97                    | 91           | 6             | -                  | -            | -             |
| 1958 | 93                    | 85           | 8             | 70                 | 66           | 4             |
| 1963 | 90                    | 82           | 8             | 64                 | 60           | 4             |

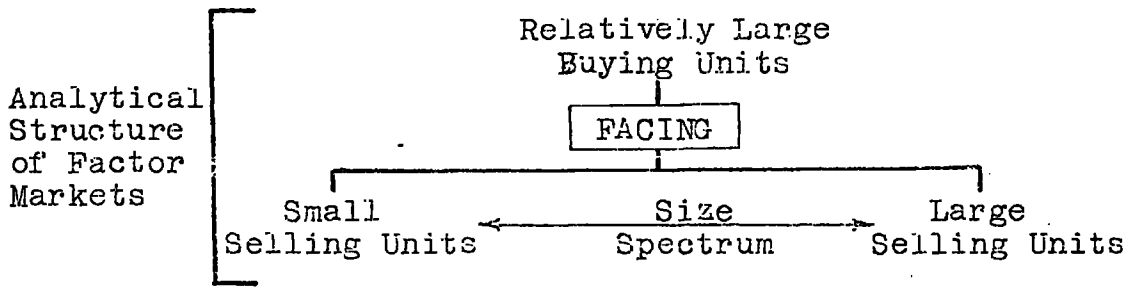
Source: Small Firms, Cmnd. 4811 H.M.S.O., 1972 p.60.

All of which, when combined, tends to confirm the existence of a spectrum or range of firms of different sizes which may be involved in factor market trading relations.

In conventional economic theory allocative problems emerge when trading relations fall outside of the parameters of the pure models of the market and the firm. That is, when at least one of the parties can influence the conditions attached to the exchange, for example, when there is a shift from being a 'price-taker', to being a 'price-maker'. At this stage the analysis is concerned with the fact that industrial concentration trends mean that relatively large buyers are operating in factor markets which are populated by suppliers of differing sizes. Consequently, it is possible to schematically represent this necessarily more narrow structural analysis of factor markets as follows:-

Figure 2-3

Analytical Factor Market Structure



In this section an attempt has been made to establish and clarify the general structural conditions of factor markets which are relevant to the overall analytical framework of the thesis. It is against this backdrop, that the next chapter looks at what these conditions may mean in terms of industrial conduct and performance.

Some Contributory Factors in the Process of Industrial  
Concentration

It was suggested in a previous section that the process of industrial concentration may not really be fully understood, and that moreover, in some instances there was a suspicion that the process might be random with respect to economic factors. Despite this apparent indeterminacy, or perhaps because of it, there is nevertheless an abundance of posited contributory factors. This section is mainly restricted to reviewing those factors which appear to be of particular relevance to factor market trading relations.

In his paper on concentration, S.J. Prais indicates that in a study of contributory factors he would weight changes in the industrial capital markets very heavily indeed.(34) While he does not elaborate in any detail, Prais suggests that changes in personal wealth and taxation along with company taxation and the influence of financial institutions - the insurance companies, pension funds and unit trusts - has meant that industrial capital has gravitated towards the larger quoted companies. In fact, he posits that lower capital costs may have actually provided a positive incentive for the development of 'large financial units'. This is indeed a compelling factor; however, it is possible to speculate that in theory the industrial capital market to some degree represents a screen behind which a number of more technical motives lie. In other words, there may exist a number of positive advantages in being large and that, at least initially, capital moved in response to these specific advantages and

not solely because it may have been mesmerised by largeness. In which case, a study of the concentration process might fruitfully look not only at changes in the industrial capital market but at what rationalisations lay behind the investment decisions.

In a brief examination of the determinants of concentration Douglas Needham identifies some of the more technical aspects of the process. (35) On the assumption that firms attempt to minimise unit costs; the maximum and minimum number of firms in a particular industry will coincide if the industry's long-run average cost curve is 'U' shaped. This means, of course, that economies of scale have been exhausted and that there are diseconomies of scale beyond the one scale of output which minimises unit costs. Under these conditions the number of firms in the particular industry will be a function of scale economies and the size of the market. In reality, as Needham points out, there may be a number of different scales of output which minimise unit costs and in any case, there is no justification why firms should necessarily seek the objective of unit cost minimisation. Under conditions of profit maximisation other factors come into play, such as the firm's pricing strategy. For example; a firm could produce at levels of output which did not minimise costs but also sell at prices which covered the costs, and continue to do so through the existence of entry barriers. The introduction of structural or market imperfections tend to throw into question the rather deterministic constructs associated with such assumptions as unit cost minimisation, and

return the analysis to an examination of the plethora of different possible contributory factors. This is complicated by the fact that many of these factors may be specific to a particular industry or market situation.

A more complete, and necessarily general, approach to the question of why there has been an increase in aggregate concentration has been offered by J.F. Pickering.(36) Returning to Gibrat's law on proportionate effect, Pickering suggests that contributory factors probably relate to circumstances which have favoured the large firm (i.e. the anti-regressive influences) and disadvantaged the small firm (i.e. the regressive influences). He then considers some of the relevant circumstances in each case starting with the notion that technical progress may have raised the minimum optimum size of firm. While he grants the possibility that this may have occurred in some instances, he indicates that it is more probable that the motivation underlying increased concentration can be attributed to what he terms the "...pecuniary advantages of increasing size..." and these pecuniary advantages are manifested "...through superior buying power, greater ability to spread risks and to stabilise earnings."(37) Also of relevance, he cites the pressures to grow exerted not only from within the firm but by external sources such as the stock market. This is a factor which complements Prais' argument presented above. The final factor, suggested by Pickering, which can influence large firms is that of growth in order to preserve managerial independence. On the topic of the absence of regressive tendencies by small

firms Pickering suggests that this may be due to deficiencies in capital availability and managerial expertise. The net result of these kinds of trends or circumstances appears to be an increasing economic role for large firms and a decreasing one for small enterprise, and this is mirrored to some extent by the U.K. concentration measures.

A comment which is of particular interest relates to Dr. Pickering's identification of 'superior buying power' as one of the 'pecuniary advantages' of increasing size. In effect, the advantage probably lies in economies of buying, and in this respect it is possible to briefly focus upon the distinction that one writer on the subject of large corporations, Graham Bannock, has made regarding purchasing economies.(38) Bannock identifies two distinct types:

"...first those arising where the purchaser's exercise of buying power forces the supplier to reduce his profit margin; second, genuine cost economies for the supplier resulting from the reduced handling-costs of large orders."(39)

He then comments that; "... in the United States the Robinson-Patman Act makes price discrimination of the first type illegal. "(40) Regardless of the legality involved in the exercise of buying power, it is a theme which is of relevance to economic analysis, and its general implications will be explored in more detail in the next chapter.

A previously referenced writer in the field of industrial concentration, K.D. George, has suggested that "... the tendency towards larger units and increased concentration is likely to be accentuated by the increasing amount of government intervention in industry."(41) He continues on to indicate that the government's direct participation in industries like shipbuilding, aircraft, iron and steel and its involvement in planning "... reinforces any tendency for industrial activity to be organised in fewer and larger businesses."(42) The role of the government as an agent in the concentration process can quite obviously not be overlooked. Associated with this role is the one played by the nationalised industries as buyers of goods and services, for they too may be expected to exercise a powerful influence in factor markets. Thus George introduces another significant element into the analysis of factor market structures.

To summarise: out of this section two salient points have emerged. The first is that large scale enterprise may not only find the exercise of factor market buying power a positive incentive to grow: but also a pecuniary advantage of being large. The second point, which is of associated significance, is that the analysis of large buyer trading relations must not only involve private enterprise, but public enterprise as well. The two questions which are begged by this section are: Why is buying power such an inducement? How may it be exercised? To a major extent these two questions form the centrepiece of this thesis' attempt to examine factor market buyer/supplier



relations, and as such, the next four chapters are devoted to the development of some possible answers within that context. Chapter 3 concentrates upon some of the inducements dealt with by economic theory, and while Chapters 4, 5 and 6 primarily focus upon the 'hows', they also introduce a number of additional 'whys'.

Chapter 2

Footnotes and References

1. Pickering, J.P., Industrial Structure and Market Conduct, Martin Robertson & Co. Ltd., London 1974 p. 1.
2. *ibid.* p. 2.
3. Prais, S.J., "A New Look at the Growth of Industrial Concentration", Oxford Economic Papers, 1974, vol. 26, no. 2, pp. 273-288.
4. The notable exception to this, as S.J. Prais acknowledges, lay in the writings of Karl Marx. However, because of their controversial nature, Prais suggests that they were outside 'scientific discourse'.
5. Berle, A.A., and Means, G.C. The Modern Corporation and Private Property, Macmillan, 1932
6. Gibrat, R., Les Inégalités économiques, Sirey, Paris, 1931
7. Hart, P.E., and Prais, S.J., "The Analysis of Business Concentration; A Statistical Approach", Journal of the Royal Statistical Society, Series A., vol. 119, 1956.
8. Prais, *op. cit.*, p. 277.
9. Aaronovitch, S., and Sawyer, M.C., Big Business, Macmillan, 1975.
10. *ibid.*, p. 76.
11. *ibid.*, p. 77.
- 12., *ibid.*, chp. 4.
13. Leak, H. and Maizels, A., "The Structure of British Industry", Journal of Royal Statistical Society, 1945 Series A., vol. 108.
14. Board of Trade, Report on the Census of Production 1935, H.M.S.O., 1945.
15. Evely, P. and Little, I.M.D., Concentration in British Industry, Cambridge University Press, 1960.
16. Armstrong, A., and Silberston, A., "Size of Plant, Size of Enterprise and Concentration in British Manufacturing Industry 1935-58", Journal of Royal Statistical Society, Series A. vol. 128.
17. Shepherd, W.G., "Changes in British Industrial Concentration 1951-8" Oxford Economic Papers, 1966, vol. 18
18. Sawyer, M., "Concentration in British Manufacturing Industry", Oxford Economic Papers, 1971 vol. 23.

19. Shepherd, W.G., "Elements of Market Structure", Review of Economics and Statistics, 1972 vol. 54.
20. All of the reports cited are based upon Census of Production data for the relevant years and as a consequence the statistics are not directly comparable on a year-to-year basis. This non-comparability is attributable to the not infrequent changes in the way in which the information has been collected by the Census. Aaronovitch and Sawyer also suggest that another problem exists with these reports and that is the fact that in not covering the whole of the manufacturing sector, i.e., only specific industries or products, the possibility exists that the industries examined were atypical. This problem is exacerbated where due to the Census changes the number of comparable products from period-to-period is small; where industrial boundaries have been altered; and where levels of aggregation are different. The authors illustrate their points by mentioning for example that Evely and Little were limited to comparing 41 out of 185 principal product concentration ratios; and that aggregation levels in terms of sales figures have moved from 239 industries in 1935 to 119 in 1963. See Aaronovitch and Sawyer, Big...., op. cit., p. 102.
21. Aaronovitch, S., and Sawyer, M.C., "The Concentration of British Manufacturing", Lloyds Bank Review, 1974, Oct. pp. 14-23.
22. Leak and Maizels, op. cit.
23. Evely and Little, op. cit.
24. Armstrong and Silbertson op. cit.
25. Sawyer, op. cit.
26. George, K.D., "The Changing Structure of Competitive Industry", Economic Journal Supplement, 1972 vol. 82.
27. George, K.D., "A Note on Changes in Industrial Concentration in the United Kingdom", Economic Journal, 1975, vol. 85 pp. 124-128.
28. Aaronovitch and Sawyer, Big...., op. cit., p. 117.
29. Prais, op. cit., pp. 284-285.
30. Department of Industry, Business Monitor PA1003; Analyses of United Kingdom Manufacturing (Local) Units by Employment Size 1972 H.M.S.O. 1975

31. Small Firms: Report of the Committee of Inquiry on Small Firms, Cmnd. 4811, HMSO., 1972.
32. Statistics are not collected for units employing 10 or less.
33. Cmnd. 4811 op. cit., p. 60.
34. Prais, op. cit.
35. Needham, D., Economic Analysis and Industrial Structure, Holt, Rinehart and Winston Inc., 1969, pp. 94-95.
36. Pickering, op. cit. pp. 18-19.
37. *ibid.*, p. 19.
38. Bannock, G., The Juggernauts: The Age of the Big Corporation, Penguin, 1972.
39. *ibid.*, p. 85.
40. *ibid.*
41. George, K.D. "Changes in British Industrial Concentration 1951-58", Journal of Industrial Economics, 1967 July, p.200.
42. *ibid.*

Appendix 2-1

Some Problems and Deficiencies Associated with Concentration Measures.

The first set of problems relate to the choice of variables. A particular facet of this problem which is often cited is related to the use of 'firms' or 'plants'. When using the number of 'firms' in the concentration calculation, the emphasis is upon the separate decision making units; but for measures using 'plant' shares, the focus is upon production units. The relevant feature of this distinction lies in the fact that where firms tend to have several plants, levels of concentration of firms will be higher than those of plants. In such cases the main concern is basically one of cross-sectional data comparability and the industry measure appears to be the one which is most likely to be effected. Measures of aggregate concentration generally use the same data base from one time period to the next, e.g. the share of the largest 100 organisations, and so there is some degree of consistency. However, with industry measures there is obviously a need for caution in relation to how the relevant 'firm' has been defined in terms of the firm concentration ratios employed. Another consideration which is relevant to the selection of variables involves the frequent use of output and sales data. Aside from the apparent difficulties of data collection, there is also the fundamental difficulty associated with the fact that differing levels of vertical integration can introduce an element of double-counting in cross-sectional studies which use gross output data.

Once again market concentration measures appear to be particularly susceptible to this type of problem since the emphasis is upon a product's or industry's data over time and not on a firm's or organisation's overall total growth in a particular area, as is the case with aggregate measures. Finally, similar types of problems are also encountered in the use of asset and employment levels as size variables, because they too may mask an important factor. In this instance the hidden factor is the varying degrees of capital intensity in production. Dr. Pickering in his review of the above problems, suggests that since capital intensity may be positively correlated with firm size, asset measures will overstate, and employment measures will understate, the true levels of concentration.(1) The short method of coping with this problem would appear to be not to use a unitary measure of concentration and for the studies used in Chapter 2, this approach was adopted. In terms of the two preceding potential problems, the thesis is forced to rely upon the expertise of the authors of the relevant studies to ensure a consistent data base.

Of potentially more direct relevance to the chapter are the four major deficiencies which Dr. Pickering indicates may be exhibited by concentration measures when they are used as indicators of market structure.(2) Firstly, there is the fundamental and valid argument that industry classifications may be inappropriate given the problems associated with identifying close substitutes (or in more technical terms, determining the relevant cross-elasticities of demand).(3) Coupled closely to this industry classification

deficiency is the fact that national concentration ratios may often disguise pockets of considerably higher regional levels of concentration. In its eventual presentation of an investigative framework the thesis will attempt to support the notion that a firm's 'effective market' is of considerable importance in factor market studies, and in some cases, this may highlight the significance of regional concentration on the buying side. At least in this respect the thesis attempts to answer the secondary deficiency. A second major deficiency lies in the fact that concentration ratios often ignore some fundamental elements of market structure, for example, aside from the already mentioned element of vertical integration, there are conditions of entry, patents, and the existence or otherwise of countervailing buying power, to name a few. With regards to the existence of countervailing or other power structures, it is the intention of the thesis to move beyond the simple presentation of concentration trends to examine economic power based relations in more detail. Thirdly, Dr. Pickering suggests that the link between concentration and conduct may be affected by a number of other influences which can come into play and invalidate the assumption that separate firms are independent of each other, and thus, behave independently. He cites as examples the existence of interlocking directorships, minority shareholdings in rivals, cartel arrangements and the strength of historical and traditional practices. It is apparent that such factors may influence the decision making process and while his examples primarily relate to the conduct among sellers, the same types

of conditions can affect relations between buyers. This is especially true with respect to the last factor, as it may also effect the ostensive independence in buyer/supplier relations. For the fourth and final deficiency Dr. Pickering warns that concentration measures may in some cases relate only to statistics on domestic production and that as a result high import shares in domestic sales could overstate degrees of market concentration if the ratios are based upon domestic production only. In addition, exports may lead to distortions in the calculation of domestic market concentration levels if large and disproportionate shares of domestic production are exported.

In essence, the above confirms the need to search for and identify salient factors which may reside behind the objective statistics available for most industries.

#### Appendix 2-1

##### Footnotes and References

1. Pickering, J.F., Industrial Structure and Market Conduct, Martin Robertson & Co. Ltd., London, 1974, p. 4
2. *ibid.*, p. 9-10.
3. A more detailed analysis of this problem is considered in: Needham, D., Economic Analysis and Industrial Structure, Holt, Rinehart and Winston, Inc., London, 1969, chp. 2.



CHAPTER 3

FACTOR MARKET BUYERS AND ECONOMIC THEORY

"Perfect competition among sellers requires two conditions, that the number of sellers shall be large, and that the customers shall all have the same preference (or the same indifference) between one firm and its rivals. Similarly perfect competition among buyers requires that the number of buyers composing a market shall be large, so that a change in the amount purchased by any one of them has a negligible effect upon the total purchases of the market, and that the sellers are indifferent as to whom they provide their wares."(Joan Robinson)(1)

Introduction

The aim of this chapter is to review in general terms the subjects of concentrated and large buyers as they appear in selected areas of economic theory in order to illustrate two fundamental points. The first point is to show that, on the basis of current theory, the conduct of large buying units, as revealed in the exercise of their bargaining power, may actually confirm and reinforce the anti-regressive influences associated with increasing levels of concentration. The second point is to establish that a quintessential factor in the ability of concentrated or large buying firms to exploit, or benefit from, their dominant positions is the sellers' dependence upon their buyers, that is, the absence of the seller's indifference as to whom they provide their wares.'

The chapter begins with a brief discussion of the parameters of buyer concentration, and then an outline of the types of market structures to be reviewed is presented. This is followed by an examination of the conditions surrounding each respective type of market structure. The penultimate section of the chapter reviews two empirical studies, one on producer goods markets and the other on buyer concentration. The chapter's conclusion attempts to summarise how the two points, concerning anti-regressive influences and the role of dependence, have been met.

Buyer Concentration and Relevant Forms of Market Structure

In a market structure context J.S. Bain describes the degree of buyer concentration as "... the number and size distribution of the buyers who make up the market which a given industry of sellers supplies."(2) The various degrees of concentration which may exist cover a range which runs from monopsonistic, through to oligopsonistic, and into atomistic buying markets. Against these buying market structures it is possible to set the various types of selling markets and these range from monopoly, to oligopoly, to atomistic as well. These descriptions may be used to distinguish and classify different types of buyer-seller market structures, for example, Bain identifies the following important categories which may be distinguished on the basis of both buyer and seller concentration:(3)

1. Fully atomistic markets; many small buyers and many small sellers.
2. Simple oligopoly; many small buyers with a significant degree of seller concentration.
3. Simple oligopsony; significant degree of buyer concentration and many small sellers.
4. Bilateral oligopoly; significant degree of buyer concentration and significant degree of seller concentration.

However, since this thesis is primarily concerned with the role of large scale enterprise as buyers, this chapter is limited to the following types of buyer and seller market structures:

1. Monopsony; single large buyer and perfectly competitive or atomistic sellers.
2. Bilateral Monopoly; single large buyer and single large seller.
3. Oligopsony and bilateral oligopoly.
4. The large firm as a buyer facing a number of imperfectly competitive suppliers.

The fourth type of structural arrangement cited does not lend itself to the rigid economic classifications of the three preceding ones, but nevertheless it does employ the same theoretical concepts and analytical tools.

Associated with the structure of buyer markets are the general parameters of buyer conduct. According to J.S. Bain, in the American economy non-atomistic market structures are much more common on the selling sides than on the buying sides of markets.(4) As a result, the usual conduct of the buyer is characterised by Bain as being 'passive'. This passiveness means that each buyer acts individually and takes what is offered by the seller without "... being able to make a policy regarding the price he pays, or perceptibly influencing it or the product alternatives available to him". (5) On this basis Bain indicates that there are very few markets where buyers are few in number, and take a large enough proportion of total output so that they are able to play an 'active role'. Firms which play this role, do so by influencing or dominating price determination, and this is accomplished through their ability to withhold their significant levels of purchases. In simple terms,

it is the buyers price determining conduct which is a central factor, and it is this type of conduct which ultimately determines the associated levels of market performance.

As a concluding comment, it is noteworthy that Bain indicates that nearly all cases of non-atomistic and non-independent buying occur in producer goods markets.(6) In the sections which follow, the relevant types of buyer/seller factor market structures are examined in conjunction with the types of buyer conduct described above.

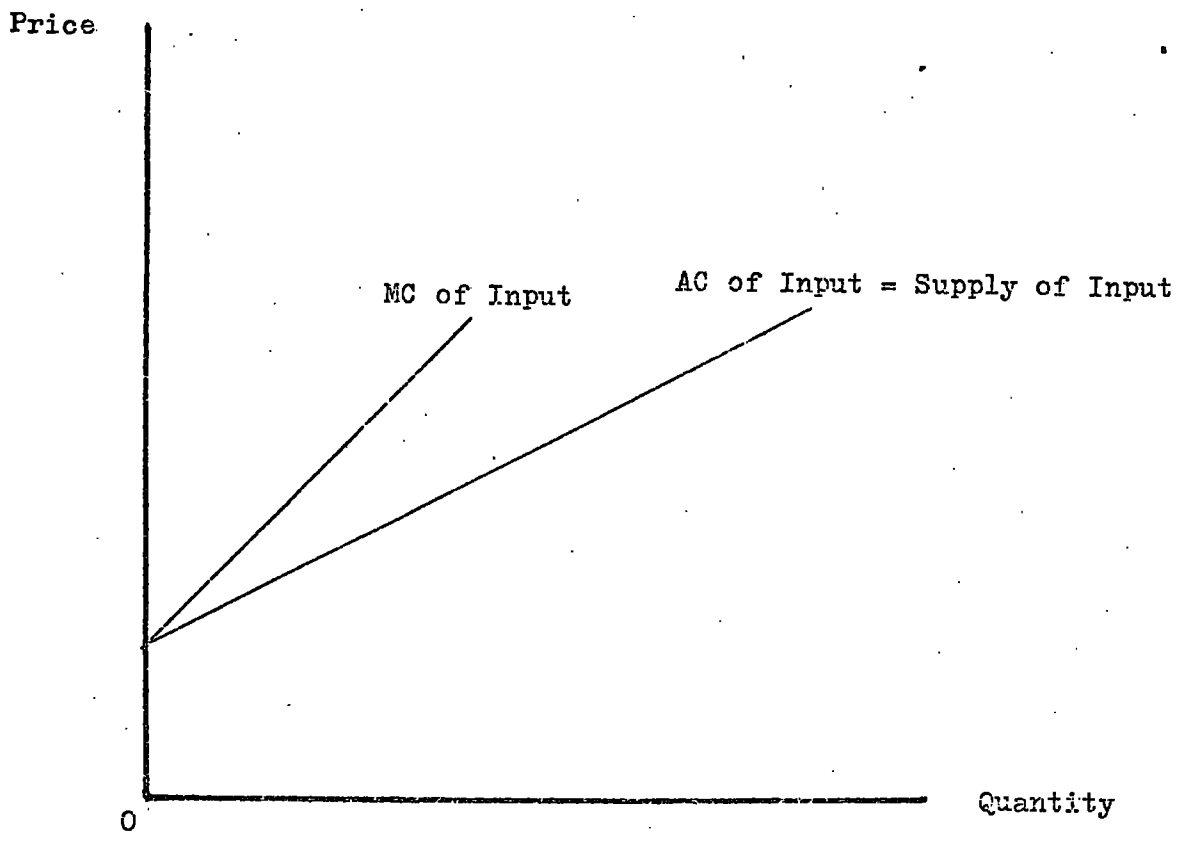
Monopsony

The first type of structural arrangement to be reviewed is that of monopsony, that is, a single large buyer facing perfectly competitive or atomistic sellers. In a general sense, the economic principles of monopsony usually serve as the foundation for understanding all non-competitive buying situations, and therefore, they are examined in some detail. It should be remembered that in most cases the analysis is concerned with the purchase of factors of production, fundamentally from other enterprises, and that this excludes from the detailed examination the acquisition of labour as a productive input. x

Because the monopsonist is the only buyer of a resource, he therefore faces the industry or market supply curve of that resource. This means that instead of facing a perfectly competitive type of horizontal supply curve, he is confronted by an upward-sloping one, as graphically represented in Figure 3-1. Appendix 3-1 describes how these curves may be derived and it also illustrates that the average cost of the factor or input (AC) is equal to the price of the input. The marginal cost of the input (MC) lies above the average cost curve, which is of course compatible (and necessary) with a rising average cost function.

Figure 3-1

Monopsonistic Supply Curve



The demand side of the situation is slightly more complex. As originally formulated by Joan Robinson, the demand curve for any one factor of production; "... will depend upon the demand curve for the commodity, the technical conditions of production, and the supply curves of the other factors of production."(7) In order to simplify matters it is customary to assume that the commodity demand curve and other factors' supply curves are known, and given, when a specific demand curve is being described. On this basis, when a perfectly competitive seller employs an additional unit of a factor his output is increased by the marginal product of that unit. Similarly, total revenue is increased by the value of the input's marginal product; but because of market conditions, the selling price of the output remains constant. However, when the firm is a monopolist conditions change somewhat. The additional input does of course increase the output by the factor's marginal product in a fashion similar to that set out above; but in order to dispose of his larger output the monopolist must reduce the market price, and consequently, the total revenue is not augmented by the value of the factor's marginal product as under the perfectly competitive situation. This means that in imperfectly competitive situations, the addition of a unit of variable input increases revenue by the product of marginal revenue and marginal product, that is, by the increase in total revenue which is accounted for by the addition of the marginal product to output and sales. This magnitude is termed the 'marginal revenue



product' and for the sake of clarity is defined by C.E. Ferguson as follows:

"... the net addition to total revenue attributable to the addition of one unit of the variable productive service."(8)

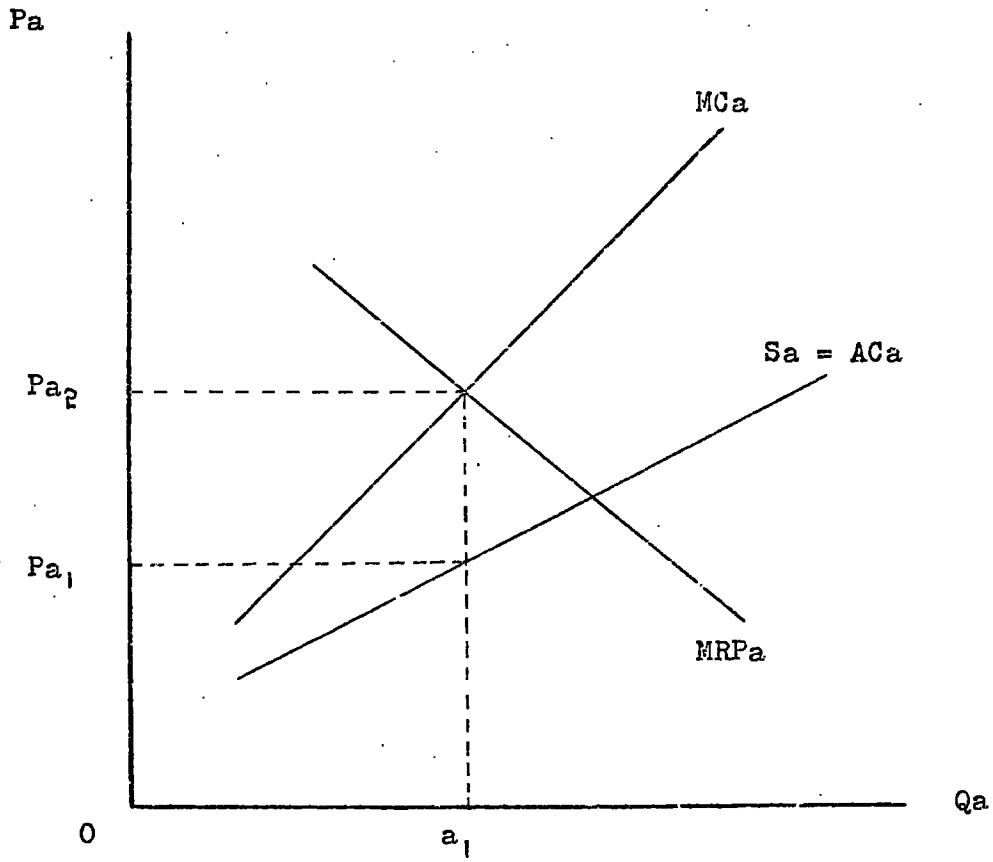
Appendix 3-2 presents a simple algebraic derivation of the concept. In terms of shape, the marginal revenue product curve (MRP) slopes downward to the right implying that marginal revenue product diminishes as output increases. This is a relationship which is accounted for by the following factors:

- (a) marginal physical product declines with the addition of variable inputs, and,
- (b) marginal revenue declines, as output increases and market price falls.

Given the relevant demand and supply curves, the monopsonist will purchase additional quantities of the factor of production provided the additional quantities contribute more to total revenue than they do to total cost. This of course assumes the underlying, and standard motive of profit maximisation. Figure 3-2 illustrates this situation for variable input factor 'a'. The monopsonist will hire quantity 'a<sub>1</sub>'; this is because at this point the marginal revenue product of input 'a' (additions to total revenue), MRP<sub>a</sub>, is equal to the marginal cost of input 'a' (additions to total cost), MC<sub>a</sub>. At the quantity of 'a<sub>1</sub>', the monopsonist faces a price of 'P<sub>a1</sub>', which is the supply price of the factor. The excess

Figure 3-2

Monopsonistic Price and Employment



of the marginal revenue product over the price paid by the firm represents a monopsonistic profit of  $Pa_2 - Pa_1$ , per unit. This pure profit is termed 'monopsonistic exploitation' and expression which is grounded in A.C. Pigou's argument that to pay a worker a wage which is less than the value of his marginal physical product of labour is tantamount to exploitation; and in this case stems from the fact that the variable factor 'a' is paid less than it contributes to total revenue.(9)

As a final point, it is apparent that the monopsonist also restricts the quantity employed of the factor in relation to what it would be under more competitive conditions.

It should be remarked that J.S. Bain indicates that instances of simple monopsony are infrequently encountered in product markets, and are more likely to exist in labour markets.(10) (It is possible to speculate that if the American economy was characterised by the existence of nationalised industries, as is the case in the United Kingdom, he might have moderated that assessment somewhat.)

However, regardless of the extent of pure monopsonistic situations, it is the overall implications which are of importance, and in terms of conduct and performance, these predict; unilateral price determination by the buyer with a tendency to restrict the quantity purchased so that the price of the factor is depressed below what it would have been under perfect competition.

Monopsonistic Discrimination

In simple terms, "... price discrimination arises when a commodity is sold at different prices to different people".(11) On the buying side this can be translated into 'buying' a commodity at different prices from different people, and this section deals with two forms of monopsonistic discrimination: first-and third degree discrimination. In analysing these two forms of discrimination, an attempt is made to describe their general relevance to large buyer/smaller supplier trading relations.

First-degree discrimination is often described as 'perfect discrimination' because it represents a situation in which the buyer is able to separate each supplier in the market. Generally speaking, if the monopsonist can practise first-degree discrimination, he is able to increase his monopsony profits. To describe how this may occur requires the following table and graph which have been adapted from R. Bilas' book on microeconomic analysis.(12)

Table 3-1

Monopsonistic Discrimination

| <u>Qa</u> | <u>ACam=Pa</u> | <u>TCam</u> | <u>MCam</u> | <u>TCap</u> | <u>MCap</u> | <u>ACap</u> |
|-----------|----------------|-------------|-------------|-------------|-------------|-------------|
| 1         | 1              | 1           | 1           | 1           | 1           | 1           |
| 2         | 2              | 4           | 3           | 3           | 2           | 1.5         |
| 3         | 3              | 9           | 5           | 6           | 3           | 2           |
| 4         | 4              | 16          | 7           | 10          | 4           | 2.5         |
| 5         | 5              | 25          | 9           | 15          | 5           | 3           |
| 6         | 6              | 36          | 11          | 21          | 6           | 3.5         |
| 7         | 7              | 49          | 13          | 28          | 7           | 4           |

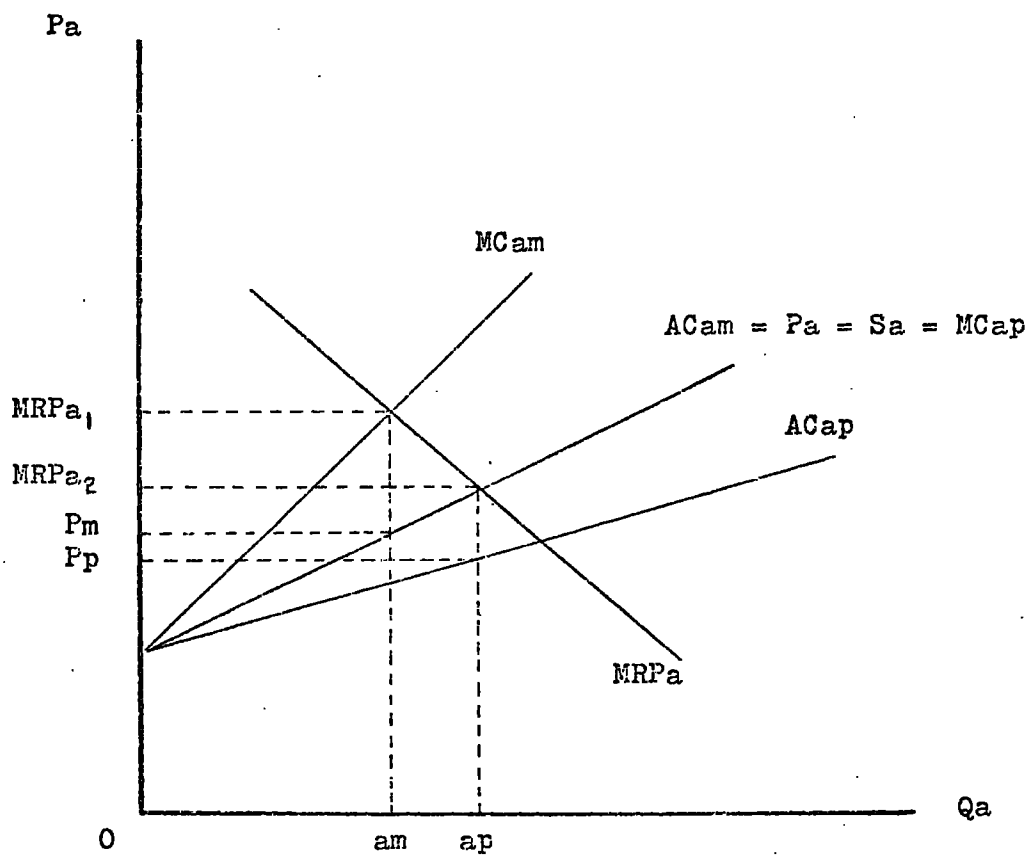
The first two columns represent the supply schedule of the monopsonised resource 'a', and the next two columns may be derived accordingly. The subscript 'm' refers to the market, while subscript 'p' refers to perfect discrimination. The monopsonist's total cost under perfect discrimination (TCap) is based upon the fact that the first unit of 'a' will be supplied for £1 while the second unit will be supplied for £2; total cost for two units of resource 'a' is £3. From Table 3-1 it is apparent that the marginal cost of 'a' with perfect discrimination is the same as the average cost when the non-discriminatory market situation is considered. It is assumed that monopsonist's supply curve is the horizontal summation of identical individual's supply curves, then it is possible to depict the situation graphically as in Figure 3-3. With a given marginal revenue product curve and without perfect discrimination the amount of 'am' is supplied at the price of 'Pm'. Under perfect discrimination an amount of 'ap' is supplied at the price of 'Pp', and monopsony profits increase from  $(MRPa_1 - P_m)a_1$  to  $(MRPa_2 - P_p)a_2$ . In essence, under perfect monopsonistic discrimination, more of the productive resource is employed at what amounts to a lower price and monopsony profits increase.

h.c. 417  
P/2

In a general sense the monopsonist "...will substitute inputs whose prices rise slowly (whose supplies are elastic) for those whose prices rise more rapidly with quantity."(13) This statement characterises third-degree discrimination which occurs if the buyer "... is able to separate factors into submarkets in which the supply

Figure 3-3

First-Degree Monopsonistic Discrimination

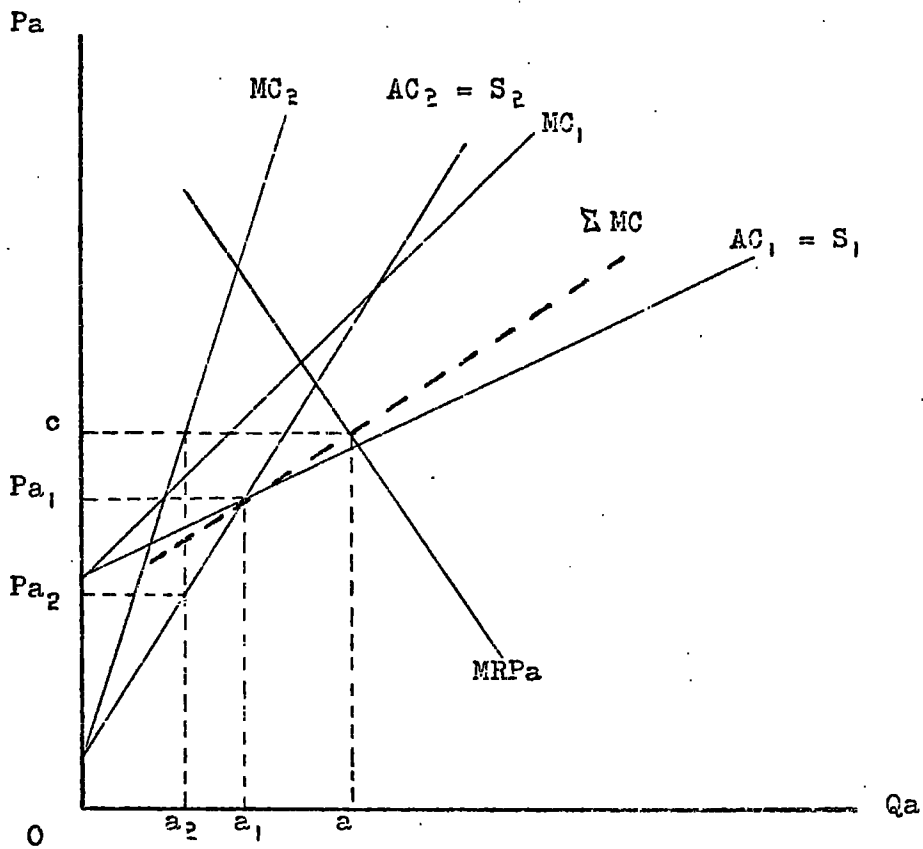


curves have different price elasticities of supply at common prices and if the monopsonistic buyer is able to keep the markets separate."(14) It is apparent that third-degree discrimination represents a refinement of the simple definition of discrimination given at the beginning; for rather than buying the same quantity at different prices, the purchaser is facing different quantities at the same price from different suppliers.

Figure 3-4 graphically represents third-degree discrimination for two submarkets.(15) In this case the monopsonist attempts to equalise marginal costs in the two submarkets, and he accomplishes this by equating the horizontal summation of the marginal cost curves for each submarket ( $\Sigma MC$ ) with his marginal revenue product curve ( $MRPa$ ). In figure 3-4 the monopolist hires a total quantity of the resource equal to an amount of 'a'. Of the total amount 'a', 'a<sub>2</sub>' is supplied from submarket 2 and a<sub>1</sub> is supplied from submarket 1. Looking at the supply curves reveals that the price paid in submarket 1 is higher than that paid in submarket 2, and since the former submarket has a more elastic supply curve, this is to be expected. R.A. Bilas suggests that this situation could occur if the factors in submarket 1 had more alternative uses than those factors in the second submarket, e.g. the factors in the more elastic submarket may be situated in a location which is more favourable for alternate employments.(16) Once again, monopsony profits have been maximised within the two submarkets.

Figure 3-4

Third-Degree Monopsonistic Discrimination





In summarising, it is possible to conclude that in large buyers/small supplier trading relations, it is obviously to the buyer's advantage if suppliers are separated into two or more classes whose elasticities of supply differ. It is also in the buyer's interests to ensure that, if he holds a dominant position similar to that of the monopsonist, his suppliers remain separated and different.

Bilateral Monopoly

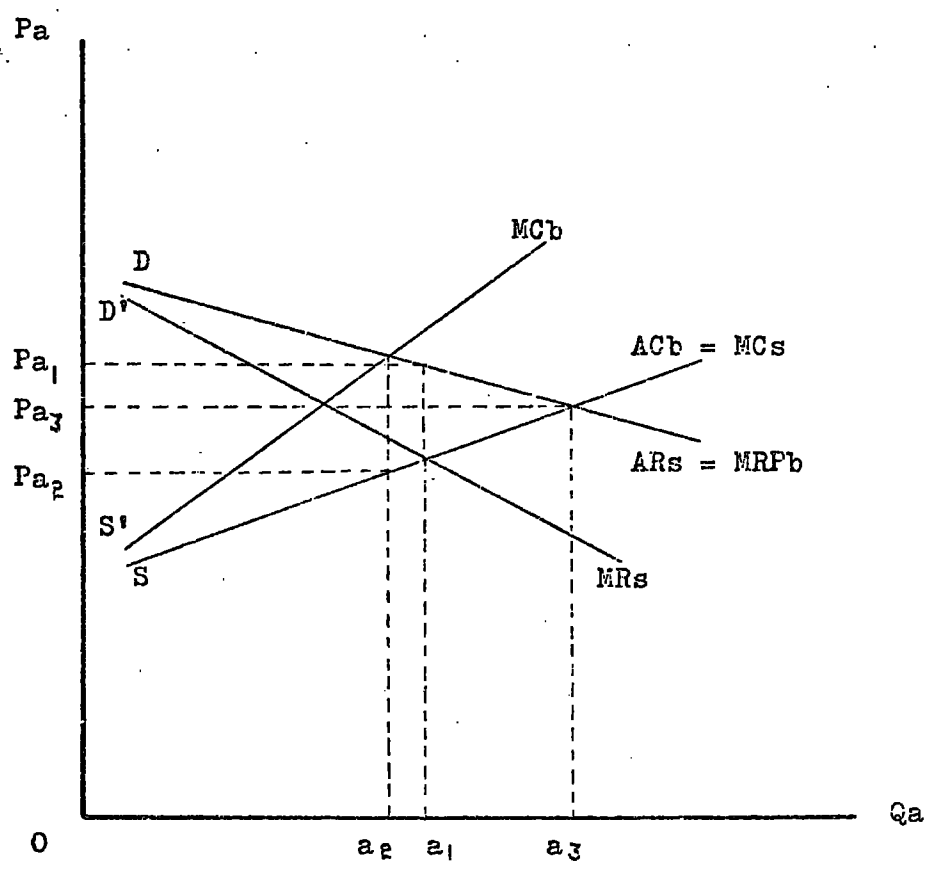
Bilateral monopoly represents a market situation in which a single seller is confronted by a single buyer. In a general sense the principles of bilateral monopoly are similar to those of bilateral oligopoly (several buyers confronting several sellers), and so a review of the graphical analysis is particularly useful.

Figure 3-5 represents the relevant curves under a situation of bilateral monopoly. (17) The monopolist's marginal cost curve is assumed to be given by 'S'. Subscript 's' depicts seller (monopolist), and subscript 'b' depicts buyer (monopsonist). The curve 'S' thus shows at any price, the price per unit which the buyer undertakes, and so it represents the average cost curve of the buyer. From the buyer's average cost curve (AC<sub>b</sub>) it is possible to construct 'S', his marginal cost curve (MC<sub>b</sub>). The monopsonist's marginal revenue product curve is given and is depicted by curve 'D'. Because the buyer would purchase quantities on this curve at fixed prices, it also represents the monopolist's average revenue curve (AR<sub>s</sub>). Once again, by construction, it is possible to derive the seller's marginal revenue curve (MR<sub>s</sub>) which is depicted by 'D'.

It is apparent in Figure 3-5 that the monopolist will maximise his profits at a price of 'Pa<sub>1</sub>' and with a quantity of 'a<sub>1</sub>'. For the monopsonist, profit maximisation occurs at the respective price and quantity levels 'Pa<sub>2</sub>' and 'a<sub>2</sub>'.

Figure 3-5

Bilateral Monopoly



'a2'. In effect, the profit maximisation objectives of the two are inconsistent and because each of the parties wants to charge a different price, bargaining ensues.(18) Bilateral bargaining implies that the better bargainer will acquire the more favourable terms and this introduces the concept of indeterminacy into the process. In J.S. Bain's terms, the performance, that is, price and output determination, is established by the bargaining or negotiating conduct of the firms which are involved, and "... the price arrived at being hypothetically variable over a range admitting both super competitive and subcompetitive prices"(19)

Aside from its value in describing the principles of bilateral situations; the most significant concept to emerge from this analysis is the notion that when imperfect competition prevails on both sides of the market, bargaining may become the essential form of conduct, and the ultimate level of performance is dependent upon the outcome of the bargaining process. The question which is begged is what determines the outcome?

Oligopsony, Bilateral Oligopoly and Countervailing Power

In this section a review is made of some of the general implications associated with market structures in which relatively few large buyers prevail.

The first type of structure to be considered is that of simple oligopsony. Under such conditions J.S. Bain suggests that large buyers are likely to exercise some degree of price control, while on the atomistic selling side of the market there is no control at all.(20) Depending upon the degree of buyer concentration, the overall tendency is for the relatively large buyers to collectively depress the price to a level below that of a fully atomistic market, and in the process, to restrict purchases. Due to a dearth of empirical evidence on buyer conduct Bain warns that "... direct reference to market performance is generally essential as a basis for inferring the guiding aims of conduct."(21) Despite this difficulty, he does offer some general observations about this structural setting.

With highly concentrated buying situations evidence often suggests either tacit collusion of the price leadership variety, or close interdependence in buying price policies among the main buyers. Performance related evidence, which is based on either supplier's price-cost ratios or hypothetical price levels, suggests the following:

"... a lowering of price roughly consistent with the maximisation of the joint profits of the buyers and little independent or competitive action on the part of individual buyers."(22)

With moderate buyer concentration and 'a fringe of small buyers', Bain indicates that performance levels approach competitive ones and buying price policies are influenced by independent and competitive action among the buyers. In essence, it can be concluded that the overall tendency may be considered as one with properties which are monopsonistic in nature.

Turning to bilateral oligopoly, Bain states that due to 'countervailing power', which arises when large buyers confront large sellers, there may be a blunting of both monopsonistic and monopolistic tendencies.(23) Thus, market conduct is usually one of bargaining or negotiation and this reflects the 'active antagonism' of seller and buyer interests. In effect, the situation is somewhat similar to that of bilateral monopoly. For his review of bilateral oligopolistic conduct, Bain draws upon what he calls 'available evidence' to make a number of interesting points, which he warns, may not be generally, or universally applicable.(24) The first point which he makes concerns the usual outcomes emerging from the patterns of bargaining, and they are; that either a general, all transaction price emerges; or a variety of prices result and these are paid by individual buyers, or in individual transactions. The

latter situation means that, in the absence of a general market price, there prevails: "... a complex of different prices reflecting a sort of 'chaotic discrimination' in price among different buyers and different transactions."(25) The general implications of monopsonistic price discrimination have already been discussed and they were shown to favour the larger buyer.

A second significant point also concerns the bargaining pattern. There is apparently little evidence to support the existence of the 'classical' very few large firms on each side of a market arriving at an agreed industry-wide price. In fact, the usual bilateral oligopoly situation is one in which there is a concentrated core of large firms on each side of the market, supplying or buying significant individual shares of total supply; and numerous smaller sellers and buyers who individually account for relatively insignificant shares of total market supply. Under such 'typical' conditions, Bain states that price determining market conduct and performance may be described as;

"... a pattern of individual negotiations of single large buyers with both large and small individual sellers, in which bargaining or negotiation the large buyer uses his relatively massive purchasing power as a lever to secure more favourable prices, and in which the sellers, as best they can, attempt to 'hold a line' on price."(26)

To some extent the bargaining power of the buyer may be lessened by the prevailing level of demand and capacity conditions. In periods of low demand and excess capacity, the large buyer can usually expect price concessions. However, under conditions of high demand and full capacity utilisation, the large buyer's power can be expected to be significantly curtailed, but the general tendency is still one of more favourable prices than those obtained by small buyers in the market. As a relevant note; it is pointed out that the hypothesis has been advanced that the overall effect of bilateral oligopoly negotiations should be to produce a price similar to that which might prevail under roughly competitive conditions. The hypothesis, it would appear, has little in the way of support.(27)

In the final analysis, it is possible to summarise by pointing out that the general tendency is for oligopsony and bilateral oligopoly to follow the same patterns as those of monopsony and bilateral monopoly. Moreover, it is now possible to identify an apparent key factor in the determination of the outcome of the bargaining process, that is, the use of 'massive purchasing power' as a 'lever'.

In the preceding but one paragraph, mention was made of the concept of 'countervailing power' as a phenomenon which might in some way militate against the mis-allocations associated with bilateral oligopoly. This would naturally



also be related to the use of purchasing power to gain advantage. This concept was explored and popularised by J.K. Galbraith in his early attempt to explain, in a modern context, the mitigation or regulation of economic power.(28) In brief, Professor Galbraith suggested that in the market, competition mitigates economic power by ensuring that the behaviour of any one participant in the market is contingent upon the behaviour of other and similar participants. Thus;

"The undoubted effect is to limit or dissolve the opportunity for arbitrary, or self-interested, or perhaps any effective use of market power which would limit or lower the real income of others."(29)

With the decay of independent market behaviour as a reasonable explanation of "... the operative mechanics by which the economy is governed ..."(30), Galbraith argued that the gap had been filled by countervailing power. In his paper which criticises the theory, G.J. Stigler summarises its basic tenet with the following quotation, which is taken from the 1952 edition of Galbraith's work:

"It comes to this: Competition which, at least since the time of Adam Smith, has been viewed as the autonomous regulator of economic activity and as the only available regulatory mechanism apart from the state, has, in fact, been superseded.... in the typical modern market of

few sellers, the active restraint is provided not by competitors but from the other side of the market by strong buyers."(31)

Thus, in simple terms, bilateral oligopoly was posited to represent a phenomenon which was imposing 'active restraint' upon an economic system in which competition was no longer exerting its traditional influence.

One of Stigler's fundamental criticisms of Galbraith's theory was that the empirical evidence could not support the notion that there was a "... general tendency for new oligopolies and blocs of owners of productive resources to appear in juxtaposition to established oligopolies."(32) In answering this criticism Galbraith states that "... as with competition, the role of countervailing power is uneven..." and in any case, he had only intended to construct a partial model.(33) A point which he reinforces in the 1956 revised edition of his book, in which he follows the 1952, "It comes to this...", quotation (cited above) with the following curt statement: " Competition still plays a role."(34) This now meant that, in essence, the economic system was being described by Galbraith as an admixture of bilateral oligopolistic and competitive markets.

The second major criticism of Galbraith's theory revolved around the thesis that countervailing power arose in response to monopolistic and oligopolistic organisation of industries, and that the power was "... exercised in such a way as to preserve the economy from undue exactions and restraints."(35)

"The fact that a seller enjoys a measure of monopoly power, and is reaping a measure of monopoly return as a result, means that there is an inducement to those firms from whom he buys or those to whom he sells to develop the power with which they can defend themselves against exploitation. It means also that there is a reward to them, in the form of a share of the gains of their opponents' market power, if they are able to do so. In this way the existence of market power creates an incentive to the organisation of another position of power that neutralizes it."(36)

In the above statement Galbraith appears to be implying that economic performance is improved when a monopolist, or group of oligopolists confront and attempt to share the gains of an established monopolist, or group of oligopolists. Using the example of large retail organisations; this contention is cited by Stigler as resting upon the premise that newly arrived oligopolists use their opposing power to reduce prices to the consumer.(37) As Stigler points out, and as preceding sections have shown, on the basis of existing economic theory, the expectations would be for bilateral oligopoly to be relatively monopolistic in operation. So at the time of the debate over the entire concept, Galbraith himself was forced to pose the question:

"... as to what eleemosynary instinct causes the gains that are won by the mass buyer to be passed along to the consumer."(38)

In answering it, he reluctantly confessed a reliance upon hitherto dismissed competition with the following, typically Galbraithian quip;

"After all, it is a bit embarrassing after one has just murdered his mother-in-law to disinter the lady and ask her to help do the cooking."(39)

Witticisms apart, the theory was left somewhat incomplete. Its\* rather roughly sketched structural parameters lacked details, and particularly, details which would explain why bilateral oligopoly should eliminate and not simply redistribute monopoly gains. Such a redistribution would probably be based upon superior bargaining power.

It was not until over twenty years later, when Galbraith published his significantly altered view of the economic system, that it became possible to determine what might have happened to his concept of countervailing power, and to his somewhat incomplete theory of bilateral oligopolistic conduct.(40) In Economics and the Public Purpose, Galbraith paints with his characteristically broad brush the picture of a dual economy as follows:-

"No agreed level of assets or sales divides the millions of small firms which are half the private economy from the handful of giant corporations which are the other half. But there is a sharp conceptual difference between the enterprise that is fully under the command of an individual and owes its success to this circumstance and the firm which, without entirely excluding the influence of individuals, could not exist without organisation. This distinction, which may be thought of as separating the twelve million small firms from the one thousand giants, underlies the broad division of the economy here employed. It distinguishes what is henceforth called the market system from what is called the planning system." (41)

In very general terms, Galbraith indicates that the market system may be characterised by the following elements:

- (a) Conformity in broad outline to the neoclassical model of the firm, including, profit maximisation and an inability to exercise effective and reliable control over production, prices and consumer behaviour.(42)
- (b) Earnings are unlikely to exceed for very long a level which compensates the entrepreneur for his effort and capital making him dependent upon external capital.(43)

- (c) Self-exploitation by the entrepreneur, defined in terms of a lower return than the economy generally provides for similar effort, is how the small firm competes against the organised sector and thus, survives, despite generally lower technical competence.(44)

While the planning system is described by the following points:

- (a) Non-conformity to the neoclassical model of the firm, including an ability to increase size, control costs, technological processes, prices, demand and the state.(45)
- (b) 'Collegial decision-making' by a technostructure which has been developed out of the need to organise specialist functions.(46) (47)
- (c) The need to protect itself from external interference and to control its external environment which is achieved through growth maximisation.(48)
- (d) The reliance upon growth to serve the pecuniary needs of a technostructure which effectively controls the firm (as distinct from the shareholders which do not).(49)

These general conditions, along with their associated implications, and the fact that the planning system is a part of the environment to which the market system is subordinate, lead Galbraith to point out that "... there is a prima facie case that things will work better for the

planning system than for the market system."(50) This is because the market system buys at prices which are extensively determined by the counterpart system, and must also sell an important part of its output at prices which it does not control. As a result, Galbraith offers two hypotheses:

"The terms of trade between the two systems will have an insouciant tendency to favour the system that controls its prices and costs and there with the prices and costs of the other system as well." and,

"... unless there is unimpeded mobility between the two systems, (there) will be inequality of return - a relatively secure and favourable income for participants in the planning system, a less secure and less favourable return for those in the market system."(51)

It is within the context of this general view of the private economic sector that Galbraith discusses the purchasing behaviour of large firm buyers.

In simple terms, Professor Galbraith indicates that the problem of the vertical co-ordination of production, i.e. the predictable and timely acquisition of the factors of production, is by and large solved in the planning system through the use of contracts.(52) In the neoclassical model, failures of coordination are accommodated through price movements which reflect the shifts in demand and supply.

However, in the system outlined by Galbraith, the market mechanism does not automatically ensure that a higher price will; "... reliably accommodate supply to need within any predictable period of time, and this is especially so as products, components, materials and manpower become more specialised and technical."(53) So the contract is central to understanding factor market buying behaviour - but Galbraith states that the contract is not compatible with the neoclassical model. The reason for this incompatibility is that with neoclassical assumptions firms attempt to arrive at final prices which maximise profits. Thus, within the planning system, imperfectly competitive firms would negotiate as producers and suppliers under conditions which would be similar to that of a zero sum game. With goals of profit maximisation, negotiations; "... would be a time-consuming test of relative power, endurance and cupidity."(54) In fact, Galbraith has returned to the bilateral oligopoly problem set out earlier in the discussion of countervailing power. However, in its new context, the problem fails to actually materialise because "... negotiations have ultimately to do with establishing the level of cost or price which maximises growth for both participants."(55) Galbraith states that when buyers and sellers of roughly equal power-measured in terms of need- negotiate, the prices and costs will tend to be the same. In short, the common goal of sales maximisation means that, 'roughly speaking', the price which will satisfy both parties is the same. Therefore, within the planning system, mutually shared goals and interests ensure relatively easy contract negotiations,



and the indeterminacy associated with bilateral oligopoly and profit maximisation, has been assumed into oblivion.

In the acquisition of factors, when the balance of power between the buyer and seller is no longer equal, Galbraith suggests that a different outcome will emerge. The important factor is size; for a large firm has many alternative sources of supply and the smaller firm, relatively fewer. This means that the relationship and bargaining will be unequal, and from this initial premise, Galbraith proceeds to the following statement:

"The large firm derives no advantage from negotiating a price lower than that at which the smaller firm can continue to supply the product. A contract that is so unfavourable or so inflexible that it destroys the small firm is self-defeating. The effect of power emerges in the way price is graded to need. The larger firm can calculate the income that the smaller firm requires for survival, and it does so as a matter of course . . . . . The consequence is that a smaller firm doing business with a larger one will almost always have its returns more nearly at the necessary minimum than the larger firm doing business with the smaller ones."(56)

Furthermore, the presumption of inequality of return is further extended if the small firm does not control its prices or costs, and if there are circumstances which would prompt entrepreneurs and workers to lower their rate of return in order to stay in business, i.e. self-exploitation. Both conditions, Galbraith has posited, differentiate the planning system from the market system, and in addition, the market system is also largely populated by small firms. All of which leads Professor Galbraith to the following conclusion:

"The relationship between the planning and the market systems, their unequal rate of development, the exploitation of the second by the first, the resulting inequality in return are central features of the modern economy."(57)

Turning first to problem of bilateral oligopoly, Galbraith appears to have abandoned the positive connotations associated with countervailing power by assuming away the existence of conflict between large buyers and sellers in the planning system. The common goal of growth ensures not only smooth negotiations, but the establishment of a price which satisfies this goal for both parties. It is not the exercise of power which is neutralised, but the existence of conflict itself. Since Professor Galbraith once again fails to provide details, it is difficult to understand exactly why this harmony of interests should exist.

- 12 -

In a discussion concerning the three different objectives of the firm, that is, profit, growth and sales maximisation, J.H. Williamson indicates that any firm successfully pursuing any of the three goals will also attempt to satisfy certain efficiency conditions.(58) Included amongst these conditions is the selection of 'least-cost input combinations'. In his review of growth theory, and his synthesis of the main arguments of its two principle proponents, W. Baumol and R. Marris, J.R. Wildsmith points out that dynamic growth requires actions by firms which shift demand curves and increase product ranges.(59) This is accomplished through expenditure on research, development and marketing and these total development costs, increase with firm size. Moreover, not only is this growth-creating expenditure an increasing function of the growth rate, but it is also subject to diminishing effectiveness. On the basis of these two references alone, it is difficult to see why a buyer should not press for the lowest input costs which he can achieve, and a seller for the highest price. After citing the seller's ability to control his price as a feature of his power in the economy, Professor Galbraith then appears to suggest that when he is confronted with a large planning system buyer, he is not only unwilling but also lacks the incentive, to exercise this power. The reverse situation can be said to apply to the planning system buyer who it was posited can control his costs. In the final analysis, this lack of consistency between objectives, and in behaviour, remains unexplained.

It is of course difficult to comment upon the general, or aggregative effects of trading between the planning and market systems, and also the notion of entrepreneurial self-exploitation presented by Galbraith. However, on the basis of what has previously been reviewed in this section, it is possible to confirm that on a micro, or individual firm level, the relations between a large imperfectly competitive buyer and a relatively smaller competitive supplier, will tend towards monopsonistic exploitation. This would certainly reduce the possibility that the entrepreneur will earn a pure or economic profit. Thus, to the extent that the firm's total revenue continued to cover its total costs, Galbraith's contention that the entrepreneur is just compensated for his effort and capital would appear to be reasonable.(60)

A concluding comment about Galbraith's view of factor market buying behaviour concerns the use of contracts. In an article concerning supply contracts and their use in the Galbraithian planning system, K.J. Blois presents somewhat anecdotal evidence which suggests that suppliers are often bound to their customers to such a degree that their actions extend beyond the conditions set out in their contracts.(61) In simple terms, the ability of the customer to make special demands upon the supplier will depend upon the importance of the customer to the supplier. If the supplier is particularly responsive to customer demands, this may also lead to the short-run absorption

of costs arising from the customer's problems. Thus, Blois ends as follows:-

"...the supplier/customer relation is sometimes one where troubles are shared and perhaps this is the basis of 'the essential mechanism for the co-ordination of production plans by different firms in the planning system' and not 'the contract'."(62)

## The Large Firm and Imperfectly Competitive Suppliers

Thus far the analysis has mainly centred around market situations in which large buyers are confronted either by equally as large sellers, or numerous atomistic or perfectly competitive sellers. In this section the aim is to review some of the key elements which may emerge when differentiated products are sold under conditions of imperfect competition to one or a few large buyers. The large buyers themselves, it will be assumed, have a significant degree of control in their forward markets, and also re-sell the products they buy after they have converted, processed or handled them. The fundamental distinction under this type of market structure is that the sellers are imperfectly competitive, but not in a position to challenge the large buyer, as described in the case of countervailing power. The discussion which follows is based upon a paper by M.A. Adelman.(63)

The first significant point to be made by Adelman concerns the large buyer's postulated tendency to lower the prevailing market price for the factor product in question. This tendency is not entirely due to the large firm's bargaining power - but rather it is attributed to the firm's ability to survey a wider spectrum of possible sources of supply and thus, be aware of the best offers. Once it has completed its search, it is presumed that the large buyer will either buy at the lower prices, or present existing suppliers with the offers in order to negotiate equally good terms. Because the large buyer would in effect

be buying at a lower than average price, it would be making an 'arbitrage profit', which would be reflected if it re-sold its purchases to its competitors. This, Adelman indicates, would bring about beneficial and rapid market response:

".... for arbitrage is the traditional means of diffusing knowledge and bringing about a single price, or a smaller spread of prices. The price or the average of prices, which finally prevailed, would be lower than if the large buyer had not operated."(64)

Adelman concludes his argument by noting that while market coverage involves costs, which may not make it worthwhile to undertake the search, in those cases where a department already exists, their more intensive use would mean "... a smaller unit burden of individual and social overhead."(65) Briefly summarised, it would seem that the whole process relies upon the large buyer undertaking market search activity, and some investigators have suggested that this may not in fact occur. In their study of industrial buyers of machine tools, Cunningham and White found that low buyer search for competitive offerings occurred in at least one third of the purchases studied, and that this non-existent shopping behaviour was substantially more prevalent in large rather than small firms.(66) This finding was

attributed to the relative lack of importance of the purchases in relation to the total capital expenditure budget, and the recognition by large firms of the high cost of search. It would appear therefore, that this particular 'advantage' of large buyers actions cannot be accepted without reservations, and that reference probably has to be made to the actual types of buyer conduct under consideration.

In spite of the price levelling tendencies associated with large buyer search, Adelman suggests that the buyer will usually be confronted with an array of prices from different suppliers. This may be represented graphically as follows in Figure 3-6. The different prices, or to the buyer, costs will occur for various reasons; for example, the relatively stronger bargaining position of some of the suppliers, distance costs, or the relative unsuitability of some products. Under conditions approximating perfect competition on the buying side, the highest price would be the one which ensured sufficient supplies and so it would be paid to all the suppliers. In effect, the lower-cost suppliers A, B and C, would receive an 'economic rent' represented by the shading in Figure 3-6. Under conditions in which the buyer is able to discriminate or separate its



Figure 3-6

The Array of Suppliers and Prices Confronting the Large Buyer

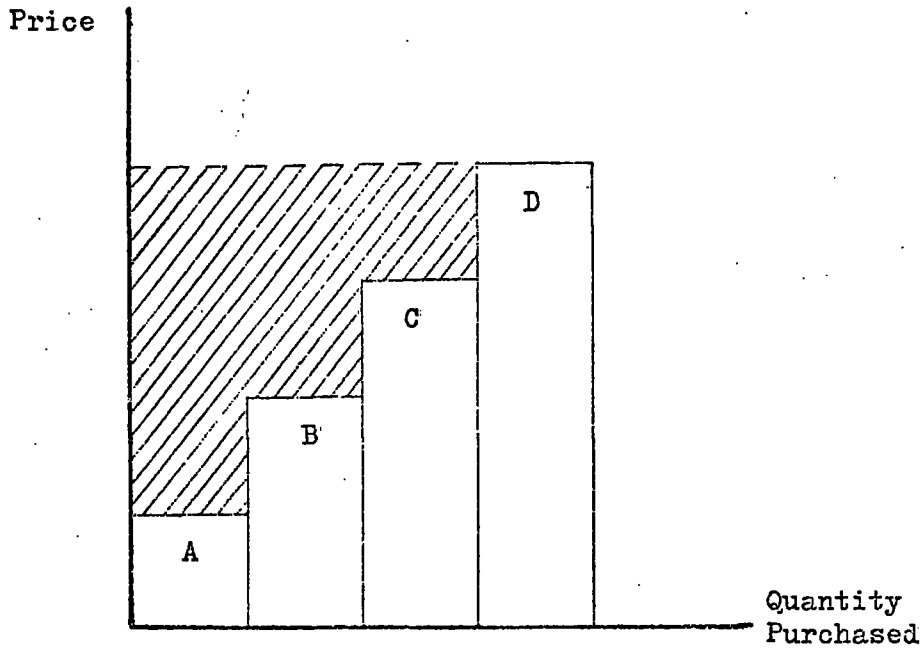
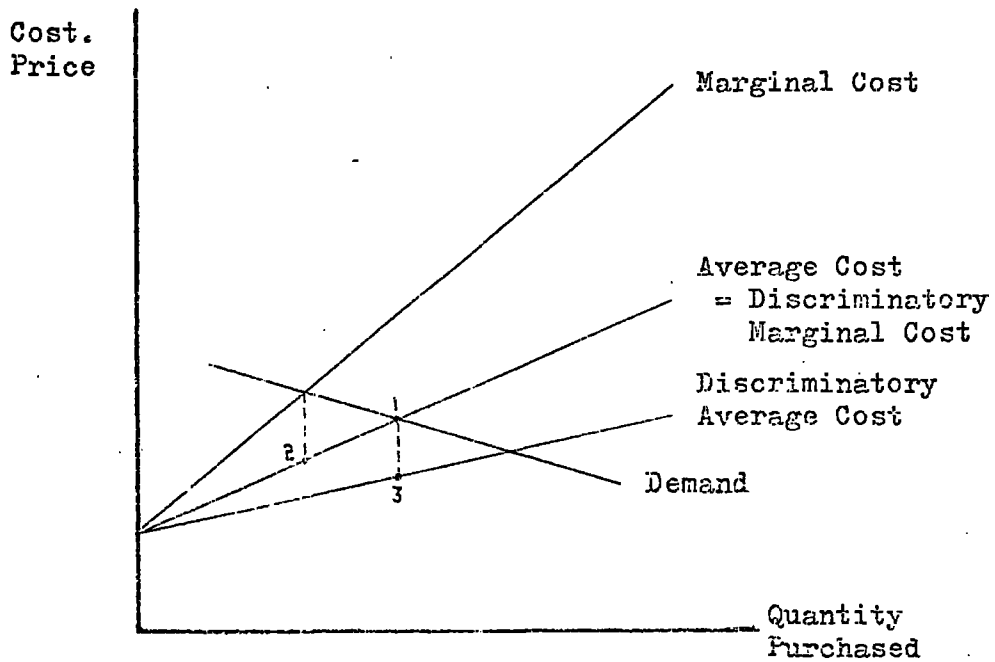


Figure 3-7

Buyers' Discrimination



suppliers, ".... it will push down the price paid to each one toward the necessary minimum needed to bring forth the necessary supply or, on a longer perspective, needed to keep the supplier in business."(67) Figure 3-7 represents the various alternatives graphically and in a familiar form. Perfect discrimination is indicated by point '3' (discriminating monopsony). Point '2' indicates monopsony or imperfect competition, and point '1', perfect competition. The limiting result, '3', reveals an output level equivalent to that of perfect competition, '1', but at a lower average price. Adelman states that while it may not be possible for the buyer to achieve perfect discrimination, the fact remains that in the absence of the large buyer in the market the result would tend towards a higher price and lower output. In effect, Adelman's analysis confirm's Bain's description of the patterns of bargaining conduct which result in the emergence of a complex of different prices. Moreover, the analysis also supports Galbraith's contention that the larger firm calculates the income the supplier requires for survival and grades the prices accordingly.

However, in Adelman's terms the large buyer has a genuinely positive role to play in the exercise of its market power. He suggests that if the supplier is induced to discriminate in order to capture the large block of the buyer's business, then this willingness to lower prices may imply one or two factors:

- (a) the supplier has an unused capacity to produce at costs which are below prevailing prices, and/or,
- (b) the additional output would lower the supplier's average unit costs.

In the final analysis, the large buyer may have increased total output and lowered the average cost and average revenue of the "encouraged" seller. Another beneficial effect attributed to large buyer conduct relates to Adelman's statement that;

"In imperfect markets ... the chief economic function of sporadic discriminations is to initiate general price reductions."(68)

These price reductions are felt to be desirable and they occur because of the difficulty in keeping special bargains a secret, and the generally rapid reactions of firms operating in imperfectly competitive markets to competitor price changes. In short, inducing sellers to discriminate tends to reduce some of their allocative imperfections, but it is notable that, thus far, the factor goods buyers have been the only beneficiaries. Another area in which the large buyer exercises influence is related to the supplier's

selling costs and product differentiation activities. Adelman contends that, "... advertising directed to business firms may spotlight the utility of the product, but cannot 'create' it", and this is because "... the firm is a 'rational' buyer."(69) This means that due to the tendency for the large buyer 'to test and compare', the supplier's selling and advertising campaigns may achieve no more than a maintenance of market share at increased cost and price structure. The ability of the large buyer to provide large blocks of business means that, by dispensing with advertising and sales promotion, a lower price may be offered, and if the expense saving exceeds the price reduction, both parties benefit. In effect, as Adelman points out, "... under the pressure of strong buyers the market is back to price competition," (70) and if the buyer's position is extremely strong, it may be able to obtain the input at cost plus a fixed fee or percentage, which it regulates.

In simple terms Adelman's analysis perceives the role of the dominant buyer as making its suppliers' demand curves highly elastic, and large buyer bargaining power is seen as,

"... a symptom and often a corrective where the excess capacity and the gap between marginal and average cost would otherwise be undesirably large."(71)

The first question which is begged by Adelman's analysis is ~~reminiscent~~ <sup>reminiscent</sup> of Stigler's criticism of Galbraith's concepts, and that is, what happens to all of the surpluses which the large buyer absorbs from its suppliers? A second question which is also begged, and which is of fundamental importance to this thesis, is what are the long-term dependency implications of trading relationships in which large buyers dominate their suppliers?

Two Empirical Studies on Factor Market Concentration

Most of the material covered in this chapter has been of a theoretical nature, with the possible exception of Bain's review of buyer concentration which was broadly based upon an empirical background. The purpose of this section is to review the findings of two empirical studies which deal with factor market and buyer concentration, and to evaluate the extent to which they confirm the theoretical predictions presented above.

The first study to be reviewed is Collins and Preston's testing of several structure-performance hypotheses.(72) The study uses U.S. census of production figures and other American based data. For their performance measure the authors used the percentage price-cost margin, which they assumed was an indicator of the ability of the firms in a particular industry to achieve prices i.e., revenues, in excess of average costs. In pure economic theory, resources are allocated efficiently when the long-run selling price equals the long-run marginal cost. For empirical work, marginal costs must be estimated from average costs, and therefore, "... the empirical criterion of allocative efficiency is an average price-cost ratio approaching unity."(73) Their measure of market structure was the four-firm concentration ratio for four-digit industrial classifications.

In general terms, the authors felt that producer goods markets would differ from consumer goods markets for a number of reasons. Essentially, producer goods markets might be expected to show greater concentration on the buying side and a greater use of objective purchasing criteria, such as, quality specifications. This would also mean a lower degree of emphasis on product differentiation than consumer goods markets. Thus, to the extent that it was anticipated that the two types of markets would differ,

"... producer goods markets would appear to be distinguished by greater knowledge and bargaining power on the side of buyers, and therefore by a narrower range of price discretion on the side of sellers, as compared to consumer goods markets with equivalent levels of concentration."(74)

G.J. Stigler has expressed a rough indication of the same contention by noting that on the basis of somewhat scanty empirical evidence, no industries which were experiencing high rates of return on their investments were confronted by only a few buyers.(75) In any event, Collins and Preston's statistical results revealed 'striking' differences between the producer and consumer goods industry market categories. For their regression analysis, in which concentration was one of the independent variables, the authors found that the regression co-efficient for consumer goods industries was much higher than that for producer. The  $R^2$  values revealed that 26 percent of the

variations in which price-cost margins of the consumer goods industries could be explained by concentration, but that for the producer goods industries, the equivalent value was only 4 percent. On the basis of their observations, Collins and Preston suggest that the differences between the two types of industries, as reflected in the concentration-margins relationship, "... is strongly affected by the balance of buyer-seller relationships across markets and by differences in marketing organisation and methods."(76)

As a general observation, the findings of this study may indicate that the differences in the price-cost margins may be attributed to the importance of buyer characteristics and other related factors which affect the demand for producer goods. In addition, the results may furnish indirect evidence of a prevalence of large buyers who, using Adelman's framework, may be able to discriminate among imperfectly competitive suppliers and thus, lower their economic rents. Using Galbraith's concepts, such a disparity in returns would occur if the buyers of the producer goods were relatively powerful firms in the planning system. Speculation aside, it is not unreasonable to posit that Collins and Preston's findings may simply reflect among other things, the relative bargaining power which factor market buyers generally possess in relation to their suppliers.



The second study to be reviewed is S. Lustgarten's statistical examination of the influence of buyer concentration in manufacturing industries.(77) In his study, Lustgarten calculates measures of buyer structure using four-digit SIC manufacturing product markets from input-output tables and correlates them with measures of seller structure, conduct and performance. The data were once again based upon the American economy. For his analysis of buyer structure, Lustgarten uses a number of different measures; each of which is based upon a different theoretical premise. The first measure of buyer structure is simple buyer concentration, that is, an average four-firm concentration ratio of consuming industries weighted by the importance of the consuming industries' purchases in relation to the overall sales of the producing industry. As might be expected, the theoretical prediction in this case was that concentrated buyers will impair the ability of even oligopolistic sellers to maintain prices above marginal costs, and thus, it is likely that sellers will experience lower profitability. Buyer concentration was regressed against the same measure of seller performance used by Collins and Preston, that is, industry price-cost margins, and the results revealed that a negative relationship existed between the two. The next two measures of buyer structure examined by Lustgarten were order size and relative firm size, and these were calculated using statistical averaging techniques. In a theoretical sense, it was felt that large orders probably justify the costs of search for a

lower cost supplier, and very large orders might reach minimum efficient scale of production size, thus raising the spectre of backward vertical integration. If the buyer was relatively larger than the seller, this was also felt likely to influence seller performance. As postulated, order size and relative buyer size were negatively correlated with seller price-~~cost~~ margins. The final measure of buyer structure dealt with by Lustgarten was the sector dispersion of buyers, that is, "... degree to which buying firms are clustered in a few industries or spread out in many different sectors of the economy."(78). The theoretical basis behind this measure lay<sup>in</sup> the premise that the buyer's bargaining position is enhanced by his knowledge of current market conditions. Thus, if buying firms are centred in a very few industries, and not spread throughout many, they are likely to have more information about demand conditions and to be more effective bargainers. Once again, the results confirmed the theoretical prediction, as buyer dispersion was negatively correlated with seller price-cost margins.

A rather interesting side-light of Lustgarten's study is his test of one aspect of the theory of countervailing power, and that is, that high seller concentration induces buyers to grow large. Lustgarten correlated his ~~indices~~<sup>indices</sup> of buyer concentration with existing ~~indices~~<sup>indices</sup> of seller concentration and found that there was a positive correlation between the two.

Lustgarten concludes his paper with the statement that his analysis of buyer structure represents additional empirical evidence which supports existing theories in industrial organisation. While his statistical manipulations appear somewhat arduous, the basic implications are theoretically consistent and significant, in that they go some way towards describing the types of buyer characteristics and demand conditions which Collins and Preston indicate may explain the patterns of association discovered in their analysis of producer goods markets.

Conclusion

The aim of this chapter was to review the large buyer and buyer concentration within the framework of established economic theory in order to illustrate two points.

The first point was to show that large buying unit behaviour tends to reinforce the anti-regressive influences associated with increasing levels of concentration. In brief terms, a review of the various forms of buyer market structures has revealed the following matrix of associations:

Table 3-2

Matrix of Factor Market Predictions

| Buyer Market Structure                       | Price Determination   | Price                           | Quantity            | Profit                             |
|--|---|---------------------------------|---------------------|------------------------------------|
| a) Simple Monopsony                          | Unilateral  | Below competitive               | Restricted          | Monopsonistic exploitation         |
| b) Monopsonistic First Degree Discrimination | Unilateral  | Lower than in (a)               | Greater than in (a) | Greater monopsonistic exploitation |
| c) Monopsonistic Third Degree Discrimination | Unilateral  | Below competitive               | Restricted          | Monopsonistic exploitation         |
| d) Simple Oligopsony                         | Degree of price control   | Likely to be below competitive. | Restricted          | Absorption of surpluses by buyer.  |
| e) Bilateral Monopoly                        |   |                                 |                     |                                    |
| f) Bilateral Oligopoly                       | } Bargaining behaviour with performance determined by superior power. |                                 |                     |                                    |

In addition, the analysis has also examined J.K. Galbraith's neo-Institutional approach to the large firm's operations in factor markets, and his contentions that the terms of trade tend to favour the large firm, and that the large firm may, when it is able, set prices which are only sufficient to keep its suppliers in business. In M.A. Adelman's paper it was revealed that the large buyer may, in theory, reduce and absorb their imperfectly competitive suppliers' economic rents, set prices at levels which would only ensure their supplier's survival, and even make their supply curves more elastic (a genuine advantage as revealed in the review of third-degree discrimination). The two empirical studies reviewed provided evidence that firms in producer goods markets could not achieve comparable price-cost margins, with the same levels of concentration, as firms in consumer goods markets. This finding was attributed to the different buyer and demand characteristics prevalent in factor markets, and the second empirical study tended to confirm this by discovering a negative relationship between buyer market structure measures and seller's performance. The attempt to synthesise all of this information, and to relate it to Pickering's identification of the exercise of superior buying power as a pecuniary advantage of large scale enterprise, yields the following conclusion;(79)

When buyers are large in size and few in number, in relation to their particular factor goods markets, they may be able to capture and retain any surpluses which arise out of the trading relations with their suppliers in those markets. Furthermore, this ability to capture and retain those surpluses may inevitably foster their continued growth and longevity, that is, it may represent a positively anti-regressive influence.(80)

A topic which is closely related to the absorption of surpluses by the large firm as a buyer, is what the general implications are for their suppliers. It has been suggested that if they are relatively small and without significant bargaining power, they may be forced to operate at a level of return which is determined by their major customer. Moreover, based upon the preceding, if their customers miscalculate the margins which are required by their suppliers in order to stay in business, they may not even survive. Using Joan Robinson's conditions for perfect competition among buyers, it is apparent that, in these types of trading relations, a single buyer does have considerably more than a negligible effect upon total market purchases, and the seller cannot be indifferent as to whom they supply.(81) In fact, the exercise of the large buyer's superior bargaining power is possible because the sellers involved are no longer indifferent. Nor indeed

can they be expected to remain indifferent if large buyers can depress prices, restrict quantities, discriminate between suppliers and sub-markets, eliminate economic profits, reduce the effectiveness of differentiation, and even reach the extreme of determining for the supplier cost, plus a fixed margin on sales. Bilas indicates that "... monopsony is the result of lack of factor mobility, or the specialisation of the factor to a particular user."(82) This represents another way of stating the second point to emerge from the chapter, and it is that a quintessential factor in this analysis is the supplier's dependence upon a relatively few, significant buyers in a particular market. There are two questions which are raised by this conclusion:- Firstly, what are some of the circumstances and characteristics of dependency which emerge in economic trading relations between firms? Secondly, what are some of the implications of this dependency for industrial organisation?

In his paper dealing with the large firm and its suppliers, M.A. Adelman makes the following observation:

"In studying particular industries, we must keep in view the larger market constellations of which they may be only sub-markets. The state of competition in the industry may well

be determined less by number and size, etc.

of the firms within than by the buyers

without."(83)

The material covered in this chapter has certainly served to confirm and reinforce this observation.



### Chapter 3

#### Footnotes and References

1. Robinson, Joan, The Economics of Imperfect Competition, Macmillan & Co., London, 1933, p. 216.
2. Bain, J.S., Industrial Organisation, Second Edition, John Wiley & Sons, Inc., 1968, p. 150.
3. *ibid*, p. 151.
4. *ibid*, p. 150.
5. *ibid*, p. 365.
6. *ibid*, p. 366.
7. Robinson, *op. cit.* p. 235.
8. Ferguson, C.E., Microeconomic Theory, Richard D. Irwin, Inc. Homewood, Illinois, 1966, p. 331.
9. A short review of Pigovian exploitation as a result of monopsony is presented in: Blaug, M., Economic Theory in Retrospect, Richard D. Irwin, Inc., Homewood, Illinois, 1968, pp. 434-434.
10. Bain, *op. cit.*, p. 151.
11. Stigler, G.J., The Theory of Price, Third Edition, Macmillan, London, 1966, p. 81.
12. Bilas, R.A., Microeconomic Theory: A Graphical Analysis, McGraw-Hill, 1967, pp. 269-271.
13. Stigler, *op. cit.*, p. 206.
14. Bilas, *op. cit.*, p. 271.
15. Adapted from: Bilas, *op. cit.*, p. 272.
16. *ibid*.
17. Adapted from: Bilas, *op. cit.*, p. 273.
18. In his analysis Bilas points out that the joint profits of the buyer and seller would be maximised at price 'Pa3' and quantity 'az', for at this level the buyer's marginal revenue product equals the seller's marginal cost. He goes further to indicate that this is the point at which a firm owning both the buyer and seller would operate. *ibid*.

19. Bain, op. cit., p. 151. It has been suggested that indeterminate results need not occur. See: Spindler Z.A., "Endogenous Bargaining Power in Bilateral Monopoly and Bilateral Exchange", Canadian Journal of Economics, 1974, vol. 7 no. 3. pp. 463-474.
20. *ibid*, p. 152.
21. *ibid.*, p. 367.
22. *ibid.*
23. *ibid.*, p. 152.
24. *ibid.*, pp. 368-369.
25. *ibid.*
26. *ibid.*, p. 369.
27. This hypothesis is covered in more detail in the next section.
28. Galbraith, J.K., American Capitalism: The Concept of Countervailing Power, Revised Edition, Houghton Mifflin Company, Boston, 1956.
29. Galbraith, J.K., "Countervailing Power", American Economic Review, 1954, vol. 44 no. 2 pp. 1-2.
30. *ibid.*
31. Stigler, G.J., "The Economist Plays With Blocs", American Economic Review, 1954, vol. 44, no. 2 p. 7
32. *ibid.*, p. 13.
33. Galbraith, "Countervailing...", op. cit., p. 4.
34. Galbraith, American . . . , op. cit., p. 112.
35. Stigler, "The Economist . . .", op. cit., p. 9.
36. Galbraith, American . . . op. cit., pp. 111-12.
37. Stigler, "The Economist...", op. cit., p. 9.
38. Galbraith, "Countervailing..." op. cit., p. 3.
39. *ibid.*, p. 4.
40. Galbraith, J.K., Economics and the Public Purpose, The New American Library of Canada Limited, Ontario, 1975.
41. *ibid.*, p. 43.
42. *ibid.*, p. 44.
43. *ibid.*, p. 45.

44. *ibid.*, p. 70.
45. *ibid.*, p. 79.
46. *ibid.*, p. 80.
47. The concept of a technostucture controlling the modern corporation is fully explored in:  
Galbraith, J.K., The New Industrial State, Penguin, 1974.
48. Galbraith, *Economics ...*, *op. cit.*, p. 89.
49. *ibid.*, p. 96.
50. *ibid.*, p. 50.
51. *ibid.*
- 52., *ibid.*, chp. 13.
53. *ibid.*, p. 122.
54. *ibid.*, p. 124.
55. *ibid.*, p. 125. In fact, there is also the condition that the protective purposes of the parties are served and that relates to ensuring no outsider intervention. The fundamental goal remains one of growth.
56. *ibid.*, p. 126.
57. *ibid.*, p. 128.
58. Williamson, J.H., "Profit, Growth and Sales Maximisation", Economica, 1966 vol. 33 pp. 1-16. Reprinted in G.C. Archibald (ed.) The Theory of the Firm, Penguin Books, Harmondsworth, 1971, pp. 328-51.
59. Wildsmith, J.R., Managerial Theories of the Firm, Martin Robertson, London, 1973, pp. 91-92.
60. Under the traditional theory of the firm costs include the returns to the factors of production and this implies a normal return on investment.
61. Blois, K.J., "Supply Contracts in the Galbraithian Planning System", The Journal of Industrial Economics, 1975 vol. 24, no.1. pp. 29-39.
62. *ibid.*, p. 39. The quotation cited is taken from:  
Galbraith, Economics and the Public Purpose.
63. Adelman, M.A., "The Large Firm and his Suppliers", Review of Economics and Statistics, 1949, vol. 31., pp. 113-118.
64. *ibid.*, p. 113.

65. *ibid.*
66. Cunningham, M.T. and White J.G., "The Behaviour of Industrial Buyers in Their Search for Suppliers of Machine Tools, Journal of Management Studies, 1974, vol. 11. no. 2 pp. 115-128.
67. Adelman, *ibid.*, p. 114.
68. *ibid.*, p. 115.
69. *ibid.*, The highlighting of the words 'create' and 'rational' is Adelman's.
70. *ibid.*, p. 116.
71. *ibid.*, p. 117.
72. Collins, N.R. and Preston, L.E., "Price-Cost Margins and Industry Structure", Review of Economics and Statistics, 1969, vol. 41. No. 3 pp. 271-86.
73. *ibid.*, p. 271.
74. *ibid.*, p. 278.
75. Stigler, G.J., The Organisation of Industry, Richard D. Irwin, Homewood, 1968, p. 146.
76. Collins and Preston, *op. cit.*, p. 278.
77. Lustgarten, S., "The Impact of Buyer Concentration in Manufacturing Industries, Review of Economics and Statistics, 1975, vol. 57. no. 2 pp. 125,-132.
78. *ibid.*, p. 125.
79. Refer to Chapter 2.
80. The extent to which it does actually contribute to the growth of a particular large enterprise will depend upon the existance of other anti-regressive influences and the preponderance of negative or regressive factors.
81. Robinson, *op. cit.*
82. Bilas, *op. cit.*, p. 265.
83. Adelman, *op. cit.*, p. 117.

APPENDIX 3-1

Monopsony and the Input Supply Curve

The following table presents a numerical example which describes the derivation of the supply curve facing the monopsonist.(1) The first column represents the quantities of the productive input available, while the second gives prices at which the respective quantities will be supplied. The remaining columns are self-explanatory.

| <u>Quantity</u> | <u>Price</u> | (TC)<br><u>Total Cost</u> | (MC)<br><u>Marginal Cost</u> | (AC)<br><u>Average Cost</u> |
|-----------------|--------------|---------------------------|------------------------------|-----------------------------|
| 6               | 0.50         | 3.00                      | -                            | 0.50                        |
| 7               | 0.55         | 3.85                      | 0.85                         | 0.55                        |
| 8               | 0.60         | 4.80                      | 0.95                         | 0.60                        |
| 9               | 0.65         | 5.85                      | 1.05                         | 0.65                        |
| 10              | 0.70         | 7.00                      | 1.15                         | 0.70                        |

The important characteristics of the table are that the factor's average cost equals its price, and that this represents the monopsonist's supply curve.

Footnote

(1) Adapted from: Bilas, R.A., Microeconomic Theory: A Graphical Analysis, McGraw-Hill, 1967, p. 265.

APPENDIX 3-2

Derivation of Marginal Revenue Product

The following represents a simple algebraic demonstration that marginal revenue product equals marginal revenue multiplied by marginal physical product.(1) Let MRP, TR, MPP, and L stand for marginal revenue product, total revenue, total product, marginal physical product and the factor input respectively. The symbol 'Δ' denotes 'change in'.

$$\text{MRP} = \frac{\Delta \text{TR}}{\Delta \text{L}} \quad (\text{by definition})$$

$$\text{Since, MR} = \frac{\Delta \text{TR}}{\Delta \text{TP}}$$

$$\text{then, } \Delta \text{TR} = \text{MR} \times \Delta \text{TP}.$$

$$\text{Since, MPP} = \frac{\Delta \text{TP}}{\Delta \text{L}}$$

$$\text{then, } \Delta \text{L} = \frac{\Delta \text{TP}}{\text{MPP}} \cdot$$

Thus, by substitution,

$$\text{MRP} = \frac{\text{MR} \times \Delta \text{TP}}{\frac{\Delta \text{TP}}{\text{MPP}}} = \text{MR} \times \text{MPP}.$$

Footnote:

(1) Taken from: Ferguson, C.E., Microeconomic Theory, Richard D. Irwin, Inc., Homewood, Illinois, 1966, p. 331.

CHAPTER 4

THE LARGE BUYER AND SUPPLIER DEPENDENCY

"Monopolistic and oligopolistic elements in horizontal competition add uncertainties to vertical relationships and cause their outcome to rest in part on relative bargaining strengths... The primary weapon of economic power, the boycott, ... occurs in vertical relationships."(1)

Introduction

In the conclusion to the previous chapter, a question was posed which concerned the circumstances and characteristics of dependency as it emerges in the course of trading relations between firms. The question originated from the analysis of economic theory, which had revealed that with some types of factor market structures, market conduct would include bargaining behaviour, and that this behaviour could be significantly influenced by the degree of suppliers' dependency upon their buyers. The main aim of this chapter is to examine, with a view to understanding, some of the circumstances and conditions which have been associated with supplier dependency. A subsidiary aim is to ensure that the framework developed for understanding supplier dependency is, in a practical sense, suitable for relatively uncomplicated investigative work.

The chapter begins by tracing the concept of supplier dependency from an industrial sociological context, through to a primarily, economic setting. In the process, a components of supplier dependency matrix is developed. The next section elaborates upon some further aspects of supplier dependency, as revealed both in a number of empirical studies, and in a brief overview of subcontracting relations. In the conclusion, the components of supplier dependency matrix is completed and a general appraisal is made of its utility for investigative studies.



The Emergence of Dependency in Trading Relations

Within the context of industrial sociology, the concept of social power and dependence forms a cornerstone in the analysis of relations between formal organisations. One writer in this field, R.M. Emerson, has adopted an analytical framework for the understanding of power-dependence relations, termed an exchange theory of power, which may be readily translated into economic concepts.(2) Emerson begins with the precept that social relations usually involve 'ties of mutual dependence' between the parties (in this case firms) engaged in the relations. Organisation 'A' depends upon organisation 'B', if 'A' aspires to goals or ends whose achievement is facilitated by appropriate actions by 'B'. Mutual dependency, he states, requires that each organisation be able to control or influence the other's conduct, and this implies that each be able to some degree, to grant or deny, facilitate or hinder, the other's achievement of its goals. As <sup>Emerson</sup>~~Emerson~~ puts it... x

"Thus, it would appear that the power to control or influence the other resides in control over the things he values, which may range all the way, from oil resources to ego-support." (3)

In more succinct terms, "... power resides implicitly in the other's dependency."(4)

Having made the point that power flows from dependency, Emerson indicates that it is necessary to focus attention upon the concept of dependence itself. Dependence, he posits, appears to be a 'joint function' of two variables, and in summary, these are as follows: the dependence of organisation 'A' upon organisation 'B' is;

1. directly proportional to 'A's' motivational investment in, or need to achieve goals mediated by 'B', and,
2. inversely proportional to the availability of those goals to 'A' outside of its relationship with 'B'.

Emerson defines 'goal' in a broad sense to include gratification or benefits sought in the relationship between 'A' and 'B', and 'availability' in terms of the alternative relationships available to the organisations in order to achieve their goals. He notes that the costs of developing alternative relationships are important in the assessment of dependency and cites as an example the economic concept of 'opportunity costs'. Emerson attaches an important caveat to his proposition, which also applies to the content of this chapter (and in fact to the entire thesis), and it is that the exact nature of this 'joint function' is an empirical question, and his proposition "... can do no more than specify the directional relationships involved."(5)

The two concepts in the 'joint function' which Emerson uses to define dependence have been translated into simple economic constructs by D. Jacobs. In a paper concerned with an organisation's general dependency upon components of its total operating environment, Jacobs concentrates upon the relations involved in an organisation's acquisition of the factors of production, and the disposal of its output.(6) Emerson's second variable was related to the availability of goals outside of the 'A-B' relationship. This is interpreted by Jacobs to refer to the number of alternative suppliers and buyers there are in the market for a particular resource. On the buying side of the market, this economic interpretation follows a progression through various types of market conditions. The progression begins with a situation in which a unitary buyer may have great power; next, a few significant buyers may be expected to exert some oligopsonistic power; and finally, many insignificant buyers in the market means that a single buyer will probably be relatively powerless. The relationship between dependency and availability was postulated by Emerson to be an inverse one, and it is apparent that this condition holds true, that is, the greater the number of available alternatives, the lower the postulated degree of dependence, e.g., of the seller upon a particular buyer. In short, the more competitive the market structure, the lower the degree of dependence, and the narrower the buyer's range of power. This is a fairly straight forward construct which is obviously a re-formulation of the message conveyed in the preceding chapter.

Emerson's other component of dependence was organisation 'A's' motivational investment in, or need to achieve goals mediated by organisation 'B', or in more simple terms, the importance to 'A' of the resource mediated by 'B'. Jacobs posits that this second variable will be a function of 'A's' willingness to substitute for the resource acquired from B, and this includes actually doing without it. The criterion of substitutability, according to Jacobs, determines the essentiality of the resource in question. This is because a resource which can be easily substituted for cannot in itself be very essential. However, a resource which the organisation cannot substitute for without incurring unacceptable costs, may be considered very essential to its functioning. The second component was also postulated by Emerson as bearing a direct relationship with dependence, and it can be seen that if 'A' is a supplier selling to organisation 'B', and it cannot substitute for buyer 'B' without incurring unacceptable costs, then its dependence upon 'B' will be greater than it would otherwise be.(7)

In his discussion of substitutability Jacobs makes two interesting observations. The first is that what proves essential to a firm may be largely determined by 'historically inherited goals'. As an example, he states that organisations whose goals, or operating patterns tie them to labour-intensive technology, are likely to experience difficulty in substituting for labour. The second observation concerns the statement that substitutability is subject to time horizons. For his example, Jacobs cites the case of short-run trade union power which stems from an employer's inability

to quickly automate. However, in the long-run, the union's power may become heavily circumscribed as the employer acquires labour saving capital equipment. In general terms, Jacobs does provide an economic framework for Emerson's primarily sociological view of the link between power and dependency in trading relations. The concept of availability certainly does agree with what has been covered with respect to various market structures, and essentiality does reasonably concur with the notion of costs of substitution. However, as they presently stand, the two concepts may be said to lack substance and detail and it is to this deficiency which the analysis now turns.

In a paper dealing with the types of special demands buyers may make of their suppliers, K.J. Blois presents an outline of the circumstances which may influence both the buyer's and the seller's conduct.(8) An initial requisite factor identified by Blois is that the buyer should be a 'large customer' of the supplier in question. A 'large customer' is defined by the author as:

"... a customer which takes a significant proportion of a supplier's output and not necessarily a firm which is large in the sense of its number of employees, capital employed or even large relative to the supplier."(9)

The definition of what constitutes a 'significant proportion' will, according to Blois vary between firms, and in any one particular firm it will vary through time. This last characteristic of significance, that is, its variance

with the passage of time, parallels Jacob's view that substitutability is also subject to conditions of time. Thus, a 'large customer' may be significant to the seller only for as long as it takes the supplier to acquire substitutes.

Having defined in general terms what he means by the notion of a 'large customer', Blois considers a number of situations which might serve to more fully explain the concept. For his first example, he cites the situation facing a firm with only one product line operating in an industry with excess capacity. Under such conditions any customer whose purchases are sufficiently large that the supplier would be faced with a loss if that customer were to remove its business, would be considered a 'large customer'. However, if the supplying industry were to change to a condition of full capacity and the supplier were to discover excess demand for its one product line, then customers which might have been considered large, would no longer be. This turnabout occurs because if the customer removed its business, then it could be replaced, that is, according to these hypothetical conditions. Blois points out that even with excess demand, some buyers might retain their position as 'large customers', especially, if the supplier takes a somewhat long-term perspective, and believes that by remaining loyal to the customer at a time of shortage of supply, the customer may reciprocate when there is excess supply. If the supplier provides a range of products, Blois indicates that particular customer's purchases of one product line may be unimportant, regardless of the supplying

industry's capacity; but when all of the buyer's purchases are aggregated across the entire range, then it too may acquire the position of a 'large customer'.

With the concept of the 'large customer' firmly established Blois next considers its implications as follows:

"... if a customer is large in this sense, it would seem likely that a supplier would be especially sensitive to that customer's needs. Moreover, observation of business practice indicates that many large customers are equally sensitive to their ability to bring influence to bear upon their suppliers and thus to obtain from them special terms and conditions."(10)

In brief terms Blois appears to be saying that when the buyer is essential to the supplier, for example, when there is excess capacity and the costs of substituting for existing buyers may be high, then the existing buyer's bargaining position is greater, as evidenced by their ability to win concessions. In this respect Blois' formulation of supplier dependency appears to be reasonably similar to that of Jacobs. However, there is an important distinction between the two approaches; for while Jacobs expresses his argument in terms of objective measures of market structure, for example, the actual number of buyers available in a market, Blois instead concentrates upon the 'effective market structure' facing the supplier. That is to say, regardless of the number of buyers in a market as measured in objective terms, it is the number which may

be effectively available to replace the 'large customer', at any time, irrespective of the industry's capacity, which influences the buyer's and seller's conduct. As Blois implies in his example of the multi-product firm, the costs of substituting for a 'large customer' may be such that, in a given time period, the seller may display decision-making behaviour, or adopt a form of market conduct as if it considered itself to be facing an 'effective market structure' which consisted of relatively few significant buyers. Only under these conditions would it be possible for the 'large customer' to exert a major degree of influence upon the supplier.

A related question which requires further elaboration is how the 'large customer's' ability to bring influence is determined; and in his explanation, Blois first reminds the reader that the 'large customer' was defined in terms such that the removal of its business represented a 'serious blow' to the supplier. Thus, "... the customer's ability to bring pressure upon the supplier revolves around the question of how likely it is that the customer would be able to remove its business."(11) In assessing the likelihood that the customer will remove its business, Blois suggests that there are a limited number of alternatives available. Assuming, that is, that the large customer requires a particular input, and merely wants to change its source of supply. Each of the five alternatives identified by Blois, and some pertinent related considerations, are presented below:



1. The customer may offer its business to another supplier within the country, but the key factor in this respect will be capacity situation in the supplying industry. For example, if there were a severe shortage of capacity, the customer may have to acquire the input under disadvantageous terms. As Blois points out, the customer's current supplier would probably realise that the demand conditions are likely to change, or that by guaranteeing orders, the customer would encourage one of the existing supplier's competitors to expand capacity. In either case, the supplier stands to suffer if it antagonises the customer.
  
2. The customer may offer its business to a foreign supplier, but the key factors with regards to this alternative are the tariffs, import barriers and transport costs involved for the input in question.
  
3. The customer may encourage a new supplier to enter the industry, and the key factor in this case is the nature of the technology of the supplying industry. Aside from such things as the existence of patents and licences, there are questions related to the technological expertise and scale economies required by the supplier to compete efficiently.

4. The customer may set up its own production unit, but it faces the same types of problems identified in Number 3 above, as well as, the natural tendency for firms to feel that their expertise lies outside of such activities.
5. The customer may take over an existing supplier, and the problems involved include not only the search and appraisal of a suitable candidate, but the financing of the takeover. In addition, there is the problem of matching the acquired supplier's capacity to the customer's requirements.

Blois, in a manner similar to Jacobs, points out that the supplier would consider both the short-term and long-term likelihood of a large customer adopting one of these alternatives. The first two options are open on a long-term basis to most customers, but the last three probably require that the large customer be of sufficient size to support the necessary production economies, and these are likely to be similar to the levels of output of existing suppliers. However, the most significant similarity with Jacobs' analysis is that, in outlining the possible alternatives open to the large customer, Blois not only quite effectively describes the availability of alternate supplies, but also some of their respective costs of substitution which can confront the buyer. In effect, it may be concluded that K.J. Blois

is working with the same two concepts of buyer dependency which were employed by D. Jacobs, that is, availability and substitutability, but the former author is using them in a different guise.

This re-formulation of basically the same determinants of dependency is also strikingly revealed in Blois' discussion of the supplying firm's flexibility. Given that the large customer has the various alternatives considered above, Blois states that;

"... unless a supplier is in a position to produce some other product with the spare capacity which would become available through the loss of a large customer, it will feel, for its own security, that it must treat the requirements of its customers in a sympathetic manner - particularly those customers which are in a position to take up either the third, fourth or fifth alternative."(12)

Whether the supplier is in a position to turn to an alternative output will be a function of its flexibility and Blois suggests that this flexibility may involve two separate dimensions. The first dimension concerns supplying firms which may be 'market specific', that is, firms which sell a large proportion of their final output to one industry on the basis that their products are specific to the requirements of that industry. The second dimension

concerns supplying firms which are 'product specific', that is, firms which operate with plant and machinery that is solely limited to, and capable of producing its existing range of products. Blois states, without supportive evidence, that:

"... it is not infrequent to meet firms where employees at all levels in the firm only have experience in that firm or industry and it is far from apparent that they could work so effectively in an organisation making anything but their current product range."(13)

Associated with the first dimension are the costs of adapting old products or developing new ones for a different market. These costs may potentially limit the availability of alternate sources of business for the supplier. The second flexibility dimension involves not only the costs of acquiring a different form of expertise which is not tied to the traditional product, but also the costs of obtaining the capital equipment. Thus, Blois has simply re-formulated the costs of substitution facing the supplying firm and has turned them into supplier flexibility. An obvious advantage of Blois' presentation is that the descriptive basis of the analysis is much more detailed, and more closely related to measurable economic factors.

K.J. Blois summarises his concepts and discussion as follows:

"... it is suggested that if a firm is a large customer of a particular supplier, it may be in a position to use as a bargaining weapon the threat of obtaining supplies elsewhere. If the supplier is market and/or product specific this threat is of very great importance and will greatly influence the responsiveness of the suppliers to any requests such a customer may make."(14)

Within his summary are two concepts which are reminiscent of ideas introduced at earlier stages of the thesis. The first idea relates to Palamountain's statement that a primary weapon of economic power is the boycott, and this if of course the threat which Blois suggests the 'large customer' holds as a bargaining weapon.(15) The second idea concerns one of Joan Robinson's conditions for perfect competition among buyers, and that was:

"... that sellers are indifferent as to whom they provide their wares."(16) Blois is obviously suggesting that under the types of conditions outlined in his analysis, sellers are very far from being indifferent about their buyers.(17)

When this absence of seller indifference is juxtaposed with a given time period in which the seller perceives itself to be operating in a market which is effectively composed of one or a few 'large customers', it is not unreasonable

to posit that with such an individual buyer-seller relationship, the opportunities for monopsonistic forms of market conduct do exist. Moreover, such situations may occur regardless of how the intermediate goods market structure is defined in aggregative economic terms in relation to the number of firms actually operating in the market.

It is now possible to pull all of the various threads together and summarise what has been discussed. Figure 4-1 represents an attempt to organise the main concepts covered this far and it presents them in a matrix form. Starting with the initial precept that the ability to exercise bargaining power in trading relations is a function of dependency, the matrix represents dependency itself as a function of two, inter-active concepts. The first is availability, that is, the availability of alternate sources of supply or buyers. The second is substitutability, that is, the costs associated with substituting for the contemporary trading relationship. Contemporary is used with its literal meaning in mind, that is 'belonging to the same time', and particularly reflects the contributory factors of industry capacity utilisation, and the relevant time horizons which are considered for decision making purposes. The fundamental concepts outlined in Figure 4-1 represent a basis for categorising some of the main components of dependency as they may emerge in particular factor market trading relations. However, other writers have identified some further interesting aspects of supplier dependency and before a listing of the individual contributory factors is attempted, the analysis considers their specific contributions.

Figure 4-1

Components of Trading Dependency Matrix

|                  | BUYER<br>DEPENDENCE                                  | SUPPLIER<br>DEPENDENCE                        |
|------------------|--|---|
| AVAILABILITY     | F(number of alternative sources of supply in market) | F(number of alternative buyers in market)     |
| INTERACTIVE      |  |   |
| SUBSTITUTABILITY | F(Costs of substituting contemporary suppliers)      | F(costs of substituting contemporary buyers.) |

### Some Further Aspects of Supplier Dependency

In this section a review is made of some empirical studies and theoretical work which both directly and somewhat indirectly, provide further information on some economic conditions of factor market supplier dependency. In general terms, the aim of this section is to furnish some descriptive characteristics which expand the background information contained in the components of dependency matrix.

The first bit of broadly descriptive evidence to be considered is H.F. Lydall's investigative survey of small and medium-sized manufacturing businesses and aspects of their competitive behaviour.(18) Lydall was investigating the degree of competition which firms in his sample felt they were facing. In the process of formulating his survey, he identified what proved to be a fundamental distinction between the participating firms. The distinction revolved around a question which was related to the type of work which the firms might be engaged in. The question was as follows:

"Do you mainly work for other firms on specification orders or do you mainly produce a range of your own products which you then try and place on the market."(19)

Those firms which were engaged mainly on specification orders Lydall described as 'jobbers', and those which produced primarily their own items he described as



'marketers'. In a total sample consisting of 876 firms Lydall found that 411 classed themselves as jobbers, 410 as marketers and 51 as 'mixed'. (20) The first interesting difference between jobbers and marketers was that there was a higher proportion of jobbers among small firms than among large. However, a feature which was much more noteworthy was that over half of the jobbers and mixed firms in his sample indicated that they were dependent for the bulk of their orders upon a 'fairly' small number of customers. Moreover, over 72 percent of these dependent jobbers signified that it would be difficult to replace their customers. Briefly taking stock, it is not unreasonable to speculatively surmise that among Lydall's jobbers were firms which met two conditions of supplier dependency. Firstly, they were potentially involved in 'large customer' trading situations, as evidenced by, a characteristically small size and significant levels of sales going to relatively few customers. In addition, a professed difficulty in the replacement of customers could be interpreted as a proxy indicator of an unavailability of alternative buyers and/or high costs of substitution. It would seem therefore, that on the surface at least, jobbers, or more specifically firms producing to their customer's specifications, did reproduce circumstances which to a degree paralleled those of supplier dependency.

Lydall also offers some insight into the market behaviour of jobber firms, and he does this by examining how they assessed their competitive situation. In the absence of what he felt to be objectively based, measurable

criteria of the competitive situation, Lydall used essentially subjective proxy measures. A number of organisational theorists have stated that a firm's decision-making behaviour will be determined by its cognitive orientation towards, or perception of stimuli or events, and so Lydall's approach may not have been entirely unreasonable.(21) In any case, Lydall asked the firms in his sample to subjectively evaluate whether they were facing one of the following three types of competitive pressure; strong, moderate, or no competition to speak of. Lydall summarised his findings as follows:

"Jobbers are, on the whole, less conscious than marketers of the existence of strong competition, and a greater proportion of ~~of~~ jobbers said that they had 'no competition to speak of'."(22)

An equally significant finding emerged from his question concerning the knowledge of competitor's prices: for Lydall found that over three quarters of his marketers knew their competitor's price, while only half of his jobbers had similar information. In the final analysis, Lydall concluded that on almost every issue significant differences appeared between marketers and jobbers - but with regards to market behaviour, jobbers tended to be more dependent, and less attuned to competition.

The next piece of descriptive evidence to be considered originates from J.R. Davies and M. Kelly's Government inquiry research report on small firms in the manufacturing sector.(23) In their general analysis of the characteristics and role of the small firm, the authors consider, under the subject heading of 'Independence', some ramifications of the fact that,

"... legal independence does not, however, imply behavioural independence and many small legally independent firms are dependent in some way on a larger concern."(24)

Within the context suggested by the quotation, the authors report that the Government inquiry's postal questionnaire survey of small manufacturers revealed that more than one third of them sold more than 25 percent of their output to one customer, and that over 13 percent sold more than 50 percent to one customer.(25) This finding was felt to be important because a small firm's independence may be endangered if, in supplying large customers who also provide product specifications, they come to depend upon the customer for product development. This type of situation, the authors suggest, may lead to an uneven distribution of bargaining power between the buyer and supplier. In addition, the small supplier may also run the risk of becoming so concerned with the maintenance of a specific trading relationship, that it fails to develop other products and markets. In effect, returning to the components of dependency matrix, Davies and Kelly are reiterating Jacob's point about the difficulties associated with overcoming historically ingrained

operating patterns and of course, the costs involved in doing so.

With this theoretical base in mind, Davies and Kelly interviewed a sample of twenty-five firms which supplied a substantial proportion of their output to one customer. All of the firms in the sample sold at least 40 percent of their output to one buyer, and in addition, they conformed to Lydall's definition of a jobber, i.e., they worked mainly on specification orders for other firms. The authors indicate that they felt the jobber ran the highest risk of becoming dependent on a 'large customer', for the reasons outlined above. To begin with their findings agreed with those of Lydall's on the apparent difficulties which jobbers felt they faced in replacing their major customer. Furthermore, Davies and Kelly also found "...a tendency for the difficulty of replacing one customer to increase and the awareness of competition to decrease with increasing dependency on one customer."(26) On the reverse side of the coin, the interviews revealed that firms which had greater responsibility for the development of their product were also less dependent upon their large customers and were more confident about their ability to enter alternative markets. In the light of their study, the authors concluded that firms which supplied a large proportion of their output on a continuous basis to a relatively small number of customers:

"... almost inevitably get out of touch with market developments and consequently find it difficult to find opportunities for their work if they lose their existing customers."(27)

In attempting to determine the kernels of what both Lydall, and Davies and Kelly have said about supplier dependency, and to relate them to the matrix, it is difficult to separate cause from effect. However, it is apparent that one feature, which is common to both the components of dependency matrix and the two studies, can be readily identified, and this is the existence of a 'large customer'. On the other hand, while both of the studies relate to small firms, Blois' formulation does not make it a necessary condition, and given his definition of a 'large customer', it is not immediately apparent why it should be. Of more significance was the fact that there was a transfer of information involved in both studies, and this took the form of product specifications. It is here that cause may become entwined with effect, but it seems likely that this transfer of information was partially the cause of the firms' loss of touch with the market as a whole, as evidenced in part by the low levels of competitive awareness. The other element which appeared to have also partially contributed to the same effect, was the continuity in the trading relationship. In simple terms, dependency emerges because the supplier's usual market feedback mechanisms are superseded by the customer's provision of the product/ production information. Moreover

if the supplier is to voluntarily abrogate its own functional capacity in that particular area, then the trading relationship should continue unbroken for some appropriate period of time. Thus, in essence, there are two more factors which may be added to the matrix: the transfer of information and continuity in the trading relationship. With due allowance for the inter-active nature of the factors, it is felt that they should be placed in the substitutability quadrant for they undoubtedly reveal themselves in the costs of substituting for contemporary buyers.

While these two additional factors make interesting and valid contributions to the understanding of dependent relations, the studies explored thus far have not fully reflected the extent to which their co-existence may under certain conditions lead to virtually complete supplier dependency and domination. In order to explain how in combination, the transfer of information and continuity may generate such results, it is necessary to examine a unique type of trading relation which is widespread in factor markets and which involves especially close buyer-seller ties, that is, subcontracting. Literally defined as the subletting of work through a contract which is subordinate to another contract, subcontracting is relevant because, as one writer on the topic points out, it "... differs from the mere purchase of ready-made parts and components in that there is an actual contract between the two parties

setting out the specifications of the order."(28)

In effect, the above statement appears to roughly approximate the description given to jobbing, but in what are technically known as subcontracting relations, the linkage between buyer and seller can become considerably more complex.

In a paper devoted to the topic of subcontracting Susumu Watanabe identifies four reasons why an industrial market purchaser might use subcontractors.(29) The first reason cited is that the purchaser is able to economise upon capital and labour. By subcontracting a part of its production process the purchaser is able to apply its available resources in a limited field, and in theory, it will be the field in which it feels it holds a comparative advantage. A second reason advanced by Watanabe is so that the purchaser may take advantage of the lower wages generally paid in smaller firms. This obviously assumes that the buyer is large and that the suppliers are small firms, which may well occur in many instances. Watanabe qualifies this reason by mentioning the 'dual industrial structure' feature of developing countries. However, recent evidence on small firm wage rates in the United Kingdom(30) and the previously cited, loosely substantiated views of J.K. Galbraith(31), would tend to also support the potential relevance of this advantage for first world countries such as the United Kingdom. A third important reason relates to the advantage to the purchaser of being able to use the subcontractor's specialised technology; for

example, to acquire items covered by patents and to obtain items for which the purchaser may not find it feasible to develop the requisite technology in order to enter production itself. Finally, Watanabe states that purchasers may subcontract part of their work:

"To serve as a buffer against business fluctuations, or to be in a position to meet peak demands without keeping on redundant capacity during off-peak periods."(32)

Out of these reasons for subcontracting Watanabe identifies two distinct types. The first type emerges from purchaser's use of the subcontractor's specialised technology and it is designated as being 'specialisation oriented'. The second type stems from the final reason listed above and is termed as being 'capacity oriented'. Watanabe points out that in some of the French literature on the subject of subcontracting the two varieties are respectively known as 'structural subcontracting' and 'cyclical subcontracting'. (33) He also indicates, as a matter of interest, that while industry to industry situations vary, in general terms, the former type of subcontracting abounds in the United States and the latter is more frequent in Europe.

In the case of specialisation oriented or structural subcontracting, the underlying motivation for trade also tends to foster a complementary relationship between the purchaser and subcontractor. This is because the subcontractor is usually attempting to fulfil one of



the requirements in its purchaser's various phases or stages of production. When this situation occurs, the potential exists for the development of a high degree of mutual production process continuity, and this may in turn lead to the establishment of an association between buyer and supplier which is described as 'quasi-integration'. The 'quasi-integration' of a supplier's productive activities with those of its customer may originate in the latter's need to ensure that the continuity of its production process is not disrupted as a result of component bottle-necks. In some instances, 'quasi-integration' may develop out of the customer's desire to transfer the need to invest in component inventories and storage facilities to the subcontractor. Irrespective of the reason, the ultimate effect is that the buyer's and supplier's operations become closely linked and highly integrated. Watanabe indicates that the buyer may therefore come to influence the subcontractor in a number of significant ways, and to illustrate the point, he cites as evidence the following examples of subcontractor directed assistance from buyers which he has recorded:

- supplies of raw materials.
- guidance on control of production processes.
- guidance on quality control.
- guidance on machinery.
- guidance on blue-print techniques.
- financial aid.

There can be little doubt that under these kinds of conditions the supplier cannot for long remain indifferent to its 'large customer's' requests

J.K. Davies and M. Kelly also touch upon the subject of subcontracting in their report concerning small firms in the manufacturing sector(34), and the essence of their view is that the small firm can become especially vulnerable if it is dependent upon a subcontracting relationship. Vulnerability is defined in terms of loss of independence by the subcontractor. In support of this view they quote from evidence submitted by the National Economic Development Council to the effect that many:

"... small firms live as subcontractors in the shadow of large firms, sometimes as a specialist function but often simply providing a reservoir of surplus capacity which the large firm can call on in times of boom and which can be shed in times of recession."(35)

In a rather indiscriminately based statement Davies and Kelly sum up their treatment of the topic by reproducing the following quotation:

"... whenever sub-contracting is practised, the actual function of the small manufacturer seems to become that of the manager of a branch plant."(36)

Certainly, whenever the types of assistance and co-ordination of activities reviewed above occur in a buyer-seller relationship, the emergence of a type of branch plant syndrome seems to be one of the possible, but obviously not necessary,

results. Watanabe points out that such relationships have the potential to provide a 'guaranteed' market for the subcontractor, and by sheltering under the purchaser's umbrella, the subcontractor may be able to develop the ability to overcome the subordinate relationship and evolve into an independent producer.

An essential element to be extracted from this review of specifically buyer-subcontractor trade relations is that under certain general circumstances(37): there may not only be an exchange comprised of a payment and end-product(s), that is, the transaction between the two parties, and an exchange or transfer of information concerning the specifications of the end-product, but also an exchange between the enterprises of actual factors of production.(38) To the subcontractor, the latter form of exchange may involve the continuous receipt of productive resources and this must inevitably become a significant variable when it equates the costs of substituting its munificent customer. For the purchaser, this transfer of resources in the form of either tangible supplies of materials, finance, etc, or intangibles such as technical expertise, may be thought of in terms of an investment which it has made in the recipient supplier. In considering the replacement of that supplier, the buyer may consider the nature and extent of the investment as a cost of substitution. Therefore, two more aspects may be added to the components of dependency matrix as potential factors in the determination of the

of the costs of substitution; for the buyer it is the 'cost of extraordinary investment' made in its supplier(s), and for the supplier it is the 'costs of replacing extraordinary investment'. (39) The investment has been termed 'extraordinary' to indicate that it is obviously not an investment in the usual economic sense.

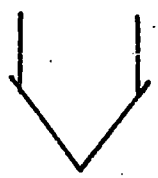
## Conclusion

The broad approach of this chapter has been to outline a conceptual basis for explaining and understanding the emergence of supplier dependency. In the process, because there are two sides to a market, the analysis has also had something to say about buyer dependency. However, the focus has been upon the supplier's position, for it is upon factor suppliers that the emergence of large buying units, and the use of superior bargaining power, has a most telling effect. The analysis has shown that one way of understanding the emergence of superior bargaining power may lie in the exploration of two possible determinants of dependency, and they were designated as 'availability' and 'substitutability'. In order to add substance to these two interactive concepts, which together yielded a rough equation of dependency, a review was made of some selected studies and a number of associated contributory factors were identified. Figure 4-2 summarises the main components of dependency and the major, associated contributory factors. In essence, it is these sorts of concepts and factors which may provide the practical underpinning for understanding bargaining power. But the question which they in their turn beg, is to what extent these types of conditions actually exist in particular factor markets, and the answer obviously waits empirical study.

Figure 4-2

Components of Trading Dependency:- Contributory Factors Matrix

|                  | BUYER DEPENDENCE   | SUPPLIER DEPENDENCE   |
|------------------|--|---|
|                  | F(number of alternative sources of supply in market)   | F(number of alternative buyers in market)   |
| AVAILABILITY     | <u>Factors</u><br>(a) Objective market structure.<br>(b) Contemporary level of capacity utilisation in industry.   | <u>Factors</u><br>(a) Objective & 'effective' market structure.<br>(b) Contemporary level of capacity utilisation in industry.  |
| INTERACTIVE      |  |   |
|                  | F(costs of substituting contemporary suppliers)  | F(costs of substituting contemporary buyers)  |
| SUBSTITUTABILITY | <u>Factors</u><br>c) Relevant time horizons<br>d) Costs of movement among suppliers.<br>e) Costs of importing.<br>f) Costs of encouraging new source.<br>g) Costs of backward integration.<br>h) Costs of takeover.<br>i) Costs of extraordinary investment. | <u>Factors</u><br>c) Relevant time horizons.<br>d) Costs of altering market specificity.<br>e) Costs of altering product specificity.<br>f) Commitment to transfer of information.<br>g) Continuity in relationship.<br>h) Costs of replacing extraordinary investment. |



The subsidiary aim of this chapter was to develop a conceptual foundation which also provided a relatively simple, and reasonably workable investigative framework for the examination of supplier dependency. The information summarised in Figure 4-2 appears to lend itself to investigative work on at least two levels. On a rigorous level it may be possible to objectively determine and measure the market structure, capacity situation, and relevant costs of substitution for buyers and sellers in a particular market, and the matrix certainly provides a skeleton outline of the variables to be examined.(40) On a less sophisticated level, the factors also appear suitable for the use of interview techniques in order to obtain estimates of the significance of the various factors from informed decision-makers operating in a particular market.(41)

The final comment of this chapter concerns a topic which has already been alluded to in the discussion of subcontractor/buyer relations. It was indicated that it was possible for a buyer's and its supplier's activities to become so entwined, that a condition of 'quasi-integration' resulted. This condition has potentially serious implications for at least two reasons: firstly, because it influences the exercise of bargaining power; and secondly, because of the serious repercussive effects the actions of large buyers may have upon their suppliers, and the economic sectors in which their suppliers operate. In light of this, the next chapter considers the entire concept in more detail.

CHAPTER 4Footnotes and References

1. Palamountain, J.C., The Politics of Distribution, Harvard University Press, Cambridge, Mass., 1955. pp. 51-52.
2. Emerson, R.M., "Power-Dependence Relations, American Sociological Review, 1962, vol. 27 pp. 31-41.
3. *ibid.*, p. 32.
4. *ibid.*
5. *ibid.*
6. Jacobs, D., "Dependency and Vulnerability: An Exchange Approach to the Control of Organisations, Administrative Science Quarterly, 1974, vol. 19, pp. 45-59.
7. It should be noted that Jacobs does not actually put the analysis of the seller's position in the form just presented. He in fact puts it as follows: "Thus when an organisation with many competitors sells a commodity that buyers can easily substitute for or do without, output disposal will be problematic." *ibid.*, p. 51. But this is not seller 'A's' dependence upon buyer 'B', it is 'B's' upon 'A' that is, 'B's' position as a buyer. 'A's' competitors represent the availability of the resource to 'B' outside of its relationship with 'A', and, not the availability of the goal of output disposal to 'A'. With a similar line of reasoning it is possible to show that it is 'A's' costs of substitution which determine 'A's' level of dependence, and not 'B's' essentiality. It would appear that while Jacob's basic constructs are consistent with Emerson's two concepts, and are proven to be when the focal organisation is conceptualised as a buyer, the analysis becomes somewhat confused when the focal organisation turns into a seller. In the final analysis, the seller may in fact consider the alternatives and costs which confront the buyer, but in Emerson's formulation, the initial perspective is inwards, and the running through of the calculus in terms of the sellers' own position is paramount.
8. Blois, K.J., "Vertical Quasi-Integration", Journal of Industrial Economics, 1972, vol. 20, no. 3, pp. 253-272.
9. *ibid.*, p. 254.
10. *ibid.*, p. 255.
11. *ibid.*
12. *ibid.*, p. 257.
13. *ibid.*



14. *ibid.*, p. 258.
15. See footnote number 1.
16. Robinson, J., The Economics of Imperfect Competition, Macmillan, London, 1933, p. 216.
17. It should be noted that J. Robinson recognises that the condition will not always be fulfilled "- some firms will give special terms to certain customers either from sentiment, family connection, gratitude, or a 'lively expectation of benefits to come' -" *ibid.* This section suggests that the lack of indifference stems from a much more fundamental source, dependency.
18. Lydall H.F., "Aspects of Competition in Manufacturing Industry", Bulletin of the Oxford Institute of Statistics, 1958, vol. 20, no. 4., pp. 319-337.
19. *ibid.* p. 323.
20. The remaining four firms were unclassified.
21. See March, J. and Simon H., Organisations J. Wiley & Sons Inc. New York, 1963 and Likert, R., The Human Organisation: Its Management and Value, McGraw Hill, New York, 1967.
22. Lydall, *op. cit.*, p. 327.
23. Davies, J.R. and Kelly, M., "Small Firms in the Manufacturing Sector," Research Report No. 3, Committee of Inquiry on Small Firms, H.M.S.O. 1972
24. *ibid.*, p. 55.
25. The total number of respondents to the questionnaire was 3,500 firms but only 1607 of them were in the manufacturing sector.
26. *ibid.*, p. 58.
27. *ibid.*
28. Watanabe, S., "Subcontracting, Industrialisation and Employment Creation", International Labour Review 1971, vol. 104, p. 54.
29. *ibid.*, pp. 56-57.
30. Small Firms: Report of the Committee of Inquiry on Small Firms, Cmnd. 4811., H.M.S.O. 1972. p. 21

31. Galbraith, J.K., Economics and the Public Purpose, New American Library Ltd., Scarborough, 1975, pp. 128-129.
32. Watanabe, op. cit., p. 57.
33. See Houssianx, J.. "Le concept de 'quasi-integration' et le rôle des sous-traitants dans l'industrie in Revue économique Paris, 1957, no. 2, and Sallez, A., and Schlegel, J. La sous-traitance dans l'industrie, Dunod, Paris, 1963.
34. Davies and Kelly, op. cit., p. 57.
35. ibid.
36. ibid., Original source: Mayer, K., "Small Business as a Social Institution," Social Research, 1947, vol. 14, no. 3, p. 346.
37. While the review has revolved solely around subcontracting relations, it is obvious that this need not be an essential condition for parallel circumstances to emerge. The next chapter explores quasi-integration in a more general context.
38. It is assumed that technical knowledge or expertise is a factor of production which is not necessarily embodied in the subcontractor's capital base.
39. Since there are obviously spin-off effects of the 'learning by doing' variety which accrue to the supplier and become apart of its human capital, but which may not be directly related to a specific investment by the buyer, there is every reason to expect that each party will uniquely arrive at a very different assessment of the relevant costs involved.
40. In fact, some published studies of particular industries may already provide useful information on many of the variables in question. See, for example; Rowley, C.K., Steel and Public Policy, McGraw-Hill, London, 1971.
41. The use of interview techniques to obtain estimates of economic variables has much in the way of precedent. See, for example; Bain, J.S., Barriers to New Competition, Harvard University Press, Cambridge, Mass., 1956.

CHAPTER 5

VERTICAL QUASI-INTEGRATION

"It does not always follow that formal vertical integration is necessary to achieve the apparent benefit of this form of industrial structure. In some cases, .... customer and supplier may work closely with each other, co-operating over questions of quantities, prices and delivery dates, and on technical matters."(1)

Introduction

In Chapter 3 a review was made of some of the effects which may arise when a large firm buys differentiated goods from its suppliers. It was shown that by discriminating between suppliers, the buyer may be able to eliminate 'economic rents' and push the price down to the level which, in the long run, merely maintained the supplier in business. Moreover, not only was the large buyer able to exert the type of pressure which would force suppliers to abandon their attempts to achieve some form of product differentiation and return them to price competition - but if the buyer's position was very strong, it might pay only cost plus a fixed percentage, and be in a position to ensure that costs were not 'padded'. M.A. Adelman sums up the semblance of this situation by stating that: "... the large buyer gains the advantages of vertical integration without

assuming the risks or rigidity of ownership."(2) In Chapter 4 it was also shown that certain types of close trading relations may approach a position described as the 'quasi-integration' of suppliers with their buyers. The suggestion that independently owned enterprises may be linked in such a way that they behave or operate as integrated production units once again raises familiar questions in a number of areas, for example, what are the implications in terms of monopsonistic exploitation, managerial independence, the inter-relatedness of industrial sectors, and measures of economic power and concentration? In attempting to formulate even the most tentative responses to these questions it is necessary to consider and establish the validity of the initial suggestion. Therefore, the primary aim of this chapter is to identify the general precepts associated with the vertical integration or productive activities and to relate them to 'quasi-integration'. In other words, to examine whether conditions of vertical integration may be met or approximated, not through formal internalisation, but through the exercise of superior bargaining power and through the existence of those factors which are related to supplier dependency.

By way of organisation, the remainder of the chapter begins with an over view of some basic definitional elements to be found in the economic literature on underlying motivation for vertical integration. It then considers a number of implications generally associated with vertical integration. In the process of reviewing both motivations and implications, an attempt is made to discuss the relevance of 'quasi-integration'.

The conclusion presents a summary of the main points. Because this thesis is concerned with factor market buyer/supplier relations, the analysis is limited primarily to backward integration. The reasons underlying the pre-occupation with vertical relationships was explained in the previous chapter, and stem from Palamountain's statement that it is in these types of relationships that relative bargaining strengths play a significant role.

Motives Behind Vertical Integration: A General Theoretical Review

The aim of this section is to briefly review some fundamental, theoretical motives for vertical integration and to comment in broad terms on how they bear upon buyer/supplier dependent relations.

The examination of motivations for vertical integration generally reveals three types of considerations: the desire for efficiency through technologically based production economies; the desire to avoid markets, particularly imperfect ones; and, the desire for security. Each one of these considerations will be reviewed in turn.

The first motivation to be considered can be described as the pursuit of 'production savings', and these 'savings' are based upon the fact that an integrated firm may be able to perform a series of successive productive functions on a more efficient basis than they could be fulfilled by a number of separate firms. There are two types of 'production savings' which may be identified. The first, and most readily understood type, occur .... "... in cases where technologically complementary productive processes can be brought together in a single plant."(5) J.S. Bain cites as an example of this type the integration of making pig iron, converting iron into steel and the shaping of steel into semi-finished products. Pickering adds as another example the ability to turn wood pulp into newsprint.(4) In essence, this type of production saving requires the completion of successive processes quickly, thus, avoiding the incurring of intermediate costs and related disadvantages. The second type of production saving occurs not from technological

complementarity, but "... from the easier consultation, planning and co-ordination of adjacent processes that is made possible in a vertically integrated organisation."(5) The potential benefits are widespread and Pickering lists such factors as:

- (a) easier forward scheduling.
- (b) economies associated with longer runs and uninterrupted patterns of production.
- (c) intensive capacity utilisation.
- (d) wider spread of overheads.
- (e) reduction of intermediate inventories.
- (f) elimination of expense of purchase transactions, and,
- (g) reliable influence upon product quality.

While benefits (c) and (d) seem to be more closely allied to taking advantage of increasing returns to scale, and benefit (f) to a direct cost of using the market, it is clear that the remaining benefits directly relate to a firm's needs for consultation, planning and co-ordination.

Given the assumptions of product/process simplicity and a perfectly static environment, it has been posited that a once-for-all contract between buyer and seller may be all that is required to ensure continuous production and that vertical integration may hold few of the above advantages. (6) However, if "... conditions be enriched to include the stipulation that the product in question is technically complex and that periodic redesign and/or volume changes are made in response to changing environmental conditions ..." (7), then

the requirements change, that is, the firm's planning/co-ordination needs, and so may the appeal of vertical integration. In a paper concerned with vertical integration, O.E. Williamson suggests that in some instances, where there is 'ex-ante' uncertainty attached to purchasing decisions, the usual tools of the market, i.e. contracts, may be unsuitable. He labels this condition, 'contractual incompleteness', and in brief terms it materialises because the three usual kinds of contract (once-for-all, short-term and long-term) are unable to specify, due to prohibitive costs or non-feasibility, the entire range of contingencies, or stipulate the appropriate actions. Dynamic environments may therefore lead to contractual incompleteness, and once "... the contracting parties are locked into a bilateral exchange, the divergent interests between the parties will predictably lead to individually opportunistic behaviour and joint losses."(8) Such negative results may not, of course, necessarily occur, but vertical integration, according to Williamson, would permit sequential adaptation to environmental changes upon a basis of, co-operative adjustment between productive units and non-opportunistic bargaining.(9)

It is reasonable to conclude that production savings of the first sort, that is, of technological complementarity, do lend themselves almost exclusively to formal integration. However, as the review of subcontracting relations suggested, the second type of production saving, that is, consultation, planning and co-ordination, may in some cases be paralled to



an extent by 'quasi-integration'. Moreover, at least one researcher in this field has presented evidence, already covered earlier in Chapter 3, that suppliers may be so bound to and involved with their customers, that their actions, and willingness to absorb unforeseen contingencies, extend beyond the conditions set out in their contracts.(10)

Thus, while dynamic environments may lead to 'contractual incompleteness', some of the resultant deficiencies and uncertainties may be overcome through 'non-contractual flexibility'. This proposition may be especially true in a 'large customer' trading relationship, in which it has here been theorised, the factor market buyer's ability to influence the outcomes of the relationship is in part determined by the degree of supplier dependency involved. In a paper dealing with the subject of vertical quasi-integration, K.J. Blois cites three examples of how elements of the second type of production saving may be captured by 'large customers':(11)

1. Stocks and delivery: 'Large customers' often rely upon suppliers to have sufficient stocks and to offer flexible delivery so that unexpected demand surges can be met. On the other side, they may also expect suppliers to hold deliveries when production is delayed, e.g., due to strikes. In the final analysis, such requirements may add to the suppliers' costs.
2. Materials 'Large customers' may arrange for the purchase and timed distribution of materials or inputs, this ensures quality, timing, and if there are purchase economies involved, also effects the costs of the suppliers.

3. Technical Service Suppliers may provide consultation in the form of technical service and advice, and, "this often occurs well in advance of the time when a supplier knows whether or not it will receive an order for this item from the customer and this means that this technical advice, if provided free (as it typically is), is very much an investment with a definite possibility of a zero return in the immediate future."(12)

The essential point to be gathered from the above is that both the elements behind production savings and the advantages to be gained, may not exclusively require formal integration and unitary ownership.

A second motivation for vertical integration lies in what J.F. Pickering calls 'avoidance of the market'(13), but what may, in more basic terms, be related to what D. Needham calls an avoidance of certain costs of using the market. (13) In effect, these market costs concern not only purchasing and selling functions, but also the costs of information collection, hedging and promotion which may be diminished or eliminated through formal integration. Avoidance of the market also underlies what O.E. Williamson entitles 'strategic misrepresentation risk', and by which he refers to the risks which result not only from 'ex-ante' and 'ex post' uncertainty in trading relations, but also from the suppliers' vested interests in misrepresenting conditions.(15) As examples of what he means, Williamson cites three occasions favouring integration:

1. Moral Hazard. The 'conjoining of inharmonious incentives with uncertainty' occurs, for example, when contracting for an item for which the final cost is uncertain. A cost-plus contract shifts the development and production risks to the buyer, but may "... impair the incentives of the supplier to achieve least-cost performance."(16)
  
2. Externalities/Imputation. Occurs when the accounting and monitoring of imputing costs and benefits are inadequately performed, and thus, assigned in the transaction. Internalisation also avoids protracted disputes over these issues.
  
3. Variable Proportions Distortions. Relates to the substitution of monopolistically priced factors with competitively priced ones, through integration.

Williamson's case can be summed up as follows:

"The advantages of internalisation reside in the facts that the firm's 'ex post' access to the relevant data is superior, it attenuates the incentives to exploit uncertainty opportunistically, and the control machinery that the firm is able to activate is more selective."(17)

One possible method of overcoming some of these 'strategic misrepresentation risks' can be seen in what M.A. Adelman terms 'partial integration'.(18) Through incomplete integration, a large buyer is in a position to check on the cost and profits of its suppliers, it has access to much more information, and can therefore, exert downward pressure on prices. In addition,

"The large buyer is able to keep his own supplying department near the optimum level of operations, and transfer the risk of fluctuations, i.e. the cost of maintaining ~~idle~~ capacity, to his suppliers."(19)

In this case, 'large customer' tactics can be seen to work towards a lowering of the costs of using the market by eliminating some of the 'expost' uncertainties involved.

Also in relation to the subject of market avoidance, Bain suggests that pecuniary economies materialise if by integrating it is possible to eliminate the payment to suppliers, "... of profits in excess of a basic return on the added investment required to integrate."(20) The analysis of buyer/supplier relations dealt with in Chapter 5 and particularly M.A. Adelman's work, have already shown that in large buyer, or 'large customer', and relatively smaller supplier relations similar kinds of pecuniary economies may be attained without formal integration. Naturally, to follow Bains' statement, the possibility does exist that even at an extreme minimum price level of costs plus a fixed percentage, a supplier may still be producing

at a level of costs which exceeds the basic interest charges on the added investment required for integration. Thus, for the buyer, formal integration would be the best strategy. However, if the supplier conforms to the Galbraithian model of a small firm, that is, it pays lower than average wages to its labour force, and has an entrepreneur who is willing to be exploited by accepting a lower than prevailing rate of return, then 'quasi-integration' may prove to be the best 'least-cost' strategy available.(21) Accurate conclusions would of course require empirical data, but in total, the general theoretical implication regarding this motive, is that large buyer/small supplier relations may effectively reduce some of the costs of using the market, and thereby, roughly duplicate another incentive behind vertical integration.

The third and final motivation to be considered is one of security, that is, the firm's desire for security of timely supply at readily, guaranteed prices and qualities. This desire for security may be reflected in several specific forms. For example, the ownership of productive capacity ensures that it is always available when needed,. However, it can be seen that a tied supplier which is both market and product specific, and which faces a limited availability of alternate buyers, with high costs of substitution, may be so inflexible in the short to medium term, as to make ownership, for security purposes virtually unnecessary. Another basis upon which the need for security may lead to formal integration concerns a buyer's desire to maintain a regular, unbroken flow of supplies. Predictably, quasi-integration may also meet this need, for example, Blois cites cases in which large customers have attempted

to influence suppliers experiencing labour relations problems by either offering them the services of the buyers' own specialist labour relations staffs, or by pressurising the suppliers to end a dispute quickly - regardless of the terms.(22) Both tactics are, of course, usually considered to be head office perogatives which are employed when branch plants encounter disruptive and generally, localised problems. Closely allied to the necessity for supply continuity, is the buyer's desire to ensure consistent quality and high productivity, and in many cases all three of these hinge upon the supplier's management. In light of this, Blois states that many big firms expect to vet a supplier's senior management and:

"If the management is not considered competent, then either the firm will not be accepted as a supplier or suggestions will be made as to how the management team might be strengthened."(23)

Blois indicates that in some cases these suggestions may run to the buyer's specification that an individual from its own organisation should be employed by the supplier. The desirability of delving into the internal operations of suppliers is well established in the conventional literature concerning effective purchasing behaviour, and in one study the writer not only cites cases of customers <sup>desiring</sup> 'on-hand' control over their suppliers' production methods and quality systems, but he concludes with the following statement:

"The results of this study suggest that there is a definite need for better techniques and more formal

procedures for evaluating management in major supplier selections. Such improved techniques would help the purchaser

- (1) to eliminate poorly-managed vendors from further costly consideration,
- (2) to apply proper weight to this factor in choosing among several qualified suppliers, and,
- (3) to avoid or reduce supplier problems by developing an awareness of managerial trouble spots."(24)

A recent material example of one major U.K. buyer's attempts to achieve a higher level of security, or certainty in relation to the acquisition of its inputs, is provided by the Central Electricity Generating Board. The C.E.G.B. has announced a policy of conducting audits of 1000 of its power station construction suppliers. In order to minimise the risk of costly delays, The Financial Times reports that:

"The full audit, by C.E.G.B. engineering services division, will cover the managerial and financial competence as well as the technical competence of the companies."(25)

The Times adds that the audit, "... is coupled with a more thorough checking of the ability of suppliers to maintain high quality and to provide effective programme management."(26) In order to obtain a 'certificate of compliance', the supplier must 'cooperate' and permit the auditors to examine its practices, and of course, correct any 'inadequacies' found. In relation to the buyer's need

for security the advantages of such 'audits' are apparent, but more than this, they also overlap, in terms of their ability to generate information and exercise internal control, with the motivations for production savings ('ex ante' uncertainty included) and for avoidance of the market ('ex ante' and 'ex post' uncertainty included). Therefore, on the surface at least, the C.E.G.B. appears to be on its way to gaining some of the benefits of formal integration without any of the associated formal paraphernalia ascribed in conventional economic theory. The fundamental condition underlying its ability to conduct such a programme, may be concisely summarised by the following comment from The Financial Times: "... so commanding is the situation of the customer here, even its major contractors are unlikely to protest very loudly."(27)



Implications of Vertical Integration: Some Relevant Consequences

The primary purpose of this section is to review some of the implications usually associated with formal integration, and in the process, to assess their relevance to postulated conditions of quasi-integration of buyers and suppliers in factor markets. The broad framework to be used for this review has been borrowed from J.F. Pickering, and it consists of two major types of implications: managerial, and economic.(28)

In his discussion of the managerial implications of vertical integration Pickering indicates that the major advantages usually ascribed to it in fact stem from three implicit assumptions:

- (a) that intra-firm communication is better than inter-firm communication.
- (b) that internal parts of an organisation have common, non-conflicting goals, and,
- (c) that wherever possible, intra-group trading occurs.

The assumption related to intra-versus inter-firm communication partially revolves around the economies of information exchange and consequent reduction of uncertainty covered in the previous section. O.E. Williamson adds a further dimension to the communication assumption by suggesting that there are 'information processing effects' attached to vertical integration and these can be seen in at least two areas:

(a) 'information impactedness'; where low cost information about risks involved in a transaction is not available to both parties, but is believed to be sufficient by the party (e.g., an entrepreneur) who resorts to integration because of the unwillingness of others to contract into the transaction. In simple terms, the entrepreneur's assessment of the risks will be based upon useful information which does not have the same 'impact' on others, and thus to obtain the resource(s) required, he integrates.

(b) 'observational economies'; because the acquisition of information may involve a fixed 'set-up cost', the returns from a commitment of the requisite resources may be more effectively spread if there were a wider range of activities involved, that is, "... if a single set of observations can be made that is of relevance to a related series of production stages, vertical integration may be efficient."(29) Thus, because a fixed commitment has already been made for one part of the production stage, it may be efficient to move into other stages and spread the commitment.

In general, then the superiority of the intra-firm communications assumption is based upon the premise that within the firm there is an unrestricted, continuous flow of useful, homogenous information. The second assumption of common, non-conflicting goals Williamson describes as the 'convergence of expectations'. This issue, he argues, will

be of particular relevance when there exists a high degree of interdependence between successive production stages, as well as, some degree of difficulty in specifying all of the appropriate conditional responses to changes which may occur. Co-ordination of the activities is likely to be less efficient between independent units because the costs of negotiation and the time required are probably greater than if the successive stages were integrated under one administrative process, with its associated refined 'reward and penalty instruments'.

The superiority of an integrated administrative process is in fact a basic tenet of Williamson's analysis, and as the above illustrates, he confirms the general validity of the first two implicit assumptions. Not only does he suggest that the firm's information processing is more effective, but the firm, "... possesses a comparatively efficient conflict resolution machinery". (30) For example, he states:

"Interorganisational conflict can be settled by fiat only rarely, if at all ... By contrast, intra-organisational settlements by fiat are common."(31)

It is worth noting that the two preceding chapters have shown that in certain kinds of trading relationships fiat, in the form of superior bargaining power, does exist and therefore, may be useful in conflict resolution. Moreover as Blois convincingly illustrates with evidence from Monopolies Commission reports, many large customers obtain information by

making it a condition of business that they have access to a supplier's plant and records.(32) Thus, it is apparent that to dichotomise trading relations into the polar opposites of either 'arms length' transactions, or vertical integration represents a gross under estimation of the capacity of firms to duplicate the underlying conditions associated with these two implicit assumptions. Returning to the main argument, there is a vast literature in the field of organisational behaviour which deals both with the deficiencies of intraorganisational information flows and with the problems of internal conflict resolution.(33) What is more, this literature tends to lend credence to J.F. Pickering's contention that in some cases the generation of internal problems can negate the cost benefits derived from vertical integration. These problems may take many different forms but mainly relate to an over-extension of the management team either in terms of its ability or know-how, an inflexibility of operations, a failure to subject internal units to the objective criteria of economic performance, and the need to maintain an harmonious balance between different parts of the organisation. Because these managerial problems are basically internal, they would not occur to the same degree with quasi-integration.

The final implicit assumption identified by Pickering was that of intra-group trading. Pickering points out that in some instances intra-group trading is forbidden because it may create dissatisfaction and tensions, and also lead to a loss of flexibility. Aside from these problems, which emerge from such areas as transfer pricing negotiations, there is the

fundamental disadvantage that, "... it may be more difficult to cease trading with an inefficient part of the same organisation than to drop an independent inefficient supplier."(34) In addition to the managerial problems in intra-group trading, there is also an associated technical one of ensuring that the efficient operating scales of different production functions are matched. As Bain puts it:

"... there must be an integrated operation a 'reconciliation' of the horizontal-scale optima of the related stages, generally requiring for best efficiency an increase of the scale of operations above the minimum optimal for the stages with the smaller minimum optimal scales."(35)

Once again the quasi-integration of a supplier can be seen as a possible means of avoiding some of these intra-group disadvantages.

The next type of implications to be linked to vertical integration have been described as 'economic', and they relate to two main issues: entry barriers and anti-competitive effects. Entry barriers essentially involve two problem areas. The first of these occurs if the situation materialises where existing firms in an industry either control all of the available sources of supply of particular factors, or they will only supply them to competitors at uneconomic prices. The

second problem area applies in situations in which the entrant to an industry faces constraints in obtaining capital funds, and thus, "... vertical integration by established firms which makes it necessary for the entrant to enter more than one stage (of the production process) in order to be just as efficient as established firms will make entry more difficult."(36)

The other type of economic implications concern anti-competitive effects, for as Pickering points out, a vertically integrated firm, which also supplies its competitors, may resort to a price 'squeeze' either through differential pricing policies (or as Williamson more accurately describes it, price discrimination), or by influencing the terms of sale in such areas as product quality, speed of service, and frequency of supply (especially at times of excess demand). The assessment of how entry barriers may apply to quasi-integration suffers from an absence of readily available empirical data. However, it is possible to speculate that while suppliers which are 'quasi-integrated' obviously possess more potential trading mobility or flexibility than integrated production departments; the existence of an array of 'tied suppliers', that is, tied to established firms, must present an additional, even if indeterminate, obstacle or cost for new entrants to overcome. On the issue of anti-competitive effects, Blois does provide some interesting empirical evidence that large customers often attempt to interfere with a supplier's relations with its other customers. He states that this interference:

"... may take many forms including, for example, stating that the supplier must not also act as a supplier to certain of the customer's

immediate competitors, or informing the supplier that a proposed advertising campaign in conjunction with a competitor is not to be carried out."(37)

While categorical conclusions are not possible, it does seem likely that quasi-integration may also offer some of the advantages associated with these economic consequences.

To summarise, the managerial consequences of formal integration, which may often act as dis-incentives or constraints upon integration, can be avoided, and the economic consequences may be moderately duplicated, for large customer/supplier relations in which 'quasi-integration' occurs.

Conclusion

In discussing vertical integration D. Needham states that regardless of the objective which a firm pursues, that is, whether it be profit maximisation, sales revenue maximisation, or maximisation of its growth rate, because integration reduces the costs of the firm's final product, it would be a desirable strategy to follow.(38) Another economist, R.N. McKean, elaborates upon this basic notion of simple cost reduction by indicating that a significant reason for vertical integration lies in the attempt to reduce transaction costs.(39) As the preceding sections have suggested these transaction costs involve such diverse elements as:"... information exchange, product purchase, redistribution of risk bearing, elimination of inefficient input combinations by the processor because of monopoly prices charged by component manufacturers, and achievement of technological economies by arranging lower cost transfer of components to the processor (e.g. molten iron to the steel mill)."(40) Moreover, the assessment of transaction costs may also consider the opportunity and propensity for protracted strategic bargaining and the exchange of questionable, or dubious information. Thus, in general terms, McKean reasonably concludes that vertical integration is concerned with externalities, either in the form of costs being imposed, or potential benefits being denied.

Costs and benefits have appropriately been the key criteria in this review of the motivations and implications associated with vertical integration, and the ability of quasi-integration



to attain parallel conditions. It has been reasonably shown that in most respects quasi-integration has the potential to achieve many of the cost reductions, or capture many of the benefits of vertical integration. It was shown in Chapter 3 that in its treatment of the precuniary advantages of large size and superior buyer power conventional economic theory has been primarily concerned with monopsonistic exploitation. It is now apparent that this approach overlooks some significant dynamic aspects of factor market behaviour which may encourage the large buyer to use its superior buying power in a more arcaic fashion, and thus, attempt to gain many of the benefits of vertical integration without assuming the risks or rigidity of ownership.

A number of organisational theorists have postulated that the modern diversified industrial enterprise is increasingly confronted by a progressively more dynamic and complex operating environment.(41) Such environmental conditions imply that the large enterprise must often face high levels of uncertainty in respect of its various activities, and thus, may be expected to attempt to reduce this uncertainty wherever possible. In relation to the enterprise's factor market behaviour, K.J. Arrow has developed a simple model which emphasises the role of uncertainty in the supply or acquisition of an upstream good (i.e. a factor of production), and the need for information by the downstream firms (i.e. industrial buyers).(42) Given his not exceptionally complex assumptions, Arrow shows that

because the buyer is motivated to reduce the uncertainty concerning the supply of the upstream good in order to improve its ability to choose the level of capital appropriate to its own output, there exists an incentive for incipient vertical integration. This chapter has effectively shown that under conditions broadly equivalent to Arrows', and within the context of general uncertainty in trading relations, there are also strong incentives for vertical, 'quasi-integration'.

## Chapter 5

### Footnotes and References

1. Pickering, J.F., Industrial Structure and Market Conduct, Martin Robertson, London, 1974, p. 54.
2. Adelman, M.A., "The Large Firm and Its Suppliers, Review of Economics and Statistics, 1949, vol. 31, p. 116.
3. Bain, J.S., Industrial Organisation, Second Edition, John Wiley & Sons, Inc., 1968, p. 177.
4. Pickering, op. cit., p. 57.
5. ibid.
6. Williamson, O.E., "The Vertical Integration of Production: Market Failure Considerations", American Economic Review, 1971, vol. 61, pp. 112-127.
7. ibid., p. 115.
8. ibid., p. 117.
9. The internal operation of the adaptation process may not be as smooth as suggested and the reasons for this are dealt with in the next section under managerial implications.'
10. Blois, K.J., "Supply Contracts in the Galbraithian Planning System", The Journal of Industrial Economics, 1975, vol. 24, no. 1, pp. 29-30.
11. Blois, K.J., "Vertical Quasi-Integration", The Journal of Industrial Economics, 1972, vol. 20, no. 3, pp. 253-272.
12. ibid., p. 259.
13. Pickering, op. cit. p. 57.
14. Needham, D., Economic Analysis and Industrial Structure, Holt, Rinehart and Winston Inc., 1969, p. 114.
15. Williamson, op. cit.,
16. idib., p. 117.
17. ibid.
18. Adelman, op. cit. p. 116. Defined as a buyer, although integrated, which continues to use the market.
19. ibid.

20. Bain, op. cit., p. 178.
21. Refer to Chapter 3.
22. Blois, "Vertical ...", op. cit.
23. *ibid.*, p. 261.
24. Edwards, M.G., "Supplier Management Evaluation", Journal of Purchasing 3rd February, 1967, pp. 28-41.
25. "CEGB audits 1,000 suppliers", Financial Times, February, 20th, 1976.
26. Owen, K., "CEGB to concentrate more effort in design," The Times, February 20, 1976.
27. Fishlock, D., "Audits to boost efficiency", Financial Times, February, 24 1976.
28. Pickering, op. cit. pp. 58-63.
29. Williamson, op. cit., p. 120.
30. *ibid.*, p. 114.
31. *ibid.*
32. Blois "Vertical ...", op. cit.
33. See for example: Burns, T. and Stalker, G.M., The Management of Innovation, Second Edition, Tavistock London, 1966; Lawrence, P.K. and Lorsch, J.W., Organisation and Environment, Harvard University Press Boston, 1967; and Millder, E.J. and Rice, A.K., Systems of Organisation, Tavistock, London, 1970.
34. Pickering, op. cit., p. 59.
35. Bain, op. cit., p. 179.
36. Needham op. cit., p. 124.
37. Blois, "Vertical ...," op. cit., p. 260.
38. Needham, op. cit.
39. McKean, R.N. "Discussion", American Economic Review, 1971, vol. 61, pp. 124-125.
40. *ibid.*, p. 124.
41. See for example: Emery, F.E. and Trist, H.L., "The Causal Texture of Organisational Environments", Human Relations, 1965, vol. 18., pp. 21-32.
42. Arrow, K.J., "Vertical Integration and Communication", Bell Journal of Economics and Management Science, 1975, vol. 6, no. 1. pp. 173-183.

CHAPTER 6

SPATIAL APPROACHES TO FACTOR MARKET TRADING RELATIONS

"One expects to find some relationship between the functional structure of an industry and its geographical structure .... Localisation is one method of increasing the economic size of an industry and achieving the gains of specialisation. The auxiliary and complementary industries that must operate in intimate co-operation can seldom do so efficiently at a distance."(1)

Introduction

Given the above quotation, it is not unreasonable to speculate that G.J. Stigler's expression '... must operate in intimate co-operation...' may possibly be another way of characterising what the previous chapter described as the need for factor market buyers and sellers to consult, plan, and co-ordinate. That is, essentially those conditions associated with dependency in general, and with either formal vertical integration, or quasi-integration in particular. However, Stigler adds a new element to this analysis, and it is that there may also be certain spatial implications. In fact, trading relations between factor market buyers and sellers represents an important area of study for regional economists, and their primarily spatial orientation, has led them to examine the locational aspects of these relations, under the rubric of

of industrial linkage patterns. Moreover, some of their work has been conceptualised upon the basis that there is a relationship between the proximate location of firms, or agglomeration, and the need for technical or specialised production units. If some of the conditions contributing toward industrial agglomeration parallel some of those conditions associated with the dependency of supplier units and the quasi-integration of suppliers with dominant buyers, then the role or importance of key large industrial units, which may also happen to be geographically concentrated, may in effect be behaviourally more complex and pervasive than the linkage patterns shown in input-output models, which are based upon the quantitative flow of physical goods and services alone, suggest. It is the aim of this chapter to briefly explore, in general terms, the likelihood that in some, but certainly not all, situations overlapping conditions may occur in both dependent trading relations and in agglomerative linkage patterns involving a master industry or firm.

The chapter begins by examining the notion that the process of industrialisation, that is, industrial growth, may lead to the creation of highly tied 'satellite' industries. The analysis then briefly touches upon the concept of regional growth poles and economic dominance. In this analysis, the need to acquire an understanding of the external economies involved in industrial-geographic concentration, or polarisation is identified.

This need is confirmed by an overview of some of the general agglomerative forces effecting linkages and location, and then some specific characteristics of industrial linkage are presented. Wherever it is possible to do so, an attempt is made to relate the analysis to the various facets of supplier dependency and quasi-integration covered in previous chapters. The conclusion draws the chapter together and summarises. Within the broad framework of the thesis the chapter adds another dimension to the understanding of how the industrial structure is effected by dominant factor market trading relations.

## Satellites' and Growth Poles

The purpose of this section is to present some fundamental ideas, which have been taken from literature on industrial development or growth, and which relate to the general concept that amongst the various 'inducement mechanisms' involved in the process of industrialisation, the role of a dominant, master industry has been assigned a degree of importance. That is to say, the active encouragement of large factor market buyers might be a worthwhile economic policy to pursue because they may act as stimuli to industrialisation and growth. It should be noted that most of the concepts introduced in this section are relevant to a national context and not necessarily a regional one.

The first topic in this section concerns A.O. Hirschman's formulation of the notion of backward linkage, and his related description of 'satellite industries'.(2) In his discussion of inducement mechanisms, Hirschman describes a process by which one product or industry stimulates the production of other products, or the creation of other industries, and in so doing, encourages economic growth. One such mechanism, termed 'backward linkage effects', particularly relates to factor markets because:



"Backward linkages occur when an industry needs inputs and creates such a strong demand for them that new industries spring into being to satisfy it."(3)

Thus, 'linkage effects' emanate from one industry towards another, and in order to understand the 'total' effect which may occur, it is necessary to examine its two underlying elements: 'importance' and 'strength'. The 'importance' of the effect stems from the net output of the newly created industries, and the 'strength', from the probability that the new industries will be created. Elaborating upon these two elements, Hirschman indicates that the total effect can be measured by the sum of the products of 'importance' and 'strength', as expressed by the following equation:

$$W = \sum_{i=1}^n x_i p_i$$

where,  $W$  = the total linkage effect of the establishment of industry  $W$ ,

$n$  = the number of additional industries created,

$x_i$  ( $i = 1, 2 \dots n$ ) = the net outputs of 'n' industries, and,

$p_i$  ( $i = 1, 2 \dots n$ ) = the probability that each one of the 'n' industries will be set up as a result of the establishment of industry  $W$ .

The probabilities measure the 'strength' of the stimulus and it is possible to 'roughly' measure this strength provided certain other variables are known. The first of these other variables relates to the fact that the establishing industry, 'W', requires known annual physical inputs designated as:  $y_1, y_2 \dots y_n$ . Secondly, the 'minimum economic size', in terms of annual productive capacity, of the firms which would produce the inputs,  $y_1, y_2, \dots y_n$ , is known and designated as:  $a_1, a_2 \dots a_n$ . Given these two variables the probability that the establishment of industry 'W' will stimulate the creation of firms to produce its inputs, is equal to the ratio of the annual physical inputs to the firms' annual productive capacity:

$$P_i = \frac{Y_i}{a_i} \quad (p_i \leq 1)$$

Hirschman points out that the 'y's' are equivalent to the gross output of the firms in physical terms and should not be confused with the 'x's', or 'importance' element, which represents the net output in value terms. Finally, Hirschman states that 'minimum economic size' is not a technical concept but is defined in economic terms by considering normal profits and "... efficient foreign suppliers":

"... it is the size at which the domestic firm will be able to secure normal profits and to compete with existing foreign suppliers, taking into account locational advantages and disadvantages as well as perhaps, some infant industry protection."(4).

Having briefly established his basic framework and described the two component elements in the linkage effect, it is now possible to introduce the concept of a 'satellite industry'. Hirschman indicates that not only can 'importance' and 'strength' be inversely related, but when 'importance' is small (the 'x's' or net output in value terms) and the probability is great (the 'p's'), the industries which are created may be called 'satellite industries'. This is because the 'satellite industry' is highly tied to the establishing 'master industry', and is "...almost certain to be established once the master industry is in place."(5) Moreover, satellite industries generally possess a number of characteristics in relation to backward linkage conditions and these are as follows:

- "... a) it enjoys a strong locational advantage from proximity to the master industry;
- b) its principal output is a - usually minor - input of the master industry; and,
- c) its minimum economic size is smaller than that of the master industry."(6)

In simple terms, Hirschman's satellite condition appears to reduce to a situation in which a big purchasing unit is supplied by relatively small sellers. This is because a small level of 'importance', that is, 'x' or the value of net output, when combined with the further characteristics of the output being a 'minor' input, and the firm being of a smaller minimum economic size, tends to suggest the involvement of relatively small scale production and selling units. While a high level of probability, in its turn, implies that the physical quantity taken by the master firm as its input represents a large

proportion of the supplying firm's total, full-employment productive capacity, and this situation quite reasonably approximates the description outlined earlier of a 'large customer' trading relationship. It can be seen, therefore, that almost implicitly behind Hirschman's rather static definition of 'satellite industries', there are the more dynamic concepts of customer domination, supplier dependency and superior bargaining power. Depending upon the 'master industry's capacity and propensity to use its position to exploit its 'satellites', i.e. in the monopsonistic sense explored earlier, the possible long run influence of backward linkage effects as an inducement mechanism, by fostering the development of small scale enterprise, may be somewhat abrogated. However, speculation aside, such matters are beyond the scope of this simple analysis which has been aimed at merely presenting an identifiable theoretical framework in which large buyers and small suppliers have been attributed a significant role in the growth of industrial activity, and in which some of the dynamic aspects of buyer/supplier relations discussed in previous chapters, may be of potential relevance.

In Hirschman's analysis of growth there was, in the case of satellite industries, an associated characteristic involving the master industry and the existence of a locational advantage attributable to supplier proximity. The linking of locational factors with industrial growth has been a topic of concern in regional economic studies, and since the concept of a dominant firm also emerges in this work, there exist some areas of overlap with dynamic buyer/supplier relations. A

seminal article in this field, by Perroux, presents the notion of development poles (pôles de croissance) by positing that the fundamental fact of spatial development is that:

"... growth does not appear everywhere and all at once; it appears in points or development poles, with variable intensities; it spreads along diverse channels and with varying terminal effects for the whole of the economy."(7)

While the above tends to suggest some kind of geographical parameters, N.M. Hansen warns that Perroux was not offering a theory of location, but rather centred his analysis upon complex economic relations, and not upon the types of geographical considerations given to Perroux's work by other writers.(8) Thus, Hansen suggests, Perroux's analysis relates to his overall concept of economic space which is comprised of three elements:

"... economic space as defined by a plan, economic space as a field of forces, and economic space as a homogeneous aggregate."(9) It is not necessary to elaborate upon all of these elements, for only the second one is relevant to this analysis, and in Perroux's words, it "... consists of centres (or poles or foci) from which centrifugal forces emanate and to which centripetal forces are attracted. Each centre being a centre of attraction and repulsion, has its proper field, which is set in the field of other centres."(10) Hansen points out that others, in the application of Perroux's concepts, have stressed the 'regional

character of economic space' and have thus linked economic space with geographic space. However, he also states that this link has often been made without an adequate definition of the relevant topics and he proceeds to explain the basis upon which the link should occur. The explanation of this link requires the introduction of the subject of economic dominance to the analysis, and is therefore of direct relevance to this thesis.

Hansen suggests that Perroux was concerned with the dynamic interpretation of economic activity and so for him, the effect of domination "... consists of an irreversible or partially reversible influence exercised by one unit upon another. An economic unit exercises this effect by reason of its size or dimension, its negotiating strength, the nature of its activity, or because it belongs to a zone of dominant activity."(11) In spite of the vagueness surrounding what constitutes a 'zone', it is nevertheless noteworthy that Perroux has also identified size and bargaining power as important elements in his analysis. Returning to Perroux; domination may be seen as occurring when "... a firm controls an abstract economic space, the market for a product or a service or a group of products or services."(12) In controlling one economic space, the firm may also be able to exercise its influence on another economic space "... either in a permanent and structural manner (a commercial bank), or in an accidental fashion (a firm becomes dominant by the presence of temporary bottlenecks)"(13) Moreover, "... as soon as any inequality among firms appears, the breach is opened by which the cumulative effect of domination insinuates itself."(14) Hansen states that given

the preceding, "... it follows that the dominant, or propulsive, firm generally will be oligopolistic and large, and will exert an important influence on the activities of suppliers and clients."(15) A conclusion which is confirmed by the material covered in previous chapters but which continues to leave unsolved the problem of establishing a geographic spatial framework. Hansen states that through the use of input-output models, the existence of dominant economic sectors has been given empirical verification for the entire industrial structure of a nation, but that these techniques make it operationally unfeasible to regionalise the analysis. In any case, as he points out, input-output data do not really provide much insight into the process of change in industrial interdependencies which explains economic development.

Quoting J. Paelinck, Hansen suggests that:

"... it is not enough for the economist working on regional development problems to limit analysis to 'the classical interdependencies (of either the Walras - or Leontief-type) of economic flux, whether in quantity or in value terms. He must be able, in addition, to recognise the 'technical origin' of this interdependence, which explains its every increasing complexity."(16)

To recap: the concepts of economic space and growth poles, plus, the dominance of a propulsive industry are, it has been shown, in Perroux's approach not given a concrete spatial location, i.e. in a geographic sense. This then remains the outstanding

question to which the analysis now turns, bearing in mind the fact the answer may involve the types of dynamic elements of industrial interdependencies described above.

N.M. Hansen indicates that a number of writers have attempted to identify the effects generated by a propulsive industry which would qualify it as a growth or development pole, and from their work, he presents three basic characteristics of a propulsive industry or firm:

- a. "... it must be relatively large in order to assume that it will generate sufficient direct and potentially indirect effects to have a significant impact upon the economy;
- b. "... it must be a relatively fast growing sector; and,
- c. "... the quantity and intensity of its inter-relations with other sectors should be important so that a large number of induced effects will in fact be transmitted."(17)

The first characteristic, it can be readily seen, parallels what has already been discussed in terms of the creation of large economic units through industrial concentration, and the associated implications for trading relations. The need for high levels of expanding demand, characteristic b., is an obvious prerequisite in the context of growth poles. However, it is the third criterion that Hansen focuses upon, that is, inter-relations with other sectors, and it is



in this area that location or agglomeration considerations emerge. Referring to another writer on the subject, P. Aydalot, Hansen indicates that a simple definition of a propulsive industry may be that it is a producer of external economies:

"Polarization, 'is the process by which the growth of an economic activity termed propulsive sets in motion that of other economic activities by the channel of external economies'." (18)

In effect ~~the~~, the 'quantity and intensity of inter-relations' may be assessed in terms of the external economies generated by the propulsive industry. However, while the propulsive industry may have a geographic location, this does not mean that the process of polarization necessarily requires one. In order to understand the process of 'industrial-geographic polarization', that is, the regionalisation of a dominant activity and related industrial activities, the ultimate objective, it is in turn necessary to understand the agglomerative forces which are operating upon both the propulsive industry and other, linked economic activities. In Hansen's words:

"Therefore, any adequate treatment of this phenomenon (industrial-geographic polarization) should take account of the pronounced tendency for industrial growth to be oriented primarily toward already industrialized areas because of the external economies which the latter generate, including a wide range of tertiary services, close proximity to buyers and suppliers, labour with necessary skills and training, and plentiful public overhead capital."(19)

To summarise, in this section an attempt has been made to place factor market trading relations between large buying units and relatively small suppliers into a wider, more macroeconomic context, that is, industrial development and regional growth. It was shown that the establishment of master industries could, through backward linkage effects, serve as an inducement mechanism, but that in the process 'satellite', or highly tied proximate supplying industries/firms might be created. This inducement effect was then re-conceptualised so that growth was conceived of as occurring unevenly, that is, at poles or foci, in the form of centres of forces acting within economic space. In effect, it was postulated that large, oligopolistic buying units could dominate or control an economic space, and concomitantly, influence others, for example, suppliers. A dominant firm, defined in a dynamic sense, could be a propulsive firm which also acquired the role of a growth pole. The acquisition of this role was to some extent dependent upon three conditions: large size, growth of operations, and intense inter-relations with other sectors. The latter condition could in part be described in terms of the generation of external economies, and it was through the influence of these economies that it was also felt possible to describe the agglomerative forces which generally underlie the process of industrial-geographic polarization. In essence, dynamic, micro aspects of factor market relations may, under certain conditions, have broad regional implications. However, the intriguing point which has been left outstanding is how well intense relations, defined in terms of external economies, match the close ties which this

thesis has considered within the context of supplier dependency and quasi-integration. Leaving this question aside for the moment, it is possible to conclude that Hansen's explanation of how Perroux's concepts, as defined within economic space, may be translated into geographic space has served the useful purpose of pointing out the direction which should be followed in order to understand the localisation, or geographic aspects of the growth pole concept.

## Industrial Linkage and Agglomerative Forces

In this section, the objective is to present a selective overview of various conceptual explanations as to why some types of economic linkage are associated with industrial agglomeration in a localisation sense, and to do this, the analysis focuses upon several different kinds of external economies.

The first concept to be dealt with concerns what P.M. Townroe calls 'agglomeration economies', and what he describes as follows:

"Agglomeration economies occur when a firm can profit by locating in close proximity to other firms, or when it is profitable for one firm to grow very large by combining many different but associated processes in a single organisation."(20)

Townroe indicates that agglomeration economies may be subdivided into four different categories. The first, internal economies of scale, in fact relates to the simple vertical integration of operations, and since these economies may work for managerial economies, which transcend the need for one establishment or unit, as well as technical costs per unit, they may not necessarily also lead to geographic concentration. The second category, external economies of scale to the firm that are internal to the industry, occurs "... when plants of a complementary or related range of industries, or with a similar range of products, aggregate in one area, economies of localisation are said to be a factor in the attraction of

the plants to that area."(21) Examples of specific aspects would include the availability of a common pool of uniquely skilled labour or services, or the geographic concentration of buyers. A third category, external economies of scale to an industry, are closely related to localisation economies, but are termed urban economies because "... they evolve when unlike plants congregate, using common facilities of commerce and banking, of technical servicing, of education, of subcontracting and a wide range of adaptable skilled labour".(22) The final category involves transfer economies, and these relate to the minimisation of transport costs through adjacent location. In general terms, these four categories describe the types of factors which Hansen indicated explained the polarization of propulsive, or dominant industry linkage, but they have now been placed into a regional context.

Looking more closely at industrial linkage, and particularly at its evolution, Townroe suggests that two processes are at work on the structure of manufacturing industry. The first he describes as 'integrative', for this involves the absorption of small activities into large units so as to generate the desired economies of scale, and coincidental with this is need for investment levels which can only be maintained with large firm resource levels. This process leads Townroe into the familiar argument for vertical integration:

"As the need for coordination in this investment spreads back from the marketing estimates and the selling effort to the production process and the suppliers of materials and components, so those companies with full control throughout the process will benefit in time and profit

over those companies trying to synchronize the contributions of other companies to their own industrial output."(23)

The second process affecting structure Townroe believes to be one of 'differentiation and specialization' in industrial activity, and this broadly involves Adam Smith's notions of increasing returns to specialised factors of production; assuming that a sufficiently large market exists. In essence then, the types of linkage which emerge should be predominately determined by this latter process, that is, in a technical flow of goods and services sense.

It is apparent from the preceding that factor market trading links belong, in Townroe's context, to the second process, and that if there are any locational requirements involved in these links, they should primarily relate either to economies which are external to the firm and which are of the localisation or urbanisation variety, or to transfer economies. This conclusion is to some degree confirmed by J.P. Blair who first of all states that the most important of the agglomerative forces examined by Alfred Weber, "... is the location of firms so as to share technical or specialised equipment ...", (24) and provides the following quotation in support:

"The complete technical equipment which is necessary to carry out a process of production may, in highly developed industries, become so specialised that minute parts of the process of production utilize specialised machines,

and even quite large-scale plants are not able to make use of such equipment."(25)

Blair then follows this up with a reference to R. Vernon's statement that enterprises facing uncertainty will be reluctant to acquire specialised capital and will therefore locate where this is available; usually, the result will be urban growth:

"Businessmen in lines of this (rapidly changing) sort must suit their methods of operation to such uncertainties. They cannot commit themselves to specialised machinery; for specialised machinery, though well able to turn out long runs at low costs, usually is not easily adapted to swiftly changing products ... Instead, each must rely on outside specialists who can fill his needs as the needs arise".(26)

This point is reinforced and extended even further by Townroe, who indicates that many externally linked firms operate in industries where the nature of what is produced is unstable, "... either because of swiftly changing products or non-standard products, or because of rapidly changing patterns of demand."(27) Summarising the above, there emerge two reasons why 'differentiation and specialisation' may persist, and why all firms do not resort to formal vertical integration. The first, suggested in Weber's statement, emphasises the technical conditions of production in relation to costs and

economies of scale (28), and the second, focuses upon a need for flexibility and adaptability in the face of uncertainty and change.

Briefly stated, it has been suggested that the polarization of dominant industry linkage, and indeed the location of the firm itself, may be explained by the workings of external economies. These economies reflect the two processes of integration and differentiation of industrial linkage, and in the latter process, two elements may be apparent; the technical conditions of production and the need for adaptability. A further refinement of this basic concept of linkage and differentiation which may be made is found in P. Sargant Florence's delination of what he terms the 'technical linkage between industries and sub-industries' into three different types.(29) Before presenting these, it is well to remember that in its original form Sargant Florence used the expression 'technical linkage' with respect to the exchange of semi-finished goods or components between manufacturing plants and industries, and the concept was restricted to flows between plants located within a common industrial area.(30) More recent writers have attempted a wider definition of linkage, for example, D.E. Keeble terms these short-distance flows 'local industrial linkages' and distinguishes them from simple 'linkages' which represent flows between separate plants, regardless of the distances involved.(31) Returning to



Sargant Florence, for it is his definitions which concern this analysis, the three types of linkage are as follows:

- a. Vertical. Represents a situation in which the "... flows involve successive operations on initial materials by different factories..." (32) and Sargant Florence cites as examples non-ferrous refining and non-ferrous wares such as plate and jewellery.(33)
- b. Lateral or Convergent. Involves the flow of diverse components from different production units or plants to one particular plant for assembly, and an example is that of motor vehicles.
- c. Diagonal. Represents a situation in which "... the products or services of a particular factory are used by plants, sometimes in different industries, at different stages in the process of end-product manufacture ..." (34) and examples are construction engineering, engineering tools and foundaries.(35)

Given the diversity of the above, it is understandable that Townroe places so much emphasis<sup>s</sup> on the problematic nature of "... companies trying to synchronize the contributions of other companies to their own industrial output." Moreover, the above also highlights the premium which buyers might place on the ability to consult, plan and co-ordinate within the framework of locational supplier linkage. In short, Weber's and Vernon's specialist supplying units, operating in respect of Sargant Florence's different type of linkage flows, quite effectively establish a number of pre-conditions which may be linked to the potential advantages to be gained from customer domination.

It is possible to verify the existence of a number of these pre-conditions of dominance and supplier dependency by reviewing those characteristics of firms and their particular markets which may have the effect of strengthening ties, or patterns of linkage between firms. In his paper dealing with the subject of linkage Townroe identifies a number of factors which may be associated with strong linkage tendencies as follows:

- a. "... processes that are fairly specialised by the skill rather than the capital machinery involved, and which produce non-uniform and custom-built goods." (36)

The role of specialisation as a characteristic of close trading relations or strong linkage patterns is generally well documented. For example, in his Birmingham study Sargent Florence indicates that a gathering of small "... specialised plants reproduces the main advantages of the large plant, namely, the physical juxtaposition of consecutive processes and auxiliary services in the making of a product or allied products which reduces costs of transport, communication and contacts."(37) Keeble found what he termed 'product specialisation' in his study of local industry linkage in north west London, and cited as an example, a small firm which manufactured lead shieldings to customer's specifications. But, besides the reduced costs attributable to the proximity of production units, it is noteworthy that another one of Townroe's external economies can come into play, and this is that there may be cost reductions resulting from economies of scale which become realisable because of the existence of a local concentrated

demand available to the specialists. In any case, returning to Sargent Florence, he describes the first phenomenon in the following words: "... several specialised plants, if close enough together, may have much the same economies as the separate departments of a large plant". (38) From the preceding, it is interesting to speculate that if the specialised plants in their proximity do serve a function similar to those of actual departments in large plants, then it may not be unreasonable to consider that a large customer might attempt to influence their important suppliers, or 'departments', because for instance they may represent strategic sources of supply, and in the process, bring them into the locus of the buyer's control and decision-making. In fact, the discussion of 'jobbers' and 'quasi-integration' has shown that this is, at the very least, a possible, but obviously not necessary, tactic for the buyer to adopt. It is understandable, but none the less remarkable, that this 'separate departments of a large plant' phenomenon should be presented without comment concerning its likely dynamic implications for the parties involved, and therefore for the industrial structure of the relevant region.

b. "... the process has to be speedily adaptable and sensitive to technical change."(39)

Adaptability was seen as important by R. Vernon above, and it was described not only as a reason why a firm might want to avoid formal vertical integration, but due to the corresponding uncertainty usually associated with change, why a firm might

also want to exercise a high degree of influence over its suppliers. On the empirical side, Keeble in his study, found several manufacturers of small, high precision, instrument components to be highly linked locationally, and to also be in industries which might be considered particularly susceptible to high rates of technological change.

- c. "The strongly linked firm tends to be small in size, to be housed in a single plant and to have an owner-manager, with a high level of direct management involvement in production."(40)

Probably inadvertently, Townroe has presented the classic description of the average small firm in the United Kingdom.(41) All that is really required is to recall that Davies and Kelly's work, as presented in Chapter 4, indicated that specialist, jobber small firms were prone to domination, and in any case, against large firms, and this must include propulsive firms, they tended to lack bargaining strength, thereby making them vulnerable to exploitation.

- d. "The strongly linked firms come from sectors of an industry where the sum of capital required to set up as an independent unit tends to be fairly small and where restrictions on entry are few."(42)

These two characteristics seem to almost logically follow from the fact that strongly linked firms are small. In his review of why small firms survive, J.F. Pickering confirms that they are found in industries where there exists fairly easy entry, and furthermore that: "... frequently this occurs in industries or particular product markets where capital intensive technology is not appropriate, and where therefore capital/output ratios are low."(43) In a similar vein Edith Penrose states that there are certain markets which require investment expenditures not only in large-scale production facilities but also in marketing and research, for example, oligopolistic markets, and these activities are not generally the domain of the small firm.(44) In effect, returning to Bain's classification of market structures, the selling side is atomistic, and due to the entry conditions, many alternative sources of supply are available. These would be excellent pre-conditions of supplier dependency according to the matrix of dependency factors presented in the conclusion to Chapter 4.

Another characteristic relevant to the strength of linkage between firms has already been discussed, and it concerns buyers and suppliers engaged in subcontractural trade. This is due to the relatively high degree of liaison required between a sub-contractor and its client for the following purposes:

- a. preliminary drawings, plans, discussions.
- b. technical assistance by client firms.
- c. supervision and control by the client firms.
- d. supply of specific materials by client firms, and,
- e. perhaps the supply of quality control equipment,

as outlined previously. Thus, the sub-contracting linkage is usually considered to be much more complex than the simple seller's, and this is because it involves more information exchange, in addition to the exchange of goods. In a regional context sub-contracting is considered to be an important activity, for example, Keeble found that among firms in the north west of London a significant proportion of the linkages were sub-contractual in nature. It was suggested in Chapter 4 that such relations are highly susceptible to the adoption of a 'branch plant' syndrome, and that for the supplier, they may represent another cost of buyer substitution due to the need to replace the 'extraordinary investment' made by the customer.

The final locational factor to be briefly considered concerns what might be termed informational linkages. B. Thorngren has postulated that production units facing a high probability of transition require a rapid access to complex face-to-face contacts and a pooling of productive resources (as indicated by Vernon).(45) Building upon Thorngren's theory, Klaassen has posited that the concentration, in a geographic sense, of groups of activities may take place as a consequence of the need for communication and because the costs of communication increase, the greater the distance.(46) G. Törnquist, in his studies of communications and decision making, has indicated that face-to-face, distant dependent, and more frequent communications usually involve problem solving, planning, monitoring events and reconnaissance.(47) In essence, the same types of conditions which involve 'ex ante' and 'ex post' uncertainty and this may be reduced through

the exercise of the kinds of influence or power-based actions described in the previous analysis on 'quasi-integration'.

It is aparent from the preceding that there is a great deal of interaction between the characteristics of linkage described. For instance, a small supplier firm may be a specialist sub-contractor in a dynamic or volatile industry, thus, generating a high need for information exchange. However, the main consideration is not that each specific characteristic should be exclusively and internally consistent in that it necessarily predicts agglomeration, but simply that a tendency to industrial agglomeration should be revealed - as it unquestionably is. Thus, industrial linkage evolves through the process of specialisation and differentiation, and under certain conditions, some of which were described above, may involve the locational concentration or agglomeration of activities.

x

Conclusion

In a paper dealing with industrial location and linkage P.A. Wood makes the following observation:

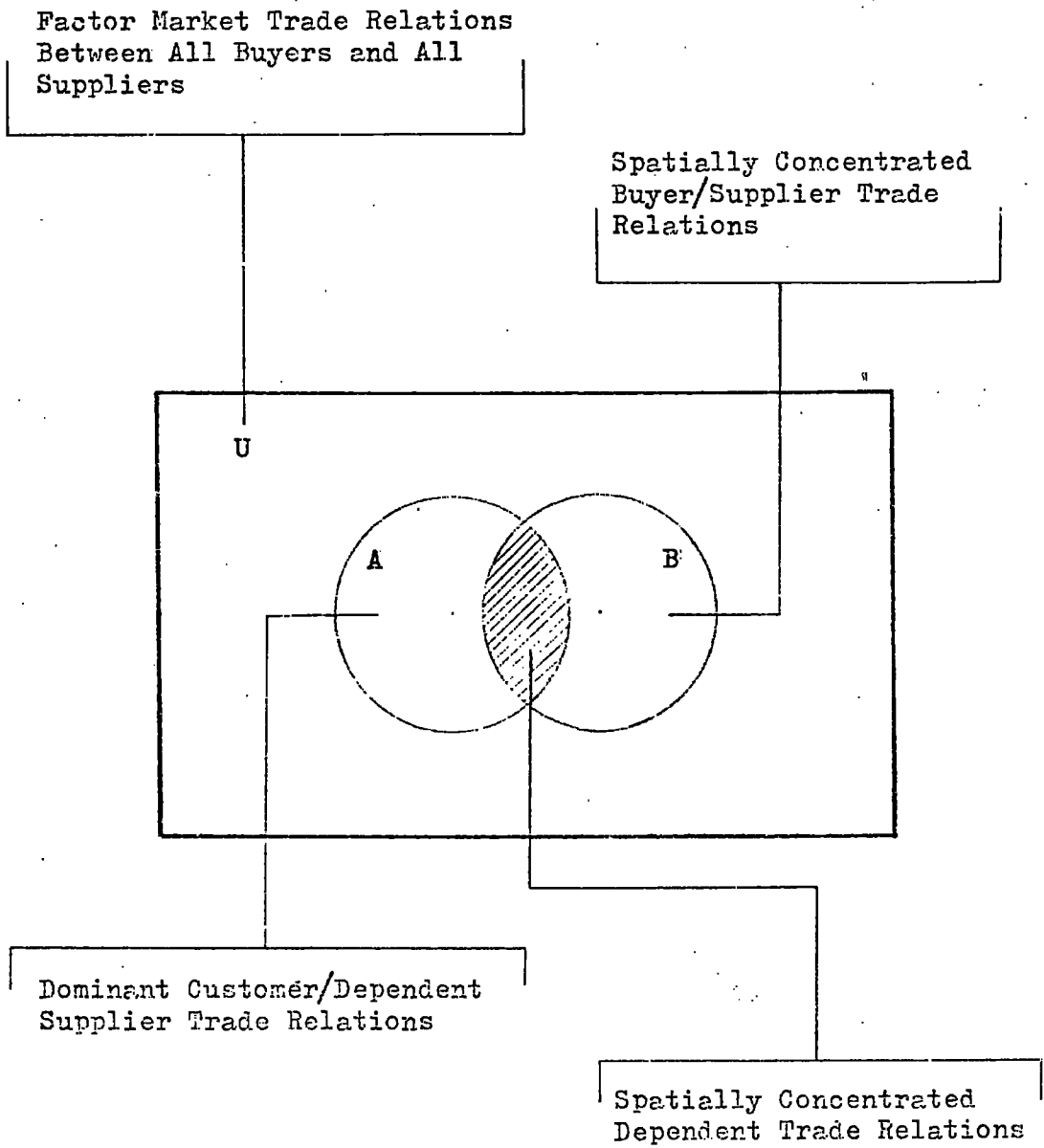
"The processes of manufacturing within agglomerated industrial areas also involve dynamic features, such as a variety of contracts changing over time, the need for rapid change in response to supply requirements and the maintenance of speed and frequency of contacts."(48)

In this chapter an attempt has been made to place the dynamic features of factor market large buyer/small supplier relations into a wider context involving industrial growth through propulsive , master units, and the general complex of regional linkage patterns. In the introduction it was postulated that overlaps existed between conditions of customer domination and supplier dependency, and those involved in industrial growth, and intra-regional trade. Based upon this brief overview of the fundamental concepts of this latter area of study, the proposition has not been refuted, and has in fact, making the requisite allowances for the superficiality of the ~~analysis~~ <sup>analysis</sup>, be shown to be reasonably valid. Thus, the situation, which this conclusion substantiates, may be represented in the form of a simple Venn diagram as follows in Figure 6-1.



Figure 6-1

Regional Dependency



Where 'U' is the universe, and 'A' and 'B' represent respective sub-sets of that universe; so that the intersection of sub-sets 'A' and 'B', in turn represents the subject matter of this chapter, that is, spatially defined, dependent buyer/supplier relations. The theoretical existence of such phenomena<sup>a</sup> must of course be supported by empirical evidence, and in this respect Wood offers an appropriate concluding comment:

"If a view of the industrial plant as a communicating entity were adopted as the basis for investigation, its relationships and linkages with other organisations might be regarded simply as structural features of its operation, .... They allow the plant to operate successfully by extracting profits from the surrounding economic and spatial system through contacts with material and semi-finished goods suppliers, wholesalers, retailers, consumers, transport operators, government, competitors and so forth."(49)

Chapter 6

Footnotes and References

1. Stigler, G.J. "The Division of Labour is Limited by the Extent of the Market", Journal of Political Economy, 1951, vol. 59, no. 3. Reprinted in Stigler, G.J., The Organisation of Industry, Richard D. Irwin, Homewood 1968, pp. 138-139.
2. Hirschman, A.O., The Strategy of Economic Development, Yale University Press, 1958, chp. 6. Hirschman also deals with Forward Linkage and while these may also effect factor markets, for simplicity the analysis is limited to backward linkage only.
3. Kindleberger, C.P. International Economics, Fourth Edition, Richard D. Irwin, Homewood 1968, p. 71.
4. Hirschman, op. cit., p. 101.
5. ibid. p. 102.
6. ibid.
7. Perroux, F., "La notion de pôle de croissance", L'économie du XXème siècle, Second edition, Presses Universitaires de France, Paris, 1964, p. 143. As quoted in: Hansen, N.M. Development Pole Theory in a Regional Context", Kyklos, 1967, vol. 20 pp. 709-727.
8. Hansen, op. cit.
9. ibid, p. 712. Economic space as a plan refers to a region which is characterised by its degree of uniformity and as an homogeneous aggregate by the similarity of its constituent, parts.
10. Perroux, F., "Economic Space: Theory and Applications", Quarterly Journal of Economics, 1950, vol. 64, pp. 90-97. As quoted in : Hansen op. cit.
11. Perroux, L'économie ... op. cit., pp. 85-7, as quoted in Hansen op. cit.
12. ibid.
13. ibid.
14. ibid.
15. Hansen, op. cit., p. 714.
16. Paelinck, J., La théorie du développement régional polarisé", Cahiers de l'Institut de Science Economique Appliquée, Série L, No. 15, 1965, pp. 10-11.

17. Hansen, op. cit., p. 717.
18. Aydalot, P., "Note sur les économies externes et quelques notions connexes," Revue économique, 1965, vol. 16, p. 963.
19. Hansen, op. cit. pp. 718-719.
20. Townroe, P.M. "Industrial Linkage, Agglomeration and External Economies", Journal of the Town Planning Institute, 1970, vol. 56, p. 18.
21. ibid.
22. Ibid.
23. ibid, p. 19.
24. Blair, J.P., "Industrial Decline, Vertical Integration, and Geographic Concentration, Growth and Change, 1975, vol. 6, no. 3, p. 34.
25. Weber, A. Theory of Location of Industry, trans. C.T. Frederick, University of Chicago Press, Chicago, 1929, p. 124. As quoted in Blair, op. cit.
26. Vernon, R., Metropolis 1985, Harvard University Press, Cambridge, Mass., 1960, p. 70, As quoted in Blair, op. cit.
27. Townroe, op. cit. p. 19.
28. For a review of some theoretical cost curves involved in the firm's decision as to whether it should buy an input externally, or internalise its production see: Stigler, op. cit.
29. Florence, P. Sargant, The Logic of British and American Industry, Routledge & Kegan Paul, London, 1953, p. 87.
30. Florence, P. Sargant, Investment, Location and Size of Plant, National Institute of Economic and Social Research, 1948.
31. Keeble, D.R., "Local Linkage and Manufacturing Growth", Town Planning Review, 1969, vol. 40, pp. 163-188.
32. ibid., p. 163.
33. Florence, The Logic ... op. cit.
34. Keeble, op. cit.
35. Florecne, The Logic..., op. cit.
36. Townroe, op. cit.

37. Florence, Investment..., op. cit. p. 74.
38. Florence, The Logic ..., op. cit., p. 85.
39. Townroe, op. cit.
40. ibid.
41. Refer to: Small Firms: Report of the Committee of Inquiry on Small Firms, Cmd. 4811, H.M.S.O. 1972.
42. Townroe, op. cit.
43. Pickering, J.F., Industrial Structure and Market Conduct, Martin Robertson, London, 1974, p. 50.
44. Penrose, E.T., The Theory of the Growth of the Firm, Basil Blackwell, Oxford, 1959, pp. 223-224.
45. Thorngren, B., "Regional Economic Interaction and Flows of Information", in Proceedings of the Second Poland-Norden Regional Science Seminar, Committee for Space Economy and Regional Planning of the Polish Academy of Sciences, Warsaw, 1967.
46. Klaassen, L.H., Methods of Selecting Industries for Depressed Areas, O.E.C.D., Paris, 1967.
47. Törnqvist, G., Contact Systems and Regional Development, Lund Studies in Geography, 1970, no. 35.
48. Wood, P.A., "Industrial Location and Linkages", Area, 1969, vol. 2, pp. 32-39.
49. ibid, p. 35.

## CHAPTER 7

### SOME CONCLUDING COMMENTS ON LARGE SCALE ENTERPRISE AND FACTOR MARKETS

"...the modern industrial system is a concatenation of processes which have much of the character of a single comprehensive, balanced mechanical process. A disturbance of the balance at any point means a differential advantage (or disadvantage) to one or more of the owners of the sub-processes between which the disturbance falls; and it may also frequently mean gain or loss to many remoter members in the concatenation of processes, for the balance is a delicate one, and the transmission of a disturbance often goes far. It may even take on a cumulative character, and may therefore seriously cripple or accelerate branches of industry that are out of direct touch with those members of the concatenation upon which the initial disturbance falls." (T. Veblen, 1904) (1)

#### Introduction

In this chapter the intention is to summarise some of the main points made in the preceding chapters, and in so doing, also suggest how, within a 'concatenation of processes' context, they are of relevance to some wider economic concepts. The first section deals with some of the potential advantages of

size, or more particularly large size, and ultimately refers back to the Galbraithian dual economy thesis. The next section looks at the large scale enterprise as a general purveyor of regional economic growth through its factor market links. There is also an appendix which briefly considers a possible investigative framework which might be appropriate for the study of some of the questions raised during the progress of this thesis. This appendix is preceded by a brief conclusion.

Factor Market Operations and the Advantages of Size

In considering the advantages of size a customary starting point is to examine size in terms of technical economies of scale. Obviously, for a specific industry or line of production there may be a certain, technically determined, minimum level of operations, or threshold, which must, in any economic setting be attained in order to make production worthwhile. An example is when costs per unit produced fall in relation to increases in the size of the production unit. This condition is usually thought of as an advantage of absolute size, but as Aaronovitch and Sawyer indicate:

"The exact nature of the advantages will not be totally independent of the particular economy, as relative factor and product prices may influence the worthwhile minimum threshold and the rate of decline of unit costs".(2)

This implies that bound up within what appears to be objective, technically determined economies of absolute size, there is the question of variation among relative factor costs, and that this variability may alter the conditions of production from one economic setting to the next. It follows that the ability to influence relative factor prices through, for example, the use of superior bargaining power, would also affect this threshold, and thus alter the point at which some of the advantages of size materialise and are reaped by an enterprise. In short, two firms producing the same good but in different quantities, one less than the other, may face the same costs, and thus



ceteris paribus, profit margins, thanks to the exercise of imperfectly competitive purchasing tactics. One obvious example occurs with multi-product producers operating centralised buying functions; these may possess the ability to demand, and obtain, unearned quantity discounts or similar benefits from sellers which also supply inputs for other product ranges sold by the same producers.

This type of occurrence has been documented by various writers.(3)

It is apparent that while absolute size may indeed yield certain technical economies of scale in respect of a single market, this thesis has argued, upon the basis of existing theory, that considerations of absolute size should move beyond the confines of unitary markets. This view was initially introduced by Aaronovitch and Sawyer in Chapter One, and illustrates the need for a redefinition of the boundaries of influence associated with absolute size. An important aspect of any new approach would be the recognition that large scale, multi-product enterprise may, by combining their bargaining expertise with their tacit threat of boycott extending over several markets, be capable of altering the cost conditions which they face, irrespective of output levels. For in an economy populated by oligopolistic, multi-product/multi-market enterprise, it may be assumed that in addition to the advantages inherent in the technical cost efficiencies which can accrue to large firms, the development of 'purchasing and bargaining efficiencies' may also come to play a significant role in the determination of relative factor costs.

Another advantage of absolute size considered in this thesis relates to the fact that large firms are also capable of altering the 'boundaries' of their productive activities. Aaronovitch and Sawyer illustrate the formal aspects of this particular advantage by indicating that in a situation in which there are decreasing returns to scale in a particular activity, the large firm may be able to 'hive it off', and thus, alter the extent to which the firm is vertically integrated.(4) Instead of producing itself, the firm is able to benefit by purchasing from several relatively small suppliers. Indeed, Aaronovitch and Sawyer suggest that when the firm, "... finds that the co-ordination of the activities of several factories is more costly than co-ordination through the market", and "... if this activity is subject to decreasing returns .." such that, "... the firm could operate several factories producing at or near the optimal level..."; then, "... it can be expected that the supplying firms are heavily dependent for their survival on the custom of one or a few firms,"(5) i.e., assuming that they supply the bulk of their total output. In addition to obviously being able to avoid a capital commitment, the large firm is able to burden its suppliers with some of the costs associated with fluctuations in demand. Another, hybrid form of this form of conduct is known as 'tapered integration', and it occurs when the large firm remains in production for some of its needs, but buys the remainder of its requirements from suppliers. This situation is described by R.E. Caves as one way in which large firm market conduct reduces uncertainty at the expense of

independent suppliers.(6)

Closely associated with the idea that large firms are able to alter the 'boundaries' of their productive activities through the use of formal integrative tactics, is the concept of vertical quasi-integration. Out of a review of the various aspects of 'quasi-integration' there emerged the view that the large firm may not only be able to alter the boundaries which circumscribe its spheres of control, but allied to this, also its access to information. So that aided by its role as a 'large customer', and in conjunction with its dependency-based bargaining power, it would appear that the large firm is strongly motivated to pursue a variety of tactics, and many of these are effectively intended to reduce or minimise its transactions costs.

Two salient points emerge from the above. The first echoes the sentiments expressed in the quotations cited at the beginning of the thesis, and is that in examining both the advantages of absolute size and the significance of concentration trends, it is important that economic analysis not overlook the two closely linked concepts of relative firm size and economic power, and their dynamic implications within factor markets. The second point is suggested by Aaronovitch and Sawyer, and postulates that because the large firm is able to change the activities used in producing a given product, and since firms of all sizes survive, "... with many smaller ones earning less than normal profits..", then, "It may mean that large firms are living off smaller firms."(7)

The extent to which large firms do live off smaller ones cannot of course be easily proven. However, following the arguments and predictions presented in a review of economic theory, it would seem that in imperfectly competitive factor markets, prices are determined by bargaining, and under most conditions, the market tends to reward the concentrated larger firm. In general terms the review of the various imperfect buyer market structures, ranging from simple monopsony to bilateral oligopoly, yielded the following performance predictions:

- price determination is either unilateral or controlled,
- price level is usually below a competitive level,
- quantity ~~of~~ produced is usually restricted, and,
- on profit side, surpluses are usually absorbed by the buyer.

In addition, it was further shown that it may be possible to explain the existence of bargaining power as being a function of the dependency which can occur in exchange relations. Upon examining some postulated inter-active determinants of dependency, i.e., availability and substitutability, it was postulated that many forms of factor market conduct prevalent in large buyer/supplier relations may contribute towards, or reinforce various dependency forming conditions. In effect, under certain conditions, the conduct implications associated with large buyer/small supplier market structures carry a heavy bias in favour of the buyer, and militate against the supplier achieving satisfactory levels of performance, and remaining outside of its buyer's locus of control.

Inevitably, the solution to the problem must remain outstanding pending the arrival of some rather extensive empirical evidence.

Despite the uncertainty surrounding the pervasiveness of the dual economy, the fact cannot be overlooked that on a micro-level, when a small firm supplier sells a significant proportion of its output, on a continuous basis, to a concentrated large buyer; there is, at the very least, the opportunity, and, in some cases, the unmistakable tendency, for exploitation to occur, and for the supplier's conduct to be altered in a manner which reduces the buyer's transactions costs. Given this not unpredictable conclusion, and the imperfections which it connotes, it is difficult to comprehend why factor market study remains so disjointed and relatively under developed.

The Large Enterprise as a Propulsive Industry:

A Re-conceptualisation

The proposition that large enterprises may act as purveyors of regional economic growth has already been discussed in Chapter Six. There it was shown that in some respects, characteristics of close industrial linkage may tend to parallel various conditions which can themselves 'set the stage' for dominance by large industrial buyers, and for supplier dependency, and of course, all that this might entail. The assumption which underlies the propulsive industry concept is that, in a regional context, large enterprise supply linkages within factor markets are potentially significant venues for industrial growth. However, recent thought has moved towards a re-conceptualisation of the role of the giant corporation and of its overall activities in a spatial context. This new approach promises to materially affect not only the general view of factor market industrial structures in which large buyer and supplier exchange relations may be considered, but also our understanding of the substance of these relations. For these reasons, it is felt to be an appropriate topic for this concluding chapter.

Returning to the original formulation, it will be remembered that the concept of a 'growth pole' was closely associated with the notion of propulsive industry. In Professor J.R. Boudeville's terms, propulsive industry has two essential characteristics:

"(a) a direct and indirect dominating influence over all other activities; and (b) an oligopolistic concentration of industry, with price leadership and a keen sense of anticipation in the moves of its own sector as well as in related branches".(10)

Thus, as Boudeville continues, the increase in the output of a propulsive industry may induce or lead to the creation of other activities which have not previously been localized in the region. In the case of factor markets, this would involve what he terms the 'upstream mechanism' of growth. Essentially then, this part of the concept concerns dominant, concentrated oligopolistic industry, that is to say large firms and their demand for inputs.

However, large firms are considerably more complex than the rather simple, and effectively one dimensional concept of single-plant, single-enterprise used above would suggest. In a paper dealing with spatial structure and industrial organisation, G.J. Karaska paints, what is fundamentally, a rather more diverse picture of the large firm.(11) He starts by pointing out that a feature of well developed post-industrial societies is the control of production by either large corporations, or large state controlled organisations. These large firms, he continues consist of numerous, functionally differentiated units which may be widely dispersed in space. These dispersed

organisational units represent many different forms of activity, e.g. main and branch plants, administrative offices, warehouses and distribution offices, research units, sales offices, etc. Moreover, Karaska states that:

"Typically, these units are controlled or linked in a hierarchial decision structure, as well as being found in hierarchial spatial form, e.g., national, regional, and local sites."(12)

The controlling administrative units are usually concerned with non-programmed or non-routine decisions, and are usually located in a national city. The lower-level administrative units are usually given routine decisions or problems to handle, and are generally situated in regional, metropolitan centres. While local units are usually concerned with production and warehousing sites and sales offices. Karaska terms this approach an organisational/management structure view of industrial location, and points out that while previously, industrial geography and regional development have considered the firm entirely in terms of its product and production function; it is apparent that industry may be characterised by a increasingly large number of non-manufacturing activities. Obviously, the regional economic consequences of this situation may be significant.

One noteworthy consequence identified by Karaska is the fact that the linkages associated with this revised view of the large firm take on a network which is different from the one commonly associated with the flows of products between industries. As he puts it:



"In the post-industrial society, the flow of products have almost been totally freed from the costs of transportation and friction of distance. And, while informational or message flows predominate, the 'action space' of society or face-to-face contacts become an every increasingly important attribute of success and negotiation."(13)

The relative importance of information flows within factor markets is a topic which was presented in the thesis, and what Karaska has done is to provide another useful, contextual framework.

Closely allied to the organisational/management structure approach, is a line of thought which conceives of modern industrial organisations within a 'systems framework'. This latter approach, "... emphasizes a symbiotic relationship of the industrial firm with the total environment". (14), and in fact, was also the approach used by D. Jacobs, as the basis of his analysis of organisational power and dependency discussed in Chapter Four. (15) In its simplest form, the approach views changes in the firm as being essentially determined by environmental forces, and this stems from the fact that the firm's decision-makers alter the organisation in an adaptive manner, that is, in response to their perceptions of environmental changes. In metaphoric terms, the firm is likened to an adaptive organic system which responds to stimuli from its biological environment. Relating the above to this thesis, this approach considers the firm to possess, or have relations with a

number of different environments, or environmental agents.

Karaska describes these as follows:

"... a supply environment, a consuming environment, a regional economy or inter urban environment, and a developmental or internal environment."(16)

Furthermore, he states that, "... with all of the environments the firm is inextricably bound by information flows and contact fields."(17) Simply defined, contact fields relate to the theory that there is an increasing need for contacts in the exchange of information between the highly specialised work functions in society, and these 'fields' facilitate the process. Given the above, it is apparent that factor market considerations belong to a firm's supply environment, and moreover, they may thus be seen to impinge upon the organisation across the entire range of its hierarchial decision structure, and also therefore, across the entire spectrum of its hierarchial spatial form. Obviously, this is a vastly different form of industrial organisation from the characteristic homogeneous single-plant, single-enterprise propulsive industry firm, and as a consequence, the implications for regional industrial growth may also be considerably different.

One writer, C.F. Parsons, has published some survey information about the purchasing patterns of 224 giant corporations, predominantly engaged in manufacturing, which confirms that large firm demands do tend to follow the complexities of organisational structures, and the geographic

distributions of operating versus control units.(18) Briefly summarised, the survey data revealed the following general points:

- in the acquisition of professional services, e.g. accountancy, advertising, computers, legal services, marketing and printing facilities, the large corporation often transferred a section of its demand to a head office or specialist division usually located in another region from the factory,
- in the acquisition of maintenance labour, the majority of corporations internalised the functions, and - for investment decisions and the purchasing of capital equipment and raw materials, central buying divisions were involved most often in the purchase of heavy capital equipment, and while direct factory purchasing was more likely for raw materials and fuels purchasing, central buying divisions were once again often used.

In the final analysis, Parsons concluded that giant manufacturing corporations' supply policies generated significantly different implications, in terms of balanced regional growth, than might be predicted under a single-plant, single-establishment industrial structure.

In drawing together the various topics considered in this section, two fundamental points may be identified. The first point is that the nature of many acquisitions and disposals in factor markets, and this is not exclusive to the large enterprise supply environment, may not be fully understood without considering the possible associated complex flows of information. Moreover, a potential corollary to this point is

that access to information of the variety which reduces transactions costs, may have become relatively more important than it was as a determinant of commercial success. The second point is that with supply environment decisions dispersed throughout the organisation, depending upon the type of decision required, it follows that the first-round, regional spin-offs attained by the direct purchasing of factors, that is, the 'upstream mechanism', may be significantly obviated. This would be a primary result of the allocation of solely routine decisions to the regional level of operations. In essence, the re-conceptualisation of the role of the giant corporation reviewed in this section suggests that not only may the major activities of large enterprise have changed so that products and production represent only one of a number of other activities for which informational demands predominate; but it is these informational demands which may in the future determine the location of propulsive industry-growth pole activity, and not necessarily the exigencies of the production function or department.

## Conclusion

In the first chapter it was stated that this thesis was essentially analytical, and therefore, the exact nature of, and relationships between, the topics considered would be subjects for empirical study, but would not be the major focus of the review. In the course of analysing the various topics in theoretical terms, it has become increasingly apparent that further empirical study is highly desirable for at least three easily discernable, and important reasons:

- a. First of all, it would broaden our understanding of buyer conduct in factor markets, and potentially, improve our awareness concerning some of the motives underlying buyer behaviour. In this respect, further study might provide a fund of information which would go some way towards remedying the relative neglect of industrial markets in economic analysis, alluded to by M.A. Adelman in Chapter One.
  
- b. Secondly, a more comprehensive study of factor markets may add further dimensions to our knowledge concerning the pervasiveness and nature of the influence which may be exercised by concentrated, large enterprise, and thus, to some extent reply to the portentous warnings about large corporations offered by writers such as Professor Galbraith, and Aaronovitch and Sawyer.

- c. Finally, more extensive study of industrial markets may enable us to expand the scope of our present measures of the degree of inter-relatedness between industrial enterprises, and thus move beyond the somewhat restricted approach involving the proportional flow of physical goods and services, to the type of dynamic methodology suggested by J. Paelinck in Chapter Six.

In the final analysis, it appears that there is indeed a need for a deeper understanding of the dynamics which underlie the concatenation process in Veblen's, "...modern industrial system".

## Chapter 7

### Footnotes and References

1. Veblen, T., The Theory of Business Enterprise, Reprints of Economic Classics, Augustus M. Kelly, New York, 1965, p. 25.
2. Aaronovitch, S., and Sawyer, M.C., Big Business: Theoretical Empirical Aspects of Concentration and Mergers in the United Kingdom, Macmillan, London, 1975, p. 226.
3. See for example: Blois, K.J., "Vertical Quasi-Integration", Journal of Industrial Economics, 1972, vol. 20 no. 3 pp. 253-272.
4. Aaronovitch and Sawyer, op. cit., p. 227.
5. *ibid.*
6. Caves, R.E., "Uncertainty, Market Structure and Performance: Galbraith as Conventional Wisdom", in Markham, J.W. and Papanek, G.F., eds., Industrial Organisation and Economic Development, Houghton Mifflin, Boston, 1970, pp. 283-302.
7. Aaronovitch and Sawyer, op. cit.
8. Galbraith, J.K., Economics and the Public Purpose, The New American Library of Canada Limited, Ontario, 1975, p. 128.
9. Merrett Cyriax Associates, Dynamics of Small Firms, Committee Inquiry on Small Firms, Research Report No. 12, H.M.S.O. 1971, p. 26.
10. Boudeville, J.R., Problems of Regional Economic Planning, Edinburgh University Press, 1966, p. 112.
11. Karaska, G.J., "The Spatial Structure and Dynamics of Industrial Organisation", taken from Hamilton, F.E.J., The Organisation of Spatial Industrial Systems, Volume 2 - Spatial Structure and the Migration of Industry, 1976, pp. 66-7
12. *ibid.*, p. 68.
13. *ibid.*, p. 69.
14. *ibid.*
15. For a more complete presentation of the concept see: Terreberry S. "The Evolution of Organisational Environments", Administrative Science Quarterly, 1967-68, vol. 12. pp. 590-61
16. Karaska, op. cit. p. 69.
17. *ibid.*
18. Parsons, G.F., "The Giant Manufacturing Corporations and Balanced Regional Growth in Britain", in Bluden, J., et. al., Regional Analysis and Development, Harper and Row, London 1973, pp. 220-223.

APPENDIX 7-1

A Note on a Possible Investigative Framework for Large Enterprise  
Supply Environments

During the progress of the thesis allusion has been made to relevant questions posed and to possible means of collecting what was considered to be appropriate information. In this section, a rough review is made of a proposed broad investigative framework which a researcher might use as a general reference point for the empirical study of large enterprise supply environment activities. The framework basically follows the orientation of this thesis, which was to examine various forms of conduct to be found within factor market structures, in which fairly large concentrated buyers confront relatively smaller suppliers. While the management/structure and systems approach described in the preceding section presents a compelling supply model, for the sake of simplicity, and on the premise that it is better to start with fundamentals and build outwards, the framework discussed below has been developed within the context of a unitary product markets.

The framework is designed to move progressively from greater to lesser degrees of aggregation, and may be divided into two distinct parts: a macro and a micro. Within each part, the types of data required are identified, and relevant questions are posed.



Part A

Macro Data

1. The first step requires the identification of a concentrated industry, that is, in forward market terms, in which an oligopolistic, or similarly imperfect market structure prevails. This to be followed by an analysis of the industry's factor input markets in order to answer two questions:
  - a. Are there specific input markets in which the industry's firms are significant buyers in volume terms, or in which their future growth would lead them to take a significantly greater share of output?
  - b. What forms of market structures exist in these input markets?
    - i. What are the general size distributions?
    - ii. How do the size distributions of suppliers compare with their geographic dispersions?
2. Having defined the markets, the next step requires the identification of the characteristics or nature of the 'problematic' or relevant inputs identified by the above criteria.
  - a. Given the input, what is the nature of the linkage, i.e. vertical, lateral or diagonal?
  - b. Does the input require any degree of supplier specialisation?

- c. Given the final good and the production process, is the use and/or acquisition of the input likely to demand close co-ordination, planning and control?

## Part B

### Micro Data

1. In general terms, the objective of this part is to hone in on the purchasing firm's transactions costs by analysing its purchasing policies and conduct with respect to the 'problematic' inputs.
  - a. The buyer's internal context.
    - i. What are the major criteria of supplier selection?
    - ii. What, if any, are the formal selection procedures used, e.g., capability assessments, vendor management appraisals?
  - b. The buyer's external relations.
    - i. What is the extent and nature of control exercised by the buyer over such areas as design and specification; quality of materials and end products; production scheduling, processes and control; and costs and productivity standards and related reports.

- ii. Beyond what is actually bought and sold in a physical sense, are there any demands made in terms of the flow of information or other resources?

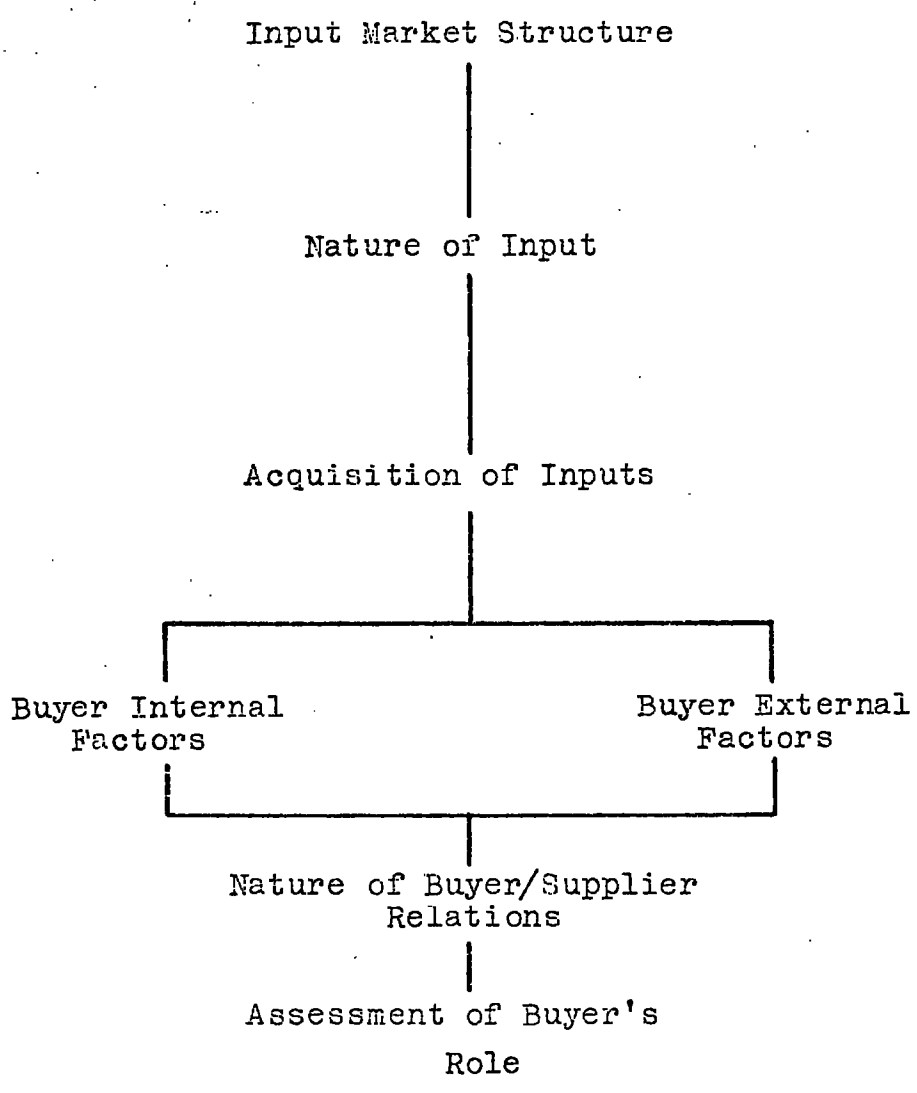
2. The final step represents a synthesis process involving all of the data collected above at the various levels of aggregation.

- a. Building upon the components of trading dependency-contributory factors matrix outlined in the conclusion to Chapter Four (Figure 4-2), to what extent do buyers dominate their particular input markets?
- b. Taking all of the preceding into consideration, in general terms, what characterisations might be appropriate to describe the role and conduct of buyers within their factor markets, e.g., exploitive, domineering, propulsive, etc.?

Summarised in diagrammatic form, the progress of the total framework would appear as follows:

Figure 7-1

An Investigative Framework for Factor Market Studies



-217-

## BIBLIOGRAPHY

- Aaronovitch, S. and Sawyer, M.C., "The Concentration of British Manufacturing", Lloyds Bank Review, 1974, no. 114, pp. 14-23.
- Aaronovitch, S. and Sawyer, M.C., Big Business: Theoretical and Empirical Aspects of Concentrations and Mergers in the United Kingdom, Macmillan, London, 1975.
- Adelman, M.A., "The Large Firm and its Suppliers", Review of Economics and Statistics, 1949, vol. 31, pp. 113-118.
- Archibald, G.C., ed., The Theory of the Firm, Penguin Books, Harmondsworth, 1971.
- Armstrong, A. and Silbertson, A., "Size of Plant, Size of Enterprise and Concentration in British Manufacturing Industry 1935-58", Journal of the Royal Statistical Society, 1965, Series A, vol. 128.
- Arrow, K.J., "Vertical Integration and Communication", Bell Journal of Economics and Management Science, 1975, vol. 6(1), pp. 175-83.
- Aydalot, P., "Note sur les économies externes et quelques notions connexes", Revue économique, 1965, vol. 16.
- Bain, J.S., Barriers to New Competition, Harvard University Press, Cambridge, Mass., 1956.
- Bain, J.S., Industrial Organization, Second Edition, John Wiley & Sons, Inc., 1968.
- Bannock, G., The Juggernauts: The Age of the Big Corporation, Weidenfeld & Nicholson, London, 1971.
- Berle, A.A., and Means, G.C., The Modern Corporation and Private Property, Revised Edition, Harcourt, Brace & World, N.Y., 1967.
- Bilas, R.A., Microeconomic Theory: A Graphical Analysis, McGraw-Hill, 1967.
- Blair, J.P., "Industrial Decline, Vertical Integration, and Geographic Concentration", Growth and Change, 1975, vol. 6, no. 3.
- Blaug, M., Economic Theory in Retrospect, Richard D. Irwin, Inc., Homewood, Illinois, 1968.
- Blois, K.J., "Vertical Quasi-Integration", Journal of Industrial Economics, 1972, vol. 20, no. 3, pp. 253-272.
- Blois, K.J., "Supply Contracts in the Galbraithian Planning System", Journal of Industrial Economics, 1975, vol. 24, no. 1, pp. 29-39.

Bluden, J., et al, Regional Analysis and Development, Harper and Row, London, 1973.

Board of Trade, Report on the Census of Production 1935, H.M.S.O., 1945.

Boudeville, J.R., Problems of Regional Economic Planning, Edinburgh University Press, 1966.

Burns, T. and Stalker, G.M., The Management of Innovation, Second Edition, Tavistock Publications Limited, London, 1966.

Caves, R.E., "Uncertainty, Market Structure and Performance: Galbraith as Conventional Wisdom", in Markham and Papanek, 1970.

Cmd. 4811, Small Firms: Report of the Committee of Inquiry on Small Firms, H.M.S.O., 1972.

Collins, N.R. and Preston, L.E., "Price-Cost Margins and Industry Structure", The Review of Economics and Statistics, 1969, vol. 51, no. 3, pp. 271-286.

Cunningham, M.T. and White, J.G., "The Behaviour of Industrial Buyers in Their Search for Suppliers of Machine Tools", Journal of Management Studies, 1974, vol. 11, no. 2, pp. 115-128.

Davies, J.R. and Kelly, M., "Small Firms in the Manufacturing Sector", Research Report No. 3, Committee of Inquiry on Small Firms, H.M.S.O., 1972.

Department of Industry, Analyses of United Kingdom Manufacturing (Local) Units by Employment Size 1972, Business Monitor PA 1003, H.M.S.C., 1975.

Edwards, M.G., "Supplier Management Evaluation", Journal of Purchasing, 3rd February, 1967, pp. 28-41.

Emerson, R.M., "Power-Dependence Relations", American Sociological Review, 1962, vol. 27, pp. 31-41.

Emery, F.E. and Trist, H.L., "The Causal Texture of Organisational Environments", Human Relations, 1965, vol. 18, pp. 21-32.

Evely, P. and Little, I.M.D., Concentration in British Industry, Cambridge University Press, 1960.

- Ferguson, C.E., Microeconomic Theory, Richard D. Irwin, Inc., Homewood, Illinois, 1968.
- Financial Times, "CEGB Audits 1000 Suppliers", 20th February, 1976.
- Fishlock, D., "Audits to Boost Efficiency", Financial Times, 24th February, 1976.
- Florence, P. Sargant, Investment, Location and Size of Plant, National Institute of Economic and Social Research, 1948.
- Florence, P. Sargant, The Logic of British and American Industry, Routledge & Kegan Paul, London, 1953.
- Galbraith, J.K., "Countervailing Power", American Economic Review, 1954, vol. 44, no. 2.
- Galbraith, J.K., American Capitalism, Houghton Mifflin Co., Boston, 1956.
- Galbraith, J.K., The New Industrial State, Penguin Books, London, 1974.
- Galbraith, J.K., Economics and the Public Purpose, The New American Library of Canada Ltd., 1975.
- George, K.D., "Changes in British Industrial Concentration 1951-58", Journal of Industrial Economics, vol. 16, 1967.
- George, K.D., "The Changing Structure of Competitive Industry", Economic Journal Supplement, 1972, vol. 82.
- George, K.D., "A Note on Changes in Industrial Concentration in the United Kingdom", Economic Journal, 1975, vol. 85, pp. 124-128.
- Gibrat, R., Les Inégalités économiques, Sirey, Paris, 1931.
- Hansen, H.M., "Development Pole Theory in a Regional Context", Kyklos, 1967, vol. 21, pp. 709-727.
- Hart, P.E. and Prais, S.J., "The Analysis of Business Concentration; A Statistical Approach", Journal of the Royal Statistical Society, Series A, 1956, vol. 119.
- Hirschman, A.O., The Strategy of Economic Development, Yale University Press, New Haven, 1958.
- Houssiaux, J., "Le concept de 'quasi-intégration' et le rôle des sous-traitants dans l'industrie", Revue économique, Paris, 1967.

- Jacobs, D., "Dependency and Vulnerability: An Exchange Approach to the Control of Organisations", Administrative Science Quarterly, 1974, vol. 19, pp.45-59.
- Karaska, G.J., "The Spatial Structure and Dynamics of Industrial Organisation", in Hamilton, F.E.I., The Organisation of Spatial Industrial Systems, Volume 2 - Spatial Structure and the Migration of Industry, 1976.
- Keeble, D.E., "Local Linkage and Manufacturing Growth", Town Planning Review, 1969, vol. 40, pp. 163-188.
- Kindleberger, C.P., International Economics, Fourth Edition, Richard D. Irwin, Inc., Homewood, Illinois, 1968.
- Klassen, L.H., Methods of Selecting Industries for Depressed Areas, O.E.C.D., Paris, 1967.
- Lawrence, P.R. and Lorsch, J.W., Organization and Environment, Harvard University Press, Boston, 1967.
- Leak, H. and Maizels, A., "The Structure of British Industry", Journal of the Royal Statistical Society, Series A, 1945, vol. 108.
- Likert, R., The Human Organization: Its Management and Value, McGraw-Hill, New York, 1967.
- Lustgarten, S.H., "The Impact of Buyer Concentration in Manufacturing Industries", Review of Economics and Statistics, 1975, vol. 57, no. 2, pp. 125-132.
- Lydall, H.F., "Aspects of Competition in Manufacturing Industry", Bulletin of the Oxford Institute of Statistics, 1958, vol. 20, no. 4, pp. 319-337.
- McKean, R.N., "Discussion", American Economic Review, 1971, vol. 61, pp. 124-125.
- McKie, J.W., "Market Structure and Function: Performance Versus Behaviour", in Markham and Papanek, 1970.
- March, J. and Simon, H., Organizations, John Wiley & Sons Inc., New York, 1963
- Markham, J.W. and Papanek, G.F., Industrial Organisation and Economic Development, Houghton-Mifflin Co., Boston, 1970.



- 221 -

Merrett Cyriax Associates, "Dynamics of Small Firms", Research Report No. 12, Committee of Inquiry on Small Firms, H.M.S.O., 1971.

Miller, E.J. and Rice, A.K., Systems of Organization, Tavistock Publications Ltd., London, 1971.

Needham, D., Economic Analysis and Industrial Structure, Holt, Rinehart & Winston, 1971.

Owen, K., "CEGB To Concentrate More Effort in Design", The Times, 20th February, 1976.

Paelinck, J., "La théorie du développement régional polarisé", Cahiers de l'Institut de Science Economique Appliquée, Série L, 1965, no. 15, pp. 10-11.

Palamountain, Jr., J.C., The Politics of Distribution, Harvard University Press, 1955.

Parsons, G.F., "The Giant Manufacturing Corporations and Balanced Regional Growth in Britain", in Bluden, et al, 1973.

Penrose, E., The Theory of Growth of the Firm, Basil Blackwell & Mott Ltd., 1959.

Perroux, F., "Economic Space: Theory and Applications", Quarterly Journal of Economics, 1950, vol. 64, pp. 90-97.

Perroux, F., "La notion de pôles de croissance", L'économie du XXème siècle, Second Edition, Presses Universitaires de France, Paris, 1964.

Phillips, A., "Structure, Conduct and Performance - and Performance, Conduct and Structure?", in Markham and Fapanek, 1970.

Pickering, J.F., Industrial Structure and Market Conduct, Martin Robertson & Co. Ltd., London, 1974.

Prais, S.J., "A New Look at the Growth of Industrial Concentration", Oxford Economic Papers, 1974, vol. 26, no. 2, pp. 273-288.

Robinson, J., The Economics of Imperfect Competition, Macmillan and Co., London, 1933.

Rowley, C.K., Steel and Public Policy, McGraw-Hill, London, 1971.

Sallez, A. and Schlegel, J., La sous-traitance dans l'industrie, Dunod, Paris, 1963.

Sawyer, M., "Concentration in British Manufacturing Industry", Oxford Economic Papers, 1971, vol. 23.

Shepherd, W.G., "Changes in British Industrial Concentration 1951-8", Oxford Economic Papers, 1966, vol. 18.

Shepherd, W.G., "Elements of Market Structure", Review of Economics and Statistics, 1972, vol. 54.

Stigler, G.J., "The Division of Labour is Limited by the Extent of the Market", Journal of Political Economy, 1951, vol. 59, no. 3.

Stigler, G.J., "The Economist Plays With Blocks", American Economic Review, 1954, vol. 44, no. 2.

Stigler, G.J., The Theory of Price, Third Edition, Macmillan, London, 1966.

Stigler, G.J., The Organization of Industry, Richard D. Irwin, Inc., Homewood, Illinois, 1968.

Terreberry, S., "The Evolution of Organisational Environments", Administrative Science Quarterly, 1967-68, vol. 12, pp. 590-613.

Thorgren, B., "Regional Economic Interaction and Flows of Information", in Proceedings of the Second Poland-Norden Regional Science Seminar, Committee for Space Economy and Regional Planning of the Polish Academy of Sciences, Warsaw, 1967.

Törnqvist, G., Contact Systems and Regional Development, Lund Studies in Geography, 1970, no. 35.

Townroe, P.M., "Industrial Linkage, Agglomeration and External Economies", Journal of Town Planning Institute, 1970, vol. 56.

Veblen, T., The Theory of Business Enterprise, Reprints of Economic Classics, Augustus M. Kelly, New York, 1965.

Vernon, R., Metropolis 1985, Harvard University Press, Cambridge, Mass., 1960

- Watanabe, S., "Subcontracting, Industrialisation and Employment Creation", International Labour Review, 1971, vol. 104.
- Weber, A., Theory of Location of Industry, translated by C.T. Frederick, University of Chicago Press, 1929.
- Wildsmith, J.R., Managerial Theories of the Firm, Martin Robertson, London, 1973.
- Williamson, J.H., "Profit, Growth and Sales Maximisation", in Archibald, 1971.
- Williamson, O.E., "The Vertical Integration of Production: Market Failure Considerations", American Economic Review, 1971, vol. 61, pp. 112-123.
- Wood, P.A., "Industrial Location and Linkages", Area, 1969, vol. 2, pp. 32-39.