

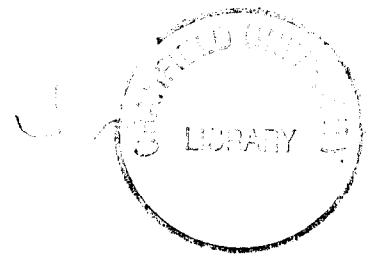


**SWP 46/87 DEFINITION OF THE RELEVANT MARKET IN
COMMUNITY COMPETITION POLICY
A REPORT FOR THE COMMISSION OF THE EUROPEAN
COMMUNITIES**

**FRANCIS FISHWICK MA (ECON) PHD
Reader in Managerial Economics
Cranfield School of Management
Cranfield Institute of Technology
Cranfield
Bedford MK43 OAL
United Kingdom**

(Tel: 0234-751122)

(Fax: 0234 751806)



**DEFINITION OF THE RELEVANT MARKET
IN COMMUNITY COMPETITION POLICY**

A report for the Commission of the European Communities

by

FRANCIS FISHWICK, M.A.(Econ.), Ph.D.

**Reader in Managerial Economics
Cranfield School of Management**

**Bedford
September 1986**

INTRODUCTION AND SUMMARY

The term "relevant market" is used in two different senses and this has caused confusion in some earlier discussions. The market defined may be that which is relevant to the calculation of market shares, based on current sales of substitutable products in an area within which customers may compare value for money. The word "relevant" is also applied in the sense of relevance to competition policy - does dominance of the market defined in terms of current sales of substitutable products constitute a position of power which may be abused to the detriment of consumers? Such power may be limited by the threat of potential competition or by competition in an interdependent market, eg a monopoly supplier of a component may be constrained by competition in the market for the final product. In designing a framework for relevant market definition in competition policy, these two senses must be recognised.

Chapter 1 discusses the need for definition of the relevant market. The chapter begins with a discussion of the objectives of competition ("anti-trust") policies and contrasts the principles of control of conduct on the one hand and maintenance of competitive structure on the other. National policies are compared and contrasted: the drift away from "structuralism" in the USA is compared with a move towards greater emphasis on avoidance of product concentration in the United Kingdom. Finally, policy in the European Community is considered, together with arguments that this policy has become more directed towards the maintenance of competitive structure, rather than regulation of abuse.

Chapter 2 is a literature survey. After discussing the importance of relevant market definition in current jurisprudence in the European Community and the USA, the survey outlines the neo-classical origins of the theoretical background and shows that this is based on perfect competition. The limitations of this neo-classical approach are listed and some alternatives are discussed. One issue examined is whether the definition of the product market should be based on substitution in demand or whether supply substitution should also be incorporated (US and German official policies differ on this point). The literature survey includes a summary of the (more limited) material on geographical market definition and the chapter ends with a discussion of the anti-competitive implications of conglomerate growth.

Chapter 3 develops the analytical framework recommended for use in analysis of dominance. A five stage process is proposed: (1) definition of the product; (2) definition of the geographical area; (3) measurement of sales; (4) analysis of potential competition; (5) consideration of product interdependence. The first three stages define the market relevant to calculation of market share, the last two provide for analysis of whether this first market is relevant to definition of dominance. Appendix 2 of this chapter (pp.82-7) is a check-list based on the detailed framework and is intended as an executive summary.

Chapter 4 contains detailed analysis of case studies - three of "horizontal" seller dominance, three which are more concerned with vertical interdependence and one recent case which combines horizontal and vertical aspects. Three further cases are introduced to illustrate particular elements of the framework dealing with seller dominance. Finally, there is an analysis of concentration of purchasing and discussion of how the framework outlined in Chapter 3 can be applied to "monopsony". It is shown that, with a few exceptions, the competition authorities of the European Community, the United Kingdom and France have followed analytical procedures quite similar to those set out in the framework of Chapter 3. More rigorous adherence to such a framework may have avoided some of the few apparent errors. The analysis of cases ends with

appraisal of dependence (*partenaire obligatoire*) as an alternative to relevant market definition in cases of vertical dominance in particular. This assessment concludes that, while the study of dependent relationships may be more revealing in certain cases, these are exceptional.

Chapter 5 considers the application of the concepts developed in the three previous chapters to agreements between companies, prohibited under Article 85, and to aids to undertakings made by member states, prohibited under Article 92. It is pointed out that exemptions to the general prohibition under Article 85 require consideration of the relevant market. The framework of Chapter 3 is shown to be adaptable to Article 85 cases. A decision of the Court of Justice seems to imply that definition of the relevant market is not necessary for Article 92 cases. Certain forms of assistance may not be related to specific products, for example aid for research and development, for product diversification or to ensure the survival of multi-product firms. In such cases it will not be possible to apply the concept of product market. Definition of the geographical market may be possible in even fewer cases, because state assistance may enable companies to widen the geographical area of their activities. It is therefore concluded that, although the concepts presented in Chapters 2 and 3 may be useful in the assessment of the anti-competitive effects of state aids, the framework for definition of the relevant market is not generally applicable.

ACKNOWLEDGEMENTS

Thanks are due to economists in the Directorate General for Competition of the Commission of the European Communities in Brussels for their patient guidance and comments. Much of the analysis of case studies in Chapter 4, applying the framework developed in the previous chapter, was undertaken by my son, David Fishwick. However, all the analysis and conclusions in the report reflect my own views and judgement and I accept sole responsibility for them.

The typing and reproduction of a report of this length, modified in numerous drafts, represents a considerable task. My thanks for this are due to Jane Elrick and Gillian Farrow, whose dilligence and patience have been remarkable.

TABLE OF CONTENTS

Page

CHAPTER 1 THE NEED FOR DEFINITION OF THE RELEVANT MARKET

A.	SOME RELATED ISSUES IN COMPETITION POLICY	1
B.	THE USE OF THE RELEVANT MARKET IN NATIONAL COMPETITION POLICIES	3
1.	The USA	3
2.	Germany	4
3.	The United Kingdom	5
4.	France	6
C.	THE RELEVANT MARKET IN COMMUNITY COMPETITION POLICY	8
1.	A structuralist or pragmatic approach?	8
2.	Definition of the market in Community practice	10
3.	Some conclusions	12

CHAPTER 2 AN OUTLINE OF DIFFERENT APPROACHES TO DEFINITION

A.	DOMINANCE AND THE RELEVANT MARKET	
1.	The Community	14
2.	The predominant American approach	16
3.	Implications for definition of the relevant market	17
B.	THE NEO-CLASSICAL APPROACH TO MARKET DEFINITION - SOME GENERAL PRINCIPLES AND CRITICISMS	
1.	Introduction	18
2.	Measurement of monopoly power	18
3.	Statistical studies of concentration and performance	20
4.	Alternatives to the neo-classical approach	21
(a)	Workable competition	22
(b)	Contestable markets	22
(c)	Conclusion	24
C.	AN OUTLINE OF THE DIFFERENT APPROACHES WITHIN THE NEO-CLASSICAL FRAMEWORK	
1.	The Industry	25
2.	Substitutability in end-use	27
(a)	Discrete gaps in substitutability between goods?	28
(b)	Triffin's concept of external interdependence (cross-elasticity)	28
(c)	Market relationships - price tests	31
(d)	The basic need concept	34
(e)	The Wirtschaftsplane concept	35
(f)	Conclusions on substitutability in demand	36
3.	Combination of demand-substitution and supply-elasticity	36

D.	SPECIAL PROBLEMS IN GEOGRAPHICAL MARKET DEFINITION	39
1.	Introduction	39
2.	Shipments data and elasticity of supply	40
3.	Prices evidence	41
4.	The effects of national differences	41
E.	CONGLOMERATE ACTIVITIES	41
F.	CONCLUSIONS OF LITERATURE SURVEY	43
 CHAPTER 3 <u>ANALYTICAL FRAMEWORK FOR DEFINITION OF THE MARKET RELEVANT TO DOMINANT POSITIONS</u>		
	INTRODUCTION	46
A.	DEFINITION OF THE RELEVANT PRODUCT	49
1.	Starting-point	49
2.	Choice of products for consideration of substitutability	49
3.	Criteria of substitutability	50
4.	Direct tests of substitutability	51
5.	Indirect tests of substitutability	52
6.	Discontinuities in substitution (substitution "gap")	52
B.	GEOGRAPHICAL MARKET DEFINITION	52
1.	General principles	54
2.	Broad factual evidence	55
3.	Further examination of the specific conditions	55
(a)	Transferability of demand	56
(b)	Transferability of supply	57
4.	Summary comments	58
C.	DEFINITION OF RELEVANT MARKET SALES	58
D.	DEFINITION AND MEASUREMENT OF POTENTIAL SUPPLY	59
1.	Potential supply from companies already selling the relevant products within the relevant geographical market	59
(a)	Unused capacity	59
(b)	Output not currently sold	60
(c)	Variable production of joint products	60
(d)	Transferable capacity	61
(e)	Geographical transfer	63
2.	Potential supply from companies not currently selling the relevant product within the relevant geographical market	63
(a)	Barriers to entry	64
(b)	Factors tending to reduce significance of certain barriers	66
3.	Some practical suggestions	67
4.	Special note on horizontal mergers and horizontal effects of other mergers	67
5.	Concluding remark on potential competition	68
E.	VERTICAL AND OTHER INTERDEPENDENCE	68
1.	Relevant products as parts of other products	68
(a)	Intermediate good	69
(b)	Part of wider complementary group	69

2.	(c) Some wider considerations	71
	Relevant market dominated indirectly?	72
	(a) Inputs	72
	(b) Other components of a composite product	73
F.	PRODUCT DEFINITION IN CASES OF HORIZONTAL BUYER DOMINANCE	
1.	Introduction	74
2.	The relevant purchasing market	75
G.	IDENTIFICATION OF DOMINANCE THROUGH DEPENDENT RELATIONSHIPS ("PARTENAIRE OBLIGATOIRE")	76
APPENDIX 1	TESTS OF SUBSTITUTABILITY (MATHEMATICS)	79
APPENDIX 2	CHECK-LIST FOR ANALYSIS	83
<u>CHAPTER 4 CASE STUDIES IN THE APPLICATION OF THE FRAMEWORK TO ASSESSMENT OF DOMINANCE</u>		
	INTRODUCTION	89
CASE STUDY 1	: Continental Can (EEC)	91
2	: Ferry and Hovercraft services (UK)	97
3	: Cat and Dog Foods (UK)	106
4	: Commercial Solvents Corporation (EEC)	110
5	: Hugin v. Lipton (EEC)	115
6	: Replacement body panels for Ford cars (UK)	123
7	: AKZO v. ECS Ltd (EEC)	131
*8	: Outdoor advertising (UK and France)	134
*9	: United Brands (Bananas - EEC)	139
*10	: Ice Cream (UK)	143
11	: Pooled purchasing organisations in retailing	147
	(* Part analysis only)	
SOME GENERAL CONCLUSIONS FROM ANALYSIS OF CASE STUDIES (Cases 1 to 10)		
1.	Definition of the relevant product	149
2.	Definition of the geographical market	150
3.	Potential competition	151
4.	Product interdependence	151
5.	The concept of <i>partenaire obligatoire</i>	152

**CHAPTER 5 DEFINITION OF THE MARKET IN CASES NOT INVOLVING
ALLEGED ABUSE OF DOMINANCE**

INTRODUCTION	154
A. DEFINITION FOR THE PURPOSES OF ARTICLE 85	154
1. General comments	154
2. Block exemptions under Article 85(3)	155
3. Wider considerations	156
4. Application of the framework of Chapter 3 to agreements covered by Article 85	159
(a) Definition of the relevant product	160
(b) Geographical markets	160
(c) Definition of relevant market sales	161
(d) Potential competition	161
(e) Product interdependence	163
(f) Conflict of interest among contracting parties	164
(g) Conclusions	165
B. DEFINITION FOR THE PURPOSES OF ARTICLE 92	165
1. Definition of the relevant market not really necessary?	166
2. The effects of state aids on intra-Community competition: some basic principles	167
3. The applicability of Chapter 3 framework to consideration of state aids	167
(a) Product market	167
(b) Geographical market	168
(c) Potential competition	169
(d) Product interdependence	170
(e) Conclusion	171
BIBLIOGRAPHY	172

CHAPTER 1 THE NEED FOR DEFINITION OF THE RELEVANT MARKET

A. SOME RELATED ISSUES IN COMPETITION POLICY

The broad objectives of competition (or "anti-trust") policies were summarised by Jacquemin and de Jong (1975) as follows:-

- diffusion of economic power, even with the sacrifice of efficiency;
- economic freedom of market participants, specifically of small and medium-size firms;
- efficient allocation of resources and the maximum satisfaction of consumers.

Several authors have pointed to some inconsistency between these goals, in particular between the interests of consumers and those of small businesses. In an introduction to a paper on US legislation to strengthen powers against mergers and extend these to the effects of vertical integration, Adelman (1961) commented:

"Legislators have never shown much interest in consumer welfare. Their chief concern has always been to protect some business firms against others, chiefly larger ones, and to protect businessmen from being shut out of any particular market." (op.cit., p.236)

This argument reflects a fundamental difference which becomes evident continually in a study of competition policies and critically influences the importance of the "relevant market" concept. This is the difference between (a) those who believe that the intervention of public authorities should be confined to control of abuse of monopoly power and (b) those who believe that the public interest is best served by the maintenance of competitive market structures. This distinction may be summarised as "control of conduct" versus "structuralism".

Those who emphasise the need to maintain competitive structures, even if this means loss of potential economies of scale, argue that effective competition is in the long-term interest of society. By ensuring survival of and competition among small and medium-size producers, anti-trust policies ultimately benefit the consumer. The contrary view sees concentration as part of the process of competition, which will normally ensure that dominant positions are only ephemeral. This latter approach, associated with the Chicago School in the USA, has found some support among economists for many years - see Vickers (1985) for a summary. According to this view, action by anti-trust authorities is required only in (relatively rare) cases of abuse of dominance to the detriment of the consumer.

In a recent British article, George (1985) pointed out that concentration ratios played a dual role in competition policy: (a) a guide to policy makers towards industries where abuse might occur and (b) a goal of policy "directed towards maintaining competitive market structures." If the ratios are intended primarily for purpose (b) then the correct definition of the denominator is of greater importance.

The divergence of opinion about the importance of market structure is not simply two-fold. Until very recently most American economists have adopted a strongly structuralist approach to competition issues. However, at the same time they have tended to identify markets at the level of the final consumer, ignoring possible detriment to intermediaries in the vertical chain of supply. Some examples in Section C of comments by US authors on European Community cases illustrate this point.

Another point of divergence concerns the treatment of large conglomerate companies. Glais and Laurent (1983) are among several European authors who emphasise the economic power conferred by diversity of activities. This long-standing objection to the more formal structural approach, was raised much earlier by Adelman (1961). A conglomerate firm may be in a position of great economic power without having a dominant share of any single market.

When an anti-trust authority alleges abuse of a dominant position, does it need to prove the existence of the dominance, or is the firm's conduct itself sufficient proof? In the latter case definition of the relevant market would not be necessary:

"Dans un grand nombre de cas, la preuve de la position dominante résulte de l'autonomie de comportement dont dispose l'entreprise. Il n'est pas donc nécessaire de définir avec précision le marché....." (Waelbroeck 1977, p.130)

A counter-argument in favour of the market structure approach is that it aids consistency and reduces uncertainty for businessmen (Merkin and Williams 1984, p.149). For evaluation of proposed mergers, shares in the relevant market are especially important, a point made by the Bundeskartellamt in Germany in 1974. Control of mergers relates to the creation or reinforcement of dominant positions, with the consequent danger of abuse; it cannot be based on considerations of previous conduct.

While there are strong arguments for using the market structure approach for purposes of consistency and transparency of policy, it is clear from this outline of fundamental issues that this approach is not always necessary and may not always be appropriate.

B. THE USE OF THE RELEVANT MARKET CONCEPT IN NATIONAL COMPETITION POLICIES

1. The USA

In a very comprehensive article, Fox (1983) compared US and EEC competition policies and argued that over the previous 20 years the contrast between the two systems had been reversed. Until a few years ago the emphasis in US anti-trust policy was almost entirely on market structure and prevention of monopoly *per se*. Several authors (Fox, Hay, Waelbroeck) have emphasised that US policy is not concerned with regulation of abuse, other than that which leads to the creation or reinforcement of monopoly. Monopoly tended to be defined (at least until 1980) in terms of share of the relevant market, delineated both in terms of product range and geography.

Research of the American literature reveals the consistency with which the courts insisted on the use of market shares to define the degree of monopoly which already existed or would be created by the action under consideration. In his paper to the 1977 Bruges Seminar, Holley (1977) referred to numerous cases in which the importance of the relevant market was stressed. In the conclusion of his section on the evaluation of market power he wrote:-

"...in virtually all of the US cases the market share percentage is the starting point for an examination of the possible existence of monopoly power, even if specific acts consistent with monopoly power are alleged."
(op.cit. pp.180-1)

From guidance published in the Columbia Law Review (1954) and from the Merger Guidelines issued by Department of Justice in 1968, it is clear that market shares related to existing sales in markets defined in principle by end-use substitutability (often described in terms of cross-elasticity of demand). The deterrent effects of potential competition (freedom of entry) and the power conferred by diversity of activities, while mentioned, played only a minor role in the judicial assessment of monopoly and "monopolization."

The emphasis in US anti-trust policy has changed in two respects. First, greater emphasis is given to the possibility that gains in efficiency from mergers or increased concentration may outweigh the adverse effects on competitive structure. This greater emphasis is made clear in the revised Merger Guidelines of 1982 and 1984. Secondly, these same revised Guidelines, reflecting the views of several economic and legal experts published in the previous few years, implied that in future the Department of Justice will give as much weight to potential competition as to shares of existing output. Although the term "relevant market" is still used, the meaning is substantially extended to cover both (a) products to which consumers might transfer and (b) capacity which existing or potential producers might transfer to production of the relevant product. The same principle is extended to the geographical definition.

Both Fox and Hay (1985), in comparing the US and UK merger policies asserted that the US Department of Justice had departed significantly from the structural approach explicitly laid down in the 1968 Guidelines and reflected in most US court decisions from 1950 to 1980. Hay remarked:-

"Despite the superficial appearance, therefore, of simplicity and predictability, it could be argued that the practical effect of the emphasis given to entry considerations and of the attempt to make further allowance for efficiencies is to make US merger policy resemble the ad hoc approach to mergers that is used by the MMC." (Monopolies and Mergers Commission, UK). (op.cit., p.70)

Hay also suggested (p.63) that in practical terms US competition policy has moved away from the assumption that conduct can be controlled by market structure to 'economic intuition' or rule of thumb. He echoed Fox's view that in Europe certain national policies and those of the EEC are moving closer to the structuralist approach.

2. Germany

In his comparative study presented to the Bruges Seminar, Waelbroeck (1977) asserted that compared with other European countries surveyed (France, UK, Scandinavian countries, Belgium, Holland and Ireland), Germany (BRD) had a competition policy most closely resembling that of the USA. Waelbroeck argued that in German law "le libre jeu de la concurrence constitue l'objectif primordial" while all other national laws adopted "un point de vue plus pragmatique." This opinion was supported at the same seminar by Markert (1977) who commented:

"The GWB (= Gesetz gegen Wettbewerbsbeschränkungen) is largely based on the neoliberal concept of a competitive market economy in which the state is to play an active role to guarantee the functioning of competition." (op.cit., p.197)

German legislation extends both to abuse of a dominant position and to control of mergers. Market dominance is defined by absence of competition, a "paramount market position" or (a rebuttable presumption) a market share of at least 1/3. According to Markert (1977), in both merger cases and in those concerned with control of abuse, the major criterion of market dominance had been shares of the existing market, reflecting the basically structural orientation of the legislation.

Following the appearance of the 1982 Merger Guidelines in the USA, the German Monopolkommission (1983) produced its own notes for guidance on the definition of the relevant market. This suggested a two-stage evaluation of the competitive position of a company - the relevant market ("in the narrow sense") and the "Marktnähebereich." The latter would include potential competition from substitution of production, long-term substitution by consumers and some consideration of advantages of joint supply of a wider product range. Despite its theoretical elegance, the Monopolkommission's approach (discussed further in Chapter 2) may be very difficult to apply in practice. Since the relevant market ("in the narrow sense") corresponds with common usage, that is shares of current sales, this may be expected to receive more attention than the "Marktnähebereich", which is less easy to comprehend.

3. The United Kingdom

There is a significant division in UK competition policy between the arrangements for registration and judicial consideration of restrictive agreements between companies and those for dealing with the existence or creation of monopoly (dominance). Restrictive agreements are presumed by the legislation to be against the public interest unless proven otherwise; there is no such presumption about monopoly. K.D. George, himself a part-time member of the Monopolies and Mergers Commission, recently asserted:

"No presumption is built into UK legislation that monopoly is necessarily bad, and the onus is on the Monopolies and Mergers Commission (MMC) to show whether or not a monopoly which has been referred for investigation operates against the public interest." (George, 1985, p.34)

The same approach applies to control of mergers:-

"The underlying attitude is that most mergers are beneficial but that a small number may operate against the public interest and therefore need to be investigated." (ibid)

The references to the MMC involve some definition of product and geographical area, on the part of the Director of Fair Trading. An investigation cannot proceed if it is found that less than 25% (formerly one-third) of total supply is controlled by the largest firm. However there is no implication that the reference product and geographical area constitute a market. Having verified that the statutory "monopoly" (25% plus) exists, the MMC "may then conclude that it does not form the relevant market for the purpose of assessing dominance." (Merkin and Williams 1984, p.136). It does not need to define the relevant market; it needs only to conclude that because of existing or potential substitutes, countervailing buyer power or other constraints, a "monopoly" control over the referred supply does not constitute dominance.

Although UK policy on monopolies and mergers remains officially neutral towards dominance *per se* as opposed to its abuse, recent authors claim to recognise a distinct trend towards a more structuralist approach. Among such authors are Merkin and Williams (1984), Fairburn (1984) and Sharpe (1985). Decisions in 1986 on references to the MMC by the Office of Fair Trading (affecting rival takeover bids for the Imperial Group and the Distillers Company) have emphasised prime concern about possible dominance in individual markets. With this recognition that market structure is playing a more critical role, especially in merger cases, has come a demand from several quarters that guidelines be published on the definition of the relevant market, to ensure consistency and transparency.

4. France

The terms of reference of the Commission de la Concurrence (established 1977) and the interpretations which it has itself introduced appear to place a greater emphasis on shares of the relevant market than was suggested by Waelbroeck (1977) in respect of the previous arrangements in France. This may be because of the greater emphasis on control of concentration and of abuse of dominant positions, with which the notion of relevant market is more commonly linked.

The annual report of the Commission de la Concurrence for 1983 explains that "en matière de concentration économique, l'action des pouvoirs publics reste modérée" (p.11)

It attributes this partly to the voluntary arrangements for notification, partly to reluctance to refer mergers to it for "motifs d'opportunité" but partly also because of restrictions on the applicability of the control system, which are based on market share. For mergers of companies or groups with similar or substitutable products the threshold is a combined share of 40% of the national market, for other (conglomerate) mergers at least two of the companies concerned must have share of at least 25% of the national market for their own products. As the report itself makes clear (ibid., p.12) these criteria make the definition of the relevant market of critical importance and liable to be a focus of contention.

With regard to the definition of a dominant position Glais and Laurent (1983, p.265) drew attention to a 1975 definition by the forerunner of the Commission de la Concurrence emphasising that dominance implies (a) freedom of action without constraints imposed by competition and (b) ability to impose conditions on customers or suppliers unable to turn elsewhere. Glais and Laurent argue that these two criteria, which they summarise as (a) "comportements indépendants" and (b) "partenaire obligatoire" are sufficient to define dominance. They express regret that the Commission de la Concurrence finds it necessary to resort to the "neo-classical" concept of market structure.

There can be no doubt of the importance of the relevant market in the Commission's definition of a dominant position. In its first report (for 1978, p.11) it stated:

"Pour caractériser l'existence d'une position dominante la Commission se pose essentiellement deux grandes questions:

- quel est le marché par rapport auquel doit être mesurée la puissance économique de l'entreprise en cause?
- à quels signes reconnaît-on qu'il existe sur ce marché une 'concentration manifeste de la puissance économique'?"
(My own emphasis - FF)

In every case of abuse of dominance reported by the French Commission a preliminary section deals with the definition of the market. The prevalence of the structural approach is obvious from a remark in the Commission's 1983 report, relating to its own recommendations on dominant positions:

"Il ne s'agit pas tant de reprimer des abus que de restaurer, autant que possible, les conditions de la concurrence praticable." (op.cit., p.30)*

C. THE RELEVANT MARKET IN COMMUNITY COMPETITION POLICY

1. A Structuralist or Pragmatic Approach?

There is considerable similarity (see Fishwick, 1982) between the essentials of Community competition policy established by Articles 85 and 86 of the Treaty of Rome and that created by UK legislation between 1948 and 1965. Article 85 (1) prohibits agreements, joint decisions and concerted practices which may affect trade between member states and which have as their object or effect the prevention, restriction or distortion of competition, unless these agreements be exempted under Article (85) (3). This is very similar to the effect of the Restrictive Trade Practices Act 1956 under which restrictive agreements are deemed to be against the public interest, unless ruled otherwise by the competent executive or judicial bodies.

Article 86 (especially in the French, German and Italian versions) also appears consistent with the neutral stance adopted towards monopoly in the United Kingdom. A dominant position *per se* is not prohibited (in contrast to the USA), nor indeed is the exploitation of a dominant position, unless that exploitation is deemed abusive.

If Community policy had developed along the lines of that in Britain, as the wording of these Articles seems to imply, then the relevant market concept would be much less important. One could determine the degree of abuse without measuring dominance. One could assess whether an agreement had a restrictive effect by considering actual and potential substitute products, with no need to estimate precisely what percentage of a (nebulous) market were affected by the agreement.

Glais and Laurent (1983) argue that, in certain cases, the Community authorities (the European Court of Justice and the Commission) have been mistaken in making definition of the relevant market an indispensable first step in the identification of a dominant position. Where dominance is derived from vertical relationships or conglomerate power, the definition of a relevant market may be an artificial construct. They argue that in Community policy (as well as that in France) the concepts of

* This suggests a possible conflict with the policy of the Comité Interministeriel pour la Restructuration Industrielle.

comportements independants and *partenaire obligatoire* (see p.7 above) are more useful aids to analysis.

Since 1965 competition policy within the Community has shown a marked trend towards greater emphasis on structures as a means of preserving effective competition. This is most evident in the emergence of a draft policy for control of mergers. Fox (1983) argues that the founders of the Community were, if anything, in favour of greater concentration: sub-optimal business size was one of the economic arguments for the EEC. Given the economies of scale made possible by the Common Market, European companies would become more competitive.*

In terms of case history, the most significant formal step towards a structuralist policy was Continental Can. In its judgement on this case, the Court of Justice ruled that if a company already in a dominant position reinforced that position by acquisition or merger, then this would constitute an abusive exploitation. This decision created some inconsistency in Community policy:- the possession of a dominant position is not prohibited (though measures to maintain it may be); the creation of a dominant position by amalgamation of a non-dominant firm is not prohibited (yet); only reinforcement of existing dominance is prohibited.

This inconsistency would be eliminated on the adoption of the draft Regulation on Mergers. This regulation would enable the Commission to prohibit mergers where these would result in the acquisition or increase of power to limit effective competition in the Common Market or a substantial part thereof and also affect interstate trade. The origins of the draft regulation demonstrate a perceptible change in the attitude of the Commission towards emphasis on maintenance of competitive structure. Among those authors who recognise this proposed change in EEC policy there is general support for it. Merkin and Williams (1984, p.281) comment that any competition policy is of limited impact if "it is able merely to limit abuses of market power rather than to prevent unjustified concentration from arising in the first place." In this structuralist approach market definition is important.

There is no clear indication from the cases so far decided whether a structuralist approach, using the relevant market concept, is appropriate for the assessment of the anti-competitive effects of state aids, the subject of Article 92 of the Treaty of Rome.

* For a similar view see Joliet (1970, pp. 3-4) and Commission of the EC, Third Report on Competition Policy (1974, pp.28-9).

This question, which attracted comparatively little attention in previous discussion of Community competition policy, is discussed in the second part of Chapter 5.

2. Definition of the Market in Community Practice

Several authors - Focsaneanu (1975), Schroter (1977), Glais and Laurent (1983) and Fox (1983) among them - have criticised the variable definitions of relevant market in Community case judgements. All may be summarised by a footnote of Fox (op.cit., p.368):-

"The definition of the market and the degree of power necessary for a dominant position seem to vary with the offense - a proposition papered over by the cases."

As Focsaneanu pointed out in detail, the definition has varied from "the products and area covered by the agreement" (in Article 85 cases) to all existing and potential substitutes (Continental Can). Glais and Laurent (1983) believe that this inconsistency of definition occurs because the relevant market is introduced as an artificial construct which is not always directly relevant to the issues of the case. They argue that dominance is indicated by two criteria - unrestrained conduct and dependence of customers or suppliers. Most EEC cases (they argue) have been determined in practice by these criteria; definition of the market has been irrelevant and has occasionally fitted awkwardly into the analysis.

A contrary view, stated by Fox (1983) and Hay (1985) is that an explicitly structural approach with consistent definition of the relevant market would have avoided some European decisions would appear strange to US observers.

The views of most European authors differ from those of the apparent American consensus on the subject of vertical relationships and dependence. Some quotations from European authors emphasise the importance given to dependence in determination of dominant positions:-

"Nous voudrions proposer de 'relativiser' la notion de position dominante par rapport aux catégories de personnes qui subissent les conséquences de l'abus. Si celui-ci consiste dans une atteinte portée à une catégorie limitée d'opérateurs - qu'il s'agisse de concurrents, d'acheteurs ou de fournisseurs il suffirait de prouver l'existence d'un lien de dépendance par rapport à l'entreprise en cause" (Waelbroeck, 1977, p.126)

"If the relevant market has to be defined from the point of view of dominance (and not the other way round) relevancy follows from the relationships which prevail among the market participants." (de Jong, 1977, p.530)

"Nombre d'affaires de 'position dominantes' auraient pu beaucoup mieux instruites en adoptant une telle méthodologie." (i.e. one based upon dependence) "A titre d'exemple, on relira avec cette 'nouvelle grille' d'analyse les deux affaires Hugin-Liptons et Zoja." (Glais & Laurent, 1983, p.346).

While Waelbroeck and Glais and Laurent argued that dependence was evidence of dominance, making the use of the relevant market concept superfluous, de Jong implied that the relevant market should be defined to reflect evident dominance (from dependent relationships).

In complete contrast and also citing the Hugin-Liptons and Zoja cases, Fox (1983) argues that insistence on a more meaningful definition of the relevant market would have led to different decisions.

In the Hugin-Lipton case*, the abuse of dominance was refusal by Hugin to supply spare parts to Liptons to enable them to continue to repair Hugin cash registers in the UK market. The Court agreed with the Commission definition that spare parts from Hugin constituted a relevant market. This reflected the dependence of Liptons upon Hugin. But, Fox stresses, Hugin held only 13% of the UK market for cash registers and was ranked fourth in an industry led by NCR with a 40% share. By rationalising or even integrating its own maintenance arrangements, Hugin was merely trying to compete more effectively in its own market, either by cutting costs of maintenance or by itself taking any surplus from this activity to compensate for intensive competition in the original equipment segment. Vertical integration did not affect the consumer. The possible demise of Liptons would be a casualty of competition.

Fox took a similar view of the Commercial Solvents-Zoja case*. Since vertical integration by Commercial Solvents did not affect horizontal concentration and hence the range of consumer choice, why was it against the public interest? Definition of a market for primary materials was an artificial device to fit into a structuralist framework a decision based upon dependence. The European Court of Justice has tended to regard the elimination of an independent "horizontal" operator in a vertical chain as an abuse of dominance. The UK Monopolies and Mergers Commission has emphasised consumer

* Discussed in detail in Chapter 4 below, with full references.

welfare in considering vertical mergers and acquisitions and, in most cases referred to it, has generally decided that no loss of consumer choice would follow (Merkin and Williams, 1984, p.268). Certain American observers, e.g. Fox (1983) and Hay (1985), have supported this approach. Hay criticised an exception to this neutral attitude of the MMC towards vertical relationships - its decision that Ford should not restrict the distribution of spare parts to "tied" outlets. Hay's argument is that only the total car market is "relevant" to consumer interests - subsidisation of new car prices by expensive spare parts is not necessarily unfavourable for consumer welfare*.

A counter-argument to the "integrated-market" approach is proposed by Sharpe (1985), who emphasised the imperfection of consumer knowledge. Extending Sharpe's arguments a little, one may consider an individual purchasing a new car. Unlike a commercial fleet purchaser such as a car-hire company, the individual is unlikely to know when he will need to purchase spare parts - he may not even think about them. A similar argument may be extended to the purchase of cash registers (see above). In such cases (original equipment versus spare parts), one might define two different markets, with different price-elasticities at different times. The significance of the survival of the independent operator might be assessed by this consumer-orientated approach.

3. Some Conclusions

(a) Although the tendency in the USA is in the other direction, the general movement of national policies in Europe is towards a competition policy aimed at preserving effective competition, rather than just dealing with abuse.

(b) Some economists and lawyers, especially in the United Kingdom where until now policies have been more pragmatic, have welcomed this more "structuralist" approach and have called for more systematic definition of the relevant market.

(c) The trend in Community policy towards greater concern with structure is thus consistent with the trends in France, the United Kingdom and Germany. This last mentioned country has not followed the USA in so widening the definition of the relevant market as to make it difficult to use.

(d) Previous definitions of the relevant market by Community institutions are generally criticised for lack of consistency and, by at least two American observers, for

* Discussed further in Chapter 4, with full references

ambivalence about the objectives of competition policy. The significance of dependence relationships, particularly in the context of vertical integration, is the subject of wide disagreement. Some European economists believe that the link between dependence and dominance should be made more explicit and become part of standard Community methodology, obviating the need to define the relevant market. Other economists (mainly American) believe that dependence is almost irrelevant and that the market should be defined in terms of integrated products. This would emphasise the freedom of consumers to choose and that of suppliers to integrate vertically (provided this does not affect horizontal concentration).

CHAPTER 2 AN OUTLINE OF DIFFERENT APPROACHES TO DEFINITION

A. DOMINANCE AND THE RELEVANT MARKET

1. The Community (*)

On several occasions the Commission and the Court of Justice have reaffirmed a basic definition of dominance which used words in the 1951 Treaty of Paris setting up the European Coal and Steel Community (Article 66(2)):- "the power to hinder effective competition in a substantial part of the market in question."

Several authors have noted that although Article 85 does not refer to dominance, the definition adopted for Article 86 is almost identical to the wording of paragraph 3(b) of Article 85. The latter precludes the exemption from prohibition of agreements which "afford the possibility of eliminating competition in respect of a substantial part of the products in question." *Prima facie*, the relevant market concept appears the same for both Articles 85 and 86.

In its 1965 Memorandum sur le problème de la concentration dans le marché commun the Commission provided a clear interpretation of dominance, which it seems to have applied consistently in its own decisions:-

"La domination du marché ne peut pas être uniquement définie à partir de la part du marché que détient une entreprise ou d'autres éléments quantitatifs d'une structure de marché donnée. C'est en premier lieu un pouvoir économique.... la faculté d'exercer sur le fonctionnement du marché une influence notable et en principe prévisible pour l'entreprise dominante.Une entreprise qui peut évincer, quand elle le désire, les autres entreprises concurrentes du marché peut déjà disposer d'une position dominante.... même si sa propre part du marché est encore relativement faible."

Some further guidance is contained in the Draft Mergers Regulation (Commission of the EC, 1973, Article 1 (para.1)):-

"This power to hinder effective competition shall be appraised by reference in particular to the extent to which suppliers and consumers have a possibility of choice, to the economic and financial powers of the

* This section draws heavily on Schröter (1977(a)) and also on Merkin and Williams (1984)

undertakings concerned, to the structure of the markets affected and to supply and demand trends for the relevant goods and services."

These two quotations illustrate some of the key features of dominance, in the view of the Commission and of the Court of Justice (on the evidence of its decisions). These are:

- the ability of the dominant enterprise(s) to influence the market by its (their) own conduct, unimpeded by competitors;
- other companies' dependence for survival on the dominant enterprise(s);
- economic and financial power which gives the dominant enterprise(s) advantages in any competitive battle.

One aspect of competition policy which appears to have attracted little attention in the literature regarding the EEC is the question of buyer power (or monopsony/oligopsony). According to the two questions from the Commission set out above, collusion or concentration among purchasers would be subject to Articles 85 and 86 - ability to hinder effective competition, to compel suppliers to pursue particular policies and to use economic and financial power to private advantage.

There have been no recent cases involving buyer dominance in Community jurisprudence but one has arisen in France, summarised by Glais (1985). In a study of concentration in the UK textile industry (Fishwick 1975), several small textile companies were found to be dependent on the major national distributors, who were able to secure favourable prices, dictate quality etc. Since the distributors concerned were competing intensively in the retail market, it was probable that the consumer benefited from the "squeeze" on prices of textile manufacturers by obtaining better value for money. However, as Glais (1985) points out, the longer term consequences for consumer welfare are uncertain. The buying power of major distributors (or further processors) may enable them to increase their share of the final market; defensive mergers by suppliers may be a further consequence. The emergence of bi-lateral oligopolies might well be to the detriment of consumers, not only in higher prices (no longer restrained by current competitors) but also in the stifling of innovation.

These arguments point out the need to consider future changes in the structure of both the intermediate and final markets. The relevant market concept is not inappropriate for analysis of buyer power, provided future developments within the market(s) are taken into account. Although the theoretical literature includes occasional reference to buyer concentration, few attempts have been made to develop an analytical framework to deal with it. (One exception is the German Monopolkommission 1983)

2. The predominant American approach

Neither "monopoly" nor "monopolization" have been formally defined by the US courts or by government bodies concerned with anti-trust policies. The 1968 Merger Guidelines of the Department of Justice were based predominantly on the use of simple concentration ratios to measure the competitiveness of the market structure. Vertical and conglomerate mergers were to be evaluated mainly for their horizontal effects. There is no reference to dependent relationships, nothing about independence of conduct and very little about the possible abuse of dominance secured through sheer size (e.g. with conglomerate mergers).

The market structure - conduct - performance approach to analysis of dominance is based on neo-classical economic theory, on perfect competition. This hypothetical extreme is regarded as the zero value from which dominance can be measured. The two basic assumptions of perfect competition are (a) the existence of a very large number of identical firms producing identical products, recognised as such by all of a very large number of customers and (b) freedom of entry and exit into the industry (which comprises all these companies).

The main American criticism of anti-trust policy under the 1968 Merger Guidelines was that it took account mainly of (a) and paid insufficient attention to (b). There has been a recent upsurge of criticism of perfect competition as a starting point, following a tradition long associated with the Austrian school. However, most of the writings on measurement of market power (or dominance) over the period 1950 to the early 1980's appear to have accepted perfect competition as a starting point and current US anti-trust policy reflects this.

Under perfect competition, price would tend towards marginal cost and minimum attainable average cost. Market power, as a departure from perfect competition, can conveniently be defined as ability to maintain prices in excess of costs. To those involved in the European discussion of the dominance concept, US economists' use of perfect competition as a basis for analysis may seem barely credible. Some quotations from recognised American specialists in this area confirm the importance attached to perfect competition and the related price-cost margin:-

"Since market power is the ability to act in a less than perfectly competitive manner, nearly every departure from perfect competition implies some power."

(Areeda and Turner, 1978, p.195)

"The term 'market power' refers to the ability of a firm (or group of firms, acting jointly) to raise price above the competitive level without losing so many sales so rapidly that the price increase is unprofitable."
(Landes and Posner, 1981, p.937)

"The ability of one or more firms profitably to maintain prices above competitive levels for a significant period of time is termed 'market power'."

(US Merger Guidelines, 1984, p.2)

3. Implications for definition of the relevant market

As was emphasised in Chapter 1, the relevant market is most important in the context of the structuralist approach to competition policy. Where this policy is administered mainly on the basis of existing concentration in horizontally defined relevant markets, the definition of those relevant markets is of fundamental importance. This is why the relevant market was the main focus of contention in US anti-trust cases in the 1960's and 1970's.

If competition policy is to be based on perfect competition but is to consider barriers to entry and potential competition as well as the existing market structure, then a question of principle is raised. Should the relevant market (in both its product and geographical dimensions) be widened to include potential competition or should potential competition be considered separately from market definition and existing concentration? Much of the controversy in US literature has focussed on this point.

Finally it should be noted that the prevailing US definition of market power, based on perfect competition, is much more specific than that so far adopted by the Community. As suggested by the quotations from de Jong (1977) and Fox (1983) in Chapter 1, the definition of the relevant market in EEC cases has sometimes been made to fit the circumstances of the particular case - to confirm statistically a position of dominance recognisable on other criteria such as dependency or anti-competitive conduct. If the large volume of analysis published in the USA is to be used to develop the relevant market concept for the benefit of EEC jurisprudence, the more specific definition of dominance in the USA must be borne in mind.

B. THE NEO-CLASSICAL APPROACH TO MARKET DEFINITION - SOME GENERAL PRINCIPLES AND CRITICISMS

1. Introduction

Most of the attempts in the American literature to refine the definition of the relevant market assume the validity of the body of theory known as "neo-classical" and associated particularly with Alfred Marshall. Glais and Laurent (1983) has the heading "La notion de 'relevant market': produit d'une conception néo-classique de l'étude du système productif." The use of the neo-classical model of perfect competition as a basis for analysis of present-day industrial structure has been widely criticised; some of these criticisms are reflected in the discussion below.*

2. Measurement of Monopoly Power

Under perfect competition price is equal to marginal cost and is under constant downward pressure, because of freedom of entry, towards minimum average cost. A simple definition of market power or dominance (D), measuring divergence from perfect competition would be

$$D = \frac{\text{Price} - \text{Marginal Cost}}{\text{Price}}$$

which definition is associated with Lerner (1934). In the long-run marginal cost = average cost at its minimum point.

By substituting marginal revenue for marginal cost in this definition, it is easy to show that

$$D = 1/\eta_i \quad \text{where } \eta_i \text{ is the absolute value of price elasticity of demand for the product of the individual firm.}$$

Landes and Posner (1981) point out that if one knew the price elasticity of demand for the output of the firm then its market power could be calculated without reference to market share. They suggest (op.cit., p.943) that most firms are "rational and well-informed about market conditions" and would know the price elasticity of demand

* See Sub-Section 4 below

facing them at profit maximising output but in practice anti-trust authorities could not get the figure.* This is why market shares are necessary.

The practical value of the Lerner formula is diminished by absence of information about marginal costs. The figure is also distorted by differing degrees of vertical integration. Hart and Morgan (1977) propose the use of an equivalent formula:

$$\frac{\text{Value added} - \text{labour costs}}{\text{Value added}}$$

The Lerner formula (also the Hart-Morgan version) may be criticised:-

(a) It assumes that gains from monopoly power are reflected entirely in published profits with no transfer to employees (in higher wages) and no additional "discretionary" expenditure by management; this conflicts with empirical research.

(b) It fails to distinguish between the effects of high prices (monopoly exploitation) and reduced costs (efficiency). Under perfect competition free entry would push prices down towards the lower costs but in a practical definition of monopoly power, the distinction might be important.

Monopoly Power and Market Shares

Landes and Posner showed** that if one could define a market within which products were perfect substitutes, then

$$\eta_i = \eta_m / s_i + e_j (1-s_i)/s_i$$

where η_i = absolute value of price-elasticity of demand of firm i

η_m = absolute value of price-elasticity of demand of total market

* One may disagree with the assertion that firms know the price-elasticity of demand for their own output. Under typical oligopoly conditions the concept has limited significance since evaluation of competitors' reactions must replace the ceteris paribus assumption

** A more detailed derivation of this equation appears in Scheffman and Spiller (1985)

e_j = price-elasticity of combined supply of competitors

s_i = sales by i as proportion of total market sales

From this expression one may deduce that

$$\frac{P-MC}{P} = s_i / (n_m + e_j (1-s_i))$$

Comment

This last expression is useful in showing that ability to make monopoly profits is influenced not only by market share but also by (i) the degree of competition from products in other markets and (ii) the ease with which other firms in this relevant market can increase supply.

However it assumes that a market may be defined in a form never found in the real world - product homogeneity within the industry with a clear demarcation from outside. This assumption implies a continuum from pure competition through pure oligopoly to absolute monopoly. Real markets rarely fall within this continuum.

3. Statistical studies of concentration and performance

If the definitions of industries in national statistical classifications corresponded with the market concept used in the last section then profits as a proportion of value added in each industry would be positively correlated with concentration. If collusion (overt or tacit) between oligopolists were also introduced into the analysis this correlation would be strengthened.

Statistical studies of the relationship between profits and concentration by industry abounded in the 1960's and 1970's (Fishwick 1979). In the USA fairly weak correlations were found in studies of this kind, usually of statistical significance only when concentration was included in multiple regression with a variable representing barriers to entry. In the UK no significant correlation between concentration and profit margins was found.

These statistical results are not surprising. First, as already suggested above, the assumption that monopoly gains would be reflected in reported profits is unrealistic. Secondly, classifications of industry adopted for administrative or statistical purposes do not even vaguely approximate to the market forms assumed in the equations above. Finally, the intensity of competition varies between industries with similar levels of concentration

4. Alternatives to the neo-classical approach

Perfect competition, with its emphasis on atomistic structure and product homogeneity, is not only an unrealistic model but, in the view of many economists, it not even a desirable ideal. In a synopsis of attacks on the concept published before 1973, Kirzner (1973) states:-

"Perfect competition denotes for the price theorist the situation in which every market participant does exactly what everyone else is doing, in which it is utterly pointless to try to achieve something in any way better than what is already being done by others..." (op.cit., p.90)

This is equivalent to stating (as Hayek, 1949) that perfect competition symbolises complete absence of competition!

Howe (1978) quoted the judgements of other economists that, at a practical level, perfectly competitive industries perform less well in a social sense than more concentrated industries. For example:-

"...Industries which approach the conditions required for perfect competition characteristically do not give good market performance. By contrast, although industries characterised by a high degree of concentration of production may in theory lead to restricted output, excess monopoly profits, tardy innovation and exploited returns to factors of production, in practice they may be noted for low profits and prices and a high degree of technological progressiveness." (Maunder, 1969)

"Industries which are distinguished by a close approach to the competitive model are also distinguished, one can say almost without exception, by a near absence of research and technical development." (Galbraith, 1957)

The emphasis on research and innovation recalls the arguments of Schumpeter (1947) who regarded short-term monopolies as necessary for innovation and part of a process of destructive competition. This emphasis on competition as a dynamic process rather than a kind of structure is re-echoed by most writers from the Chicago school and from the

Austrian tradition. Changes in competition policy to accommodate this interpretation of competition imply less concern about the existing structure of the relevant market.

(a) Workable Competition

This concept replaces emphasis on departures from perfect competition, with examination of "performance norms" (Sosnick, 1958) some of which are based on the theoretical ideals of perfect competition, such as low entry barriers and normal profits, but which also extend to economies of scale and risk-taking and innovation.

The practical implications of this approach for competition policy amount to a compromise between analysis of structure and observation of conduct. Almost since its origin (J.M. Clark, 1940) workable competition has been criticised as lacking theoretical foundation. One of the early protagonists (Bain, 1968) subsequently admitted that it involved "horseback judgements;" Howe (1978), in providing a useful summary of the concept, described it as "essentially pragmatic"; Glais and Laurent (1983, p.10) are particularly critical - "Le courant de la 'concurrence praticable' ...c'est le plus ambigu. Il se complait dans le flou..."

The practical use of the workable competition approach does not appear to extend beyond a check-list of desirable features in the supply of a product. Even for this purpose, it may be insufficiently flexible to fit a wide range of cases but insufficiently rigorous to ensure consistency

(b) Contestable markets

W.J. Baumol, one of the main protagonists of contestability theory, entitled his 1982 Presidential address to the American Economics Association "Contestable Markets: an Uprising in the Theory of Industry Structure." In the first paragraph he claimed that the theory "enables us to look at industry structure and behaviour in a way that is novel in a number of respects...." However, he subsequently acknowledged that certain of the ideas could be found in the works of previous authors - "from Bertrand to Bain, from Cournot to Demsetz."

Contestability relates to freedom of entry. Conventional, structuralist theorists would admit that with freedom of entry super-normal profits could not be earned. They would also argue (e.g. Bain, 1956) that existing monopolists enjoyed absolute advantages over entrants including economies of scale (natural monopolies), accumulated brand loyalties

(product differentiation), vertical tie-ins and the ability to indulge in price discrimination and predatory pricing. Large enterprises outside an industry may be able to overcome these barriers by high initial expenditures but, because these expenditures cannot be recovered on subsequent exit from an industry or market, "hit and run entry" is uneconomic. Firms outside an industry will be deterred from entering a contest with existing companies, especially as the new firms must bear an initial handicap.

Contestability theorists reject this argument. They argue that the inescapable initial expenditures will be a barrier to entry only when they are not recoverable - that is when they are sunk. The inevitability of sunk costs is the only effective barrier to entry; provided there are no sunk costs then entry will be free ensuring only normal profits, maximum efficiency in production, price tending to marginal cost and no cross-subsidisation. The theory leads to the conclusion that, provided markets are contestable (i.e. not protected by significant and inescapable sunk costs - or by legal institutional barriers), there are no grounds for concern about their present structure.

Although contestability has also been questioned on theoretical grounds (e.g. Weitzman, 1983) the main criticism has been directed at its unrealistic assumptions. Shepherd (1984) argued that contestability theory added little new to conventional theory, that it merely postulates the consequences (long recognised) of a theoretical extreme - zero entry barriers ("ultra-free entry"). Shepherd acknowledged the importance of sunk costs but disputed the assumption that these can approximate to zero over a substantial range of activities. He also pointed out that faced with the prospect of new competitors, existing companies could reduce prices (or otherwise offer better value for money), sacrificing super-normal profits and thus removing the incentive for hit-and-run entry. This latter argument appears to accept that potential competition might well impose some restraint on the ability of existing companies to exploit current dominance.

In a comprehensive summary of recent developments in the economics of industry, Vickers (1985) concludes that contestability theory underlines measures to liberalise markets by reducing barriers to entry and exit.* Although it may be logically correct that a dominant position cannot be abused if the relevant market is perfectly contestable, this condition may be very rare. In the past, anti-trust authorities may have paid insufficient attention to potential competition; contestability theory with its (apparently undisputed) emphasis on sunk costs provides a useful analytical framework for this.

* Waterson (1984) points out that it is barriers to exit which are crucial in determining contestability

However, because zero sunk costs are so unlikely, the claim (e.g. Baumol, 1982) that the contestability approach obviates the need for anti-trust authorities to analyse market structure seems hard to justify.

(c) Conclusion

Neo-classical theory based on perfect competition (atomistic structure with homogeneous products) has been criticised not only as unrealistic but also misdirected, since the theoretical ideal is undesirable. This means that none of the analytical tools based on this theory can be used as a single universal yardstick. Two alternatives have been discussed above - workable competition and contestability. While both are of some value in competition policy, neither provides a satisfactory general approach to the problem of abuse of dominance.

Concepts based on the neo-classical model, discussed in Section C, are of greatest value in showing the pitfalls of "commonsense" approaches to market definition. They provide a variety of tools which may be used to refine, to make more rigorous and consistent, the market definitions which must be made if Community competition policy is to be effected in a transparent, even-handed way. The use of these tools must be combined with considerations drawn from models other than perfect competition - this does not itself destroy the value of the tools.

While neo-classical theory does not provide a basis for a universally applicable system of market definition, it does help one to recognise what one must not do.

C. AN OUTLINE OF DIFFERENT APPROACHES WITHIN THE NEO-CLASSICAL FRAMEWORK

Introduction

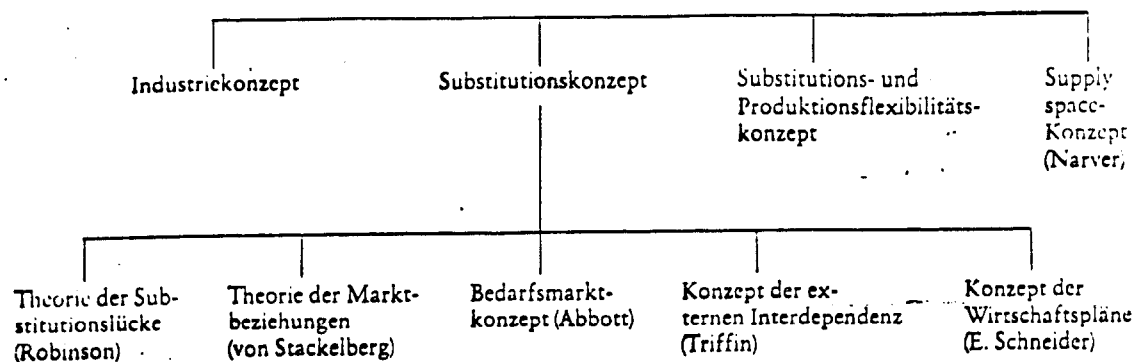
All of the approaches examined in this section start from a similar neo-classical base of perfect competition. They attempt implicitly to answer the question: "How do we measure a market in such a way that difference from perfect competition can be encapsulated in a single index - market share?"

There is general agreement that the relevant market has three dimensions - product range, geographical location and time. Substitution (by consumers or producers) takes time: market power is therefore time-related in the same analytical way. Reference to

the product and geographical dimensions will be made throughout this section. In section D below the particular problems of geographical definition will be reiterated.

A short synthesis (in German) of the different approaches presented here appears in Chapter 3 of Schmidt (1981). The following diagram summarises them very neatly:-

Abb. 2: Ansätze zur Bestimmung des relevanten Marktes



Source: Schmidt (op.cit., p.33)

Each of these concepts will now be discussed in turn.

1. The Industry

In Marshall's usage, the industry was (implicitly) assumed to consist of companies making a homogeneous product. This is clearly not true of industries as defined by statistical classifications such as the NICE or the British Standard Industrial Classification. The bases of industry definition are not only substitution in end-use but also similarity in material contents, methods of production or some other commercial or social affinity. In the textile machinery industry, for example, imports and exports of most EEC countries exceed 75% of national output. Product markets may be said to consist of international oligopolies within specialist ranges of machinery.

Again an NICE classification is "Paper conversion" which includes companies producing paper bags and others making paper tissue handkerchiefs. These two products do not compete but each competes with non-paper products assigned to different industries.

The defects of the conventional industrial classification for the purpose of concentration indices are obvious. In 1933, Joan Robinson argued that for the purposes of partial equilibrium analysis an industry had to be defined as any group of firms producing a single commodity and that the difference between this definition and the real world might not be so great. (Robinson 1933, page 17). Writing again in 1953 the same author acknowledged that her 1933 assumption confused "industry" with "market" and that concentration in industry had little relation to the degree of monopoly in the markets served. However, she also remarked:

"The concept of an industry, though extremely amorphous and impossible to demarcate sharply at the edges, is of importance for the theory of competition. It represents the area within which the firm finds it relatively easy to expand...." (Robinson 1969, p.x)

In other words, the industry concept, while it may not reflect existing competition is relevant to potential competition. If the prices of weaving machinery were to rise sharply it would be easier for a producer of spinning machinery to add looms to his range than it would for a producer of chocolate bars. Since potential competition (cross-elasticity of supply) affects market power, industry concentration is not irrelevant.

Further support for the view that combinations based on physical or technical similarities rather than end-use substitutability are of practical value in assessment of market power may be found in Chamberlin (1937), Triffin (1940) and, more recently de Jong (1977, p.529). However, all these authors regard grouping into industries based on supply characteristics as complementary to groupings by demand characteristics (substitutability in use).

Before leaving the concept of industry, it is useful to point out that industrial concentration does not always increase as the product range is narrowed. The mathematical logic of this is shown by de Bandt (1970, p.42). The industry share of Courtaulds in the UK textiles industry as a whole is greater than in any of the individual sectors (except in fibre extrusion); the same is true of the major companies in the UK paper industry (when paper manufacture and conversion are combined).

Monopoly or near-monopoly of one part of an industry may confer dominance of the industry as a whole, as is illustrated by the position of Eastman Kodak in the US amateur photography industry. Brock (1984) points out that analysis of this industry as an integrated entity gives greater indication of dominance than analysis of three separate markets - film, cameras and film-processing. Kodak's near-monopoly in the production

of film gives it substantial advantages over competitors in the other two markets, since they have to make their own products compatible with Kodak film. A similar situation applies in computing. IBM's shares of the micro-computer and peripherals markets are fairly modest, but its dominance in main-frame computers and the widespread requirement on the part of customers for linking to IBM main-frames give it a distinct advantage. Even when relevant markets are defined on a different basis, industry relationships should also be considered.

2. Substitutability in end-use

Schmidt (1981) pointed out that the five apparently different approaches to market definition which he grouped under "Substitutionskonzept" have the same basic roots:-

"Bei einem Vergleich der Substitutionskonzepte zeigt sich, daß allen Konzepten als gemeinsame Wurzel die Substitutions-zugrunde liegt, so daß sich die verschiedenen Ansätze miteinander vereinbaren lassen."

This statement is quite significant in view of the polemical tone of some of the arguments in favour of particular approaches.

In all the discussions of substitutability in demand, consumer psychology is included as well as physical or technical factors. The Columbia Law Notes (1954) explain that "reasonable interchangeability" (a term used in the US courts to determine the relevant market) of products comprises two elements: (i) "functional interchangeability," meaning that products are physically capable of serving the same function and (ii) "reactive interchangeability," which describes the degree to which customers would react to a relative price change by substitution. This "reactive" element depends upon consumers' loyalties, preferences etc., which may not be perfectly informed but remain important.

Another dimension of substitutability is time. Psychological barriers to substitution may be expected to break down over time if two functionally substitutable products have widely different prices, unless artificial product differentiation is maintained by advertising. An interesting element of delay in substitution is fully analysed by the Monopolkommission (1983): the effects of complementary fixed investments which commit consumers to one product. For example oil and gas may appear substitutes for central heating purposes. At the time of system installation the products may be indeed interchangeable. Once a system has been installed for either product, the consumer faces a major expense in attempting to substitute.

Substitutability must therefore be defined as the degree to which the customer is able (taking into account both functional and psychological factors) to transfer between products within a specified period of time.

(a) Discrete gaps in substitutability between goods?

In introducing imperfect competition, with its explicit assumption of product differentiation (= heterogeneity) Joan Robinson had some major problems in trying to define an industry or group. Some quotations from Economics of Imperfect Competition (Robinson, 1933) make these difficulties obvious (op.cit., p.17):-

"A COMMODITY is a consumable good, arbitrarily demarcated from other kinds of goods but which may be regarded for practical purposes as homogeneous within itself." (My emphasis - FF. On an earlier page, Robinson admitted that this practical definition would be "rough and ready.")

"An INDUSTRY is any group of firms producing a single commodity. In some cases where a commodity in the real world is bounded on all sides by a marked gap between itself and its closest substitutes, the real-world firms producing this real world commodity will conform to the definition of an industry sufficiently closely to make the discussion of industries in this technical sense of some interest." (My emphasis - FF)

"In some cases" this may well be true but consideration of most product ranges demonstrates the difficulty in defining a single gap. In practice substitutes often form a continuum. For example (i) fruit juices and beer may be regarded as substitutes, likewise (ii) beer and wine and (iii) wine and whisky; but whisky is not a substitute for fruit juice. Once the perfectly competitive model is abandoned with the introduction of product heterogeneity then the concept of "industry", "group" or "market" must depend on gaps in a continuum of substitution. Such gaps may not always exist.

Both Joan Robinson herself and E.H. Chamberlin, (1933) who proposed a similar logic for definition of groups, subsequently criticised their own attempts to accommodate partial equilibrium analysis in the imperfect competition model (see Robinson's preface to second edition, 1969).

(b) Triffin's concept of external interdependence (cross-elasticity of demand)

Triffin (1940) was one of the strongest early critics of the Robinson "gap" concept, suggesting that product heterogeneity and classification into sectors, industries, markets,

etc. were incompatible in a strictly scientific sense. He suggested that the competitive position of any single company's product in the narrowest sense would ideally be assessed according to substitutability with other products, measured by cross-(price) elasticity of demand.

Unlike Triffin and his contemporaries, very few present-day authors define cross-price elasticity in a way which makes obvious one of its major limitations. It is important that a partial derivative should be used to emphasise the *ceteris paribus* assumption.

$$\begin{array}{l} \text{Cross elasticity of demand for} \\ \text{X with respect to the price of Y} = \frac{\delta Q_x}{\delta P_y} \cdot \frac{P_y}{Q_x} \end{array}$$

Cross-elasticity is of obvious potential value in providing an objective measure of substitution but there are some major difficulties in applying it.

(i) Ambiguity may occur unless the cross-elasticity of demand for X with respect to the price of Y is the same as that for Y with respect to the price of X. Suppose that Y is a non-drip form of paint for amateurs to use in painting ceilings. If the price of ordinary paint (X) falls and that of Y remains unchanged, then many former buyers of Y may be induced by the greater price difference to cover their surroundings more carefully and use ordinary paint. The cross-elasticity of demand for Y may be quite high with respect to the price of X.

A cut in the price of Y might cause a proportionately large increase in its own sales but because these are small in relation to sales of X, the cross-elasticity of demand for X with respect to the price of Y may be very low. The Monopolkommission (1983, Abhang) argues that for definition of the market for X, only the cross-elasticity of demand for X with respect to the price of Y is relevant. Some US authors argue that the test should be reversible - the two cross-elasticities should be similar. If they are not, then the asymmetrical relationship needs careful evaluation. (Bishop, 1952)

(ii) There will inevitably be difficulties in fulfilling the *ceteris paribus* condition. Using time-series data, it will be hard to isolate the effect of relative changes in the prices of X and Y (their prices may be positively correlated because of common cost elements, e.g. material contents). If cross-elasticity is high then price changes will tend to occur simultaneously. To take our previous example, if the price of ordinary paint (X) rises, then producers of Y may feel able to raise their prices also, maintaining a

differential. If the price of X falls, the producers of Y may be forced into a defensive price reduction. How can one get figures to measure cross-elasticity?

(iii) Cross-elasticity calculations are possible only when possible substitutes have been identified. If one is using the concept to determine substitutes, then some other method of detection must be used to select data for the test.

(iv) Another difficulty with cross-elasticity is discussed by Landes and Posner (1981). If the producer(s) of product X were exploiting a dominant position they would raise prices as far as possible, until some product (Y) not regarded as a close substitute became better value for money. The cross-elasticity of demand for X with respect to the price of Y may depend on the price difference between them. This particular difficulty appears to be avoided if the use of cross-elasticity of demand is confined to reversible effects. For example, a 20% change in the price of brand-name aspirin (selling at about 5 pence per tablet) might lead to substantial change in sales of unbranded aspirin (price about 1 penny per tablet) but a 20% change in the price of the cheaper unbranded product would have negligible effect on the branded version. Hence the two products are not substitutes. (See Footnote*)

Triffin's theoretical conclusion that partial equilibrium analysis was incompatible with general product differentiation would appear to damn the relevant market concept. However, he was prepared to accept that demarcation of groups or industries might be necessary for practical purposes:-

"Is anything gained by limiting the investigation to a group of close competitors which we call a group or industry? In an empirical study, yes: we can, in this way, reduce to a manageable size the research work involved, without any serious loss of exhaustiveness. In the general statement of value theory, no." (op.cit., p.88)

So, despite his attack on Robinson's "gap", Triffin's practical advice was to use the method which she admitted to be "rough and ready," because how otherwise can one

* A modification of Triffin's cross-elasticity measure avoids some of these difficulties. This is the substitution-elasticity of demand (s) suggested by the Monopolkommission (1983): s is defined by the equation

$$\frac{q_x}{q_y} = \left(\frac{p_x}{p_y} \right)^s$$

It is discussed further in Chapters 3 and 4.

define close competitors? To measure substitutability he urged use of cross-elasticity of demand but also technological similarity - the two criteria were "appropriate and complementary for delineating practical boundaries for any given inquiry." (op.cit., p.85)

And how does one select the companies and products to be included in the group?

"Which firms shall be included in any one group will have to be decided, not on an a priori basis but after an empirical survey of market realities." (op.cit., p.90) (A comment which he did not extend - how do we choose what to survey?)

(c) Market relationships - price tests

In a perfectly competitive market prices would tend to equality. Since the neo-classical approach to market definition starts from the base of perfect competition, a number of writers have urged the study of prices to determine markets. If products are reasonably close substitutes their prices will not be widely different.

Those who favour this approach often quote Marshall's (1920, p.270) approval of Cournot's definition of a market as a place where "the prices of the same goods tend to equality quickly and easily." Marshall himself stated (ibid.):-

"The more nearly perfect a market is, the stronger is the tendency for the same price to be paid for the same thing at the same time in all parts of the market: but of course if the market is large, allowance must be made for the expense of delivering the goods to different purchasers."

When quoted at this length and more especially when put into their context, Marshall's words clearly refer to the geographical market but the principle can be extended to products. If X and Y are good substitutes, both in a technical or functional sense and in the perceptions of customers, then their prices might be expected to tend to equality.

Adelman (1951) claimed that emphasis on this simple conclusion had rescued economists from the "fatuous over-elaboration" of the market concept (Marshall's "industry"). One of those praised by Adelman for this rescue was G.J. Stigler who right from his original Theory of Price in 1946 to a very recent article on market definition (Stigler and Sherwin 1985) has held that price equality provides an objective test of market definition.

In practice, Stigler and Sherwin suggest statistical analysis not of absolute price levels but of first differences in prices. This is because it will be necessary to compare prices not at a point in time but over time. Because of common time trends, such as technological change or inflation, serial correlation may occur. Stigler and Sherwin therefore propose the hypothesis that the test for grouping either geographical areas or product ranges into the same markets should be the correlation between percentage changes in their prices (first difference of logarithms). If P_x and P_y represented the prices of X and Y the equation used by Stigler and Sherwin would be

$$\Delta \log P_x = a + b (\Delta \log P_y)$$

but the authors quote only the resulting correlation coefficients. Their test would appear to imply expected values of $a = 0$ and $b = 1$; the correlation coefficients confirm only that $b \neq 0$.

The authors assert that this approach offers more hope than attempts to measure cross-elasticity of demand to determine substitution. The following pitfalls should be noted, the first three of which were mentioned by the authors:-

- common influences (Z) on prices from costs of inputs which cannot necessarily be removed by the use of multiple regression because of collinearity between Z and $(\Delta \log P_y)$ - this problem is not insuperable;
- if both a and b are significantly different from zero, then how does one interpret the result? At what level of correlation can we segment the two markets?
- what does it mean if changes in P_x and P_y are correlated but their values are different - if Y is a premium variety of X?
- the use, in particular, of changes in prices between consecutive periods assumes no changes in price strategy by producers of X and Y. If, for example, producers of X decided not to follow an increase in the price of Y, in order to gain market share at Y's expense, then the two products might be put into separate markets. This objection is taken from de Jong (1977).
- positive correlation between changes in prices of X and Y may reflect either substitutability of complementarity; it is not always evident *a priori* which condition applies (see the case study Ice Cream in Chapter 4).

Horowitz (1981) also urged the use of price equality as the basis for market definition, pointing out the near-impossibility of direct assessment of substitutability via attempts to measure cross-elasticity.

He suggested that geographical areas could be grouped into the same market if any differences in price between the same products were tending to zero over time. If D_t represents the difference between the prices of the same product in two areas then Horowitz's basic hypothesis may be presented simply as

$$D_t = bD_{t-1} \text{ where } b \text{ lies between } 0 \text{ and } +1$$

The size of b describes the rapidity with which prices tend to equality. Given the effects of inflation and common time trends, it may be better to redefine Horowitz's hypothesis in terms of differences in logarithms (i.e. the ratio of the price of X to that of Y).

$$(\text{Log } P_x - \text{Log } P_y)_t = a + b(\text{Log } P_x - \text{Log } P_y)_{t-1} + W_t$$

Estimation of this equation by regression analysis should produce $a = 0$ (with random variation W_t) if X and Y are in the same market. If, in addition, b lies between 0 and 1 then this implies a delay in substitution.

The approach set out by Horowitz is subject to the same pitfalls as that of Stigler and Sherwin, to which it is related. It is obvious that some *a priori* knowledge of possible substitutes is necessary before either of the tests can be applied. The study of previous price relationships to identify substitutability is supported (among others) by the Monopolkommission (1983) and the US Department of Justice (1984). It merits further research.

Market relationships, as described philosophically by Von Stackelberg (see Schmidt, 1981, p.28), are not confined to price. If two products are close substitutes then any improvement in quality or marketing of one may be expected to lead to a corresponding change in the other. Economists tend to emphasise only prices: it would be quite possible to modify the Stigler and Sherwin and Horowitz approaches to include other variables, such as advertising expenditure or product quality. The assessment may be less quantitative (econometric) but the basic notion would be the same.

(d) The Basic Need Concept

The German term "Bedarfsmarkt" does not appear to have any English language equivalent in common use but is based on the work of a US author, Lawrence Abbot. It groups together products which serve the same basic needs (Grundbedürfnisse):-

"Eine Gruppe heterogener Güter kann als eine Garnitur variabler Mittel zur Befriedung einer Reihe von Bedürfnissen angesehen werden, die in bestimmten Konstellation von Grundbedürfnissen miteinander verbunden sind" (Schmidt, 1981, p.28).

A similar notion is implied in the Commission of the European Communities' Regulation 1983/83 regarding certain block exemptions under Article 85 (3(b)). This effectively defined a product market as consisting of

"goods which are considered by users as equivalent in view of their characteristics, prices and intended use" (Reg. 1983/83, Article 3).

The "Bedarfsmarkt" concept seems to have become enshrined in German anti-trust policy along with the concept of the "rational consumer" (verständiger Verbraucher). In practice, as the Monopolkommission admits (op.cit., para.619) the use of these concepts has been based on experiences and rules of thumb (Erfahrungssätze und Faustregeln). Are the concepts themselves of any value?

Waelbroeck (1977, p.128) pointed out that, rather than ask what the rational consumer would do, it is better to estimate how many consumers would regard products as substitutes. Focsaneanu (1975) criticised the "Bedarfsmarkt" concept (as postulated in Regulation 1967/67, an earlier version of 1983/83):-

"Une telle conception, correcte en théorie, paraît pratiquement inutilisable. En effet, comment connaître l'appréciation des utilisateurs, sinon par un sondage d'opinion, difficile à réaliser dans chaque cas d'espèce." (Focsaneanu 1975, p.585)

The "Bedarfsmarkt" concept seems to have more significance in a negative sense. It has prevented German authorities from accepting as within the same market products which are not interchangeable in end-use but between which producers might easily switch (e.g. men's and boys' shoes). This is discussed further in sub-section 3 below, which deals with substitution on the supply-side.

This concept seems to impose unnecessary formality on commonsense and to be of little aid in the practical definition of the relevant market.

(e) The Wirtschaftspläne concept

Whereas the "Bedarfsmarkt" concept groups substitutes according to the consumers' perceptions (though these usually have to be presumed), the "Wirtschaftspläne" notion starts from the position of the enterprise. The English language equivalent, literally "economic plains" (of battle), is usually "economic arenas", also conveying the idea of contest.

Schneider's (1972) concept draws mainly on German economists and finds little parallel in the English or French language literature. It is based on the principle that a decision maker in one firm either "reckons or knows" which other firms are competing for the same part of the consumers' expenditure. This implies that the best definition of substitutes for X comes from suppliers of X.

Schmidt (1981) puts this "economic arena" concept as a sub-heading of substitutability. However, the concept goes beyond this one element - the producer of X will have some knowledge about how easily other companies could enter his market and about the relative financial power of these companies. He will group potential competitors in the "economic arena", which seems to correspond to the "industry".

Secondly, it is known that companies attempt themselves to assess substitutability, to improve on their intuitive "Rechnung", by using some of the (imperfect) quantitative tests examined earlier, e.g. cross-elasticities and pricing patterns.

Thirdly, competition authorities cannot depend for their definition of the relevant market upon those accused of market dominance!

This last objection leads to a more constructive view. Those eager to prove that they are not dominant may be expected to offer the widest possible definition of the relevant market, using their knowledge of competition but also needing to maintain credibility. This does provide a range of products and width of geographical area to which the quantitative tests outlined in previous sections may tentatively be applied.

(f) Conclusions on Substitutability in Demand

As was indicated in the quotation from Schmidt at the beginning of this section, the various approaches to identification of substitutes are all based on the same roots. The US Department of Justice Merger Guidelines (1984) recommend the use of all these methods: evidence of demand switching (cross-elasticity), similarity in price changes, consideration of end usage and physical characteristics (Bedarfsmarkt) and the views of sellers. Despite the claims of some individual authors, there is no one method which should be used to the exclusion of the others.

3. Combination of Demand-substitution and Supply-elasticity

We have considered the advice of several authors on measurement of demand substitutability for the purpose of market definition. All of these authors have emphasised that the elasticity of supply of existing and potential competitors will also influence the power over the market. This power cannot be determined solely by the share of current sales of the relevant product obtained by the enterprise in question, or by the share obtained in the geographical market.

This is obvious mathematically from the Landes and Posner development of the Lerner formula on p.18 above, which showed that elasticity of supply of competitors influenced the price-elasticity of demand faced by the individual firm. It is also clear from consideration of two extreme cases. Firm A may have 70% of a national market but may be forced to sell at moderate price because competitors have excess capacity and because there is little barrier to the expansion of imports (UK producers of man-made fibres now face this kind of situation). If A put prices up, it might encounter very high price elasticity. Conversely Firm B may have 30% of a different national market, but because competitors were operating at capacity (perhaps because of some artificial constraint) and imports were restricted, B could raise prices above the competitive level without much loss of sales. Firm B might be in a more dominant position than A.

In most countries potential competition is treated separately from definition of the relevant market. This approach is taken by the Bundeskartellamt in Germany and the French Commission de la Concurrence. The German Monopolkommission (1983) concluded that it was correct procedure to define the relevant market (in the narrower sense - "in engeren Sinn") as the current sales of those products which consumers will regard as short-term substitutes. It does not favour the inclusion in the relevant market of capacity currently used for other products, except under exceptional circumstances

because this would mean a breach of the "Bedarfsmarkt" concept and would be difficult to interpret. It does not believe that excess capacity of current producers should be included, because there are likely to be costs and delays in its application to production. Instead of widening the relevant market to include these elements, it recommends that **after** consideration of the relevant market, anti-trust authorities should consider the "Marktnähebereich" (the area adjacent to the market) in which would be included:-

- internal consumption volume of the relevant product of vertically integrated competitors;
- excess capacity of competitors;
- capacity of other producers now used for other products which could easily be transferred to the relevant product;
- sales of products which the consumer might substitute in the longer term;
- sales of products which it is advantageous to supply jointly with the relevant product.

Support for the Monopolkommission view came two years earlier from Schmidt (1981), who urged that entry criteria be assessed **after** market definition and before conclusions about dominance. George (1985) urged that guidelines on mergers for the UK Monopolies and Mergers Commission should be based on concentration of current UK sales of the relevant product (including imports), **supplemented** by consideration of "key factors which affect the significance of the concentration data."

The opposite view - that "market shares" should reflect potential competition arose from the writings of such well-known American specialists in this field as Areeda, Turner, Landes and Posner. D F. Turner has long advocated that supply substitution should be integrated into market definition:-

"Competition is defined to include both competition among different products and among alternative actual or potential sources of supply. The market is then defined in terms of the buyers' substitution of one product for another and in terms of producers' substitution of one product for another. In order to define a market we attempt to obtain information on cross-elasticities of both demand and supply." (Kaysen and Turner, 1959, p.295)

The main argument in favour of this approach is that otherwise supply substitution may be overlooked. Shares of current sales are much easier to understand than the complex list of elements in the Monopolkommission's "Marktnähebereich". Summaries of decisions in both the USA and Europe (e.g. Holley, Waelbroeck and Markert at the Bruges Seminar in 1977) have reported that, despite lip-service to potential competition, shares of current sales have been generally decisive. Sometimes the effects of exclusion of supply substitution have been evident - as in the separation of men's and boys' shoes in the Brown Shoe case in the USA.

The complete integration of demand- and supply-substitution into the relevant market concept is found in the US Department of Justice's Merger Guidelines in the 1982 and 1984 revisions:-

"Formally, a market is defined as a product or group of products and a geographic area in which it is sold such that a hypothetical, profit-maximizing firm.... that was the only present and future seller of those products would impose a small but significant and non-transitory increase in price" (defined in the 1982 version as 5% for one year) "above prevailing or likely future levels." (1984 Merger Guidelines)

In simple English, a relevant market is the smallest combination of product range and geographical area in which a monopolist would raise prices. This concept avoids the need for a Robinson-style gap or its supply-side equivalent. The Department suggests that for both product and geographical market definition one should start with the narrowest possible definition and gradually widen it until a monopolist controlling the market would profitably raise prices by (typically) 5 per cent for at least a year.

Theoretically indisputable and a nice précis of the complete concept of the relevant market. But is this approach practical and how can the results be interpreted?

"The global issue raised by these efforts to accommodate considerations of entry, while simultaneously retaining the overall numerically-orientated structure of the Guidelines, is whether the end result of the process is to introduce so much flexibility and unpredictability that the fundamental purpose of numerical guidelines has been fatally compromised". (Hay, 1985, p.70)

The problems are most obvious when it comes to foreign imports. Consistent with the recommendations of Landes and Posner (1981), the 1984 version of the Merger Guidelines specifies that if a foreign company has significant exports to the USA then its total world sales (or even capacity) together with the total output (or capacity) of US companies should be included in the relevant market. The justification for this is that

the existence of exports to the USA proves that even at current prices, supply is economic - if prices rose then elasticity of supply would be high.

Hay (1985) went on to argue that the USA should

"either revert to an approach based on historic market shares (largely ignoring entry considerations except in polar cases of very easy entry) or abandon the pretence of numerical guidelines and move to an ad hoc approach...." (ibid)

D. SPECIAL PROBLEMS IN GEOGRAPHICAL MARKET DEFINITION (*)

1. Introduction

The mainly theoretical discussion in Section C applied in principle both to product range and geographical area. The market power within a geographical area of a producer or groups of producers depends upon (a) the customers' ability and willingness to substitute other products available within the area and (b) ability and willingness of other suppliers to expand the supply of these substitutable products. In this case (b), supply-side substitution, may be of greater significance in the assessment of dominance.

2. Shipments data and elasticity of supply

One of the simplest criteria for geographical market delineation is the degree of trade with other areas. Elzinga and Hogarty (1973 and 1978) have proposed a test based on "Little Inside from Outside" (LIFO) and "Little Outside from Inside" (LOFI).

If a geographical area supplied all but 10% of its own consumption (LIFO) and consumed all but 10% of its output (LOFI) then it would constitute a market for anti-trust purposes.

This principle has been criticised widely. Werden (1981) put forward the two main criticisms:-

(a) If a product is fairly homogeneous and accepted as such by consumers and transport costs are small but not negligible, then prices may be held down by the threat

* The discussion of the element of Schmidt's diagram not yet explained appears in Section E, since this topic is less closely related to Section C

of imports into the area. Since this threat affects the price of the domestic product, then the sales (or capacity) of producers in the potential source of imports should be included in the relevant geographical market. The absence of shipments does not mean isolation.

(b) The existence of shipments does not mean that a distinct geographical market does not exist. Price discrimination between different geographical areas implies that there are distinct markets but also that shipments may be substantial ("dumping" in certain areas).

Landes and Posner (1981) suggested that the total worldwide capacity of foreign producers of the relevant product should be included in the US market, provided that their products were substitutable by consumers and that they had "non-negligible" sales in the USA for several years. Even this approach, the authors claim, would understate the influence of potential imports, for the reason given by Werden under (a) above.

These arguments assume no legal or quasi-legal barriers to trade. When one is considering international competition (even within the European Common Market) transport costs may be less important than national non-tariff trade barriers.

If the goods were perfect substitutes, with no differentiation, then little international trade would take place unless transport and transactions costs associated with such trade were zero (not possible). This leads to the (rather anomalous) conclusion that if international trade is high between (say) Britain and France in a product such as alcoholic drinks, then the product has been too broadly defined.

3. Prices evidence

From the original definitions of geographical markets by Cournot and Marshall, several authors have argued that price equality may be taken as evidence of geographical market entity. Section C examined the work of Stigler and Sherwin (1983) and Horowitz (1981).

For the reasons given by Werden, prices in different geographical areas may provide better guidance on whether these form parts of the same market than data on shipments between them. However, in practical application of price tests to different EEC countries, complications occur because of lagged responses to changes in exchange rates and also differences in rates of value added or other taxes levied on sales.

4. The effects of national differences

The complication of price tests by different VAT rates is only one example of the problems encountered in applying methods based on US evidence to the situation of the Economic Community. Although the USA is much larger spatially than the EEC it is more homogeneous in terms of culture. The universal use of the English language in the USA, together with national identity, makes communication much easier. In the Community there are elements of product differentiation not present in the USA - marketing methods vary between EEC countries; products are sometimes tailored to meet national demands; there are inconveniences in dealing in different currencies, in communicating in foreign languages. These factors are likely to reduce the cross-elasticities of demand and supply between products from different EEC countries, or perhaps extend the time taken for these substitutions to take effect.

Because the Community is in the process of integration, geographical market definition is going to create problems. To take a simple example - motor cars. From a production point of view, major companies such as Ford, General Motors, Peugeot-Talbot-Citroen and even combinations of independent companies such as Volkswagen-BL have integrated European activities. One may talk of European motor industry. However, price differences between countries suggest separate markets.

E. CONGLOMERATE ACTIVITIES

The theoretical discussion in Section C (and to some extent the comments on the geographical market in Section D) was based on neo-classical economics, on attempts to apply concepts derived from perfect competition. Economic power is derived not only from dominance of one particular market but also from absolute size and, under certain conditions, from diversity of economic activities - the conglomerate advantages.

"L'indépendance de comportement dont sont dotées de nos jours, certaines 'entreprises' tient moins à une implantation solide sur un marché donné qu'à une extension verticale et horizontale leur permettant de contrôler une filière de production et d'amortir certaines fluctuations de l'activité économique. En augmentant leur puissance économique et financière, elles tissent également, avec d'autres firmes, tout un réseau d'affiliation et de coopération qui ne peut échapper à l'attention de ceux dont la mission consiste à mettre en lumière l'existence de positions dominantes." (Glais and Laurent, 1983, p.333)

This is an excellent summary of the case for considering conglomerate companies in competition policy. Glais and Laurent go on to analyse why companies integrate vertically and diversify horizontally, perhaps with possible loss of economies of scale and with extra costs of coordination. These reasons are reduced variation in profitability (horizontal diversification) and savings in transactions costs plus greater independence and control (vertical integration).

This analysis is not new. Adelman (1961) discussed the same issues, though with different conclusions. The anonymous author of the Columbia Law Review Notes (1954) stated that "the aggregate of power resulting from substantial participation in many markets, without a showing of monopoly may be enough to give the possessor of that power undue control over competition." This author went on to state that such conglomerate power "may be unlawful" - this was before the general move towards structuralism in the USA.

Glais and Laurent (1983, p.287) suggested that in certain cases the definition of the relevant market in Community law obviously reflected clear reservations about large enterprises - that the institutions of the Community tended to stand up for the little firm against the big. The need to define the relevant market was thus an unnecessary impediment to a correct policy.

For a similar view see Fishwick (1979, p.22):-

"Without evaluation of aggregate concentration, the Commission can obtain neither a complete understanding of competitive strengths in individual industries nor a comprehensive picture of the economic power of major international groups within the Community." (original emphasis)

It should be noted that, at least in the UK, for which data are available, aggregate concentration has declined since the early 1960's. With disinvestment by US multinationals in particular, aggregate concentration in the Community as a whole may also have decreased.

Putting this last comment aside, one may ask if and how conglomerate power could be built into the relevant market concept. Glais and Laurent do not think that it can: that is why they criticise the relevant market notion. The US Department of Justice (Merger Guidelines 1984) regards "non-horizontal" (vertical or conglomerate) mergers as significant only when they affect the relevant market. (This was also the view of Adelman in 1961).

Schmidt (1981) discussed under the heading "Supply-Space Concept" attempts by a number of authors (among them Narver and Penrose) to reconcile conglomerate power with the division of economic activity into sectors. Each company's pool of productive resources can be used for the production of a range of very different goods which defines its supply space. One is discouraged from reading this material by Schmidt's rather dismissive comment that the search for a concept based on resource application which would be useful for competition policy has so far been unsuccessful.

It seems unlikely that a method based on the resources of individual firms could overcome the problem of overlaps, making grouping difficult. This amounts to a need for gaps in supply-side substitution equivalent to those deemed necessary on the demand side by Mrs Robinson as long ago as 1933!

F. CONCLUSIONS OF LITERATURE SURVEY

This survey of theoretical discussion on definition of the relevant market demonstrates that the concept remains nebulous and that four major issues remain unresolved:-

- (1) definition of product markets on the basis of demand-substitution when there is no obvious discontinuity ("gap") in substitutability;
- (2) whether or not potential competition (supply-substitution) should be included within the definition of the relevant market in both its product-range and geographical dimensions;
- (3) whether vertical or other interdependence between products should be explicitly taken into account, making it inappropriate to define a "market" at any one horizontal stage;
- (4) how to deal with the effects of the presence within individual sectors of conglomerate companies which derive power from the diversity of their operations.

Although the European Court of Justice has described definition of the relevant market as the "indispensable first stage" in assessment of a dominant position (Continental Can case) and the anti-trust authorities of France and Germany have pronounced similarly, the concept is not explicitly required in UK competition policy. In the USA the incorporation of supply-side substitution has, in the view of some analysts, made quantification very difficult and has led effectively to reliance on 'economic intuition'. In the light of the four problems listed above, should the definition of the relevant

market be omitted from the general analysis of dominance or of the anti-competitive effects of restrictive agreements or state aids?

The Commission of the European Communities (1965 and 1973, quoted on pp. 14 and 15 above) has explicitly recognised that positions of dominance and the power to hinder competition cannot be defined exclusively by market shares. Its views expressed in the 1965 Memorandum and the 1973 Draft Regulation on Mergers are consistent with those of Glais and Laurent (1983), that market power is demonstrated by *comportements indépendants* (conduct unrestrained by competition) and occurs when companies are in a position of *partenaire obligatoire* (obligatory trading-partners of customers or suppliers). Large enterprises or groups whose activities are diversified either in product range or geographically are able to maintain their position of *partenaire obligatoire* by restricting actual and/or potential competition.

Glais (1983 and 1985) has gone on to argue that in cases where economic power is derived from dependent relationships (*partenaire obligatoire*) and is manifested in unrestrained conduct, the relevant market is an "artificial construct" which may hinder rather than assist the analysis. On the other hand, recent comment on competition policy in the United Kingdom, eg by Sharpe (1985) and Merkin and Williams (1984) has called for the introduction of guidelines based on shares of the relevant market. Hay (1985) has urged a return to a simpler definition of the relevant market in US jurisprudence, to be based on demand-side substitution. The view of these authors is that the relevant market concept, while imperfect, is more objective and consistent than evaluation of dominance in each individual case.

There is nothing in the literature to suggest contradiction between assessments of dominance based on unrestrained conduct and dependent relationships and those based on the relevant market, provided that the latter take full account of potential competition and product interdependence. In some cases, it may not be possible to determine whether an enterprise holds a position of *partenaire obligatoire* without defining a relevant market and examining potential competition and (if appropriate) vertical interdependence.

In the remaining chapters of this report, analytical frameworks are developed and tested for application to cases involving abuse of dominance (Article 86), restrictive agreements (Article 85) and state aids (Article 92). These draw on the different theoretical contributions to the relevant market concept which have been summarised in this chapter. In certain exceptional cases, use of the framework appears to impose

unnecessary complexity whereas dependent relationships are obvious; in others, adherence to the framework reveals aspects which the more direct approach suggested by Glais might have overlooked.

In design of an analytical framework based on the concept of the relevant market the key objective is consistency. It is ironic that Alfred Marshall, whose writings are regarded as scriptural by many of the staunchest advocates of a relevant market concept based on neo-classical principles, should himself have stated:

"The question where the lines of division between different commodities should be drawn must be settled by the convenience of the particular discussion"
(Marshall, 1920, p.85 footnote)

To accept this conclusion would be defeatist!

CHAPTER 3

ANALYTICAL FRAMEWORK FOR DEFINITION OF THE MARKET RELEVANT TO DOMINANT POSITIONS

INTRODUCTION

A dominant position may be easier to recognise than to define. As stated on page 15 above, the features of a dominant position include (i) freedom of conduct, unrestrained by competition; (ii) dependence of customers or of other companies on the dominant enterprise and (iii) economic and financial power derived from other advantages, such as diversity of product range or geographical location of activities.

Although some of the authors cited in Chapter 1 claimed that unrestrained conduct (abuse) might be sufficient evidence of a dominant position, analysis of dominance requires that the source of power be identified. In addition, anti-trust policy based entirely on observed conduct could not deal with the control of mergers, the aim of which is to prevent concentration of economic power. Although in some cases the concept of dependent relationships (the *partenaire obligatoire*, emphasised by Glais) may be more convenient than consideration of the relevant market, in others the market must be considered before such relationships can be identified.

If dominance is to be measured in the context of a relevant market, it is necessary to define that market in terms of substitutes available and acceptable to customers and to take into account potential competition ("supply-side substitution") and the influence of product interdependence, which may reduce or increase power derived from horizontal dominance. The literature survey in Chapter 2 showed that there are significant differences of opinion about whether supply-side substitution and vertical or other interdependence should be included in the definition of the relevant market or whether they should be considered separately.

Section C.3 of Chapter 2 described the arguments for and against the inclusion of supply-side substitution in the statistical definition of the relevant market. It contrasted the recommendations of most US authors and the Department of Justice on the one hand with those of European authors and national competition policies of France, Germany and the United Kingdom on the other. In particular, the US Department of Justice and the German Monopolkommission have examined and presented almost identical analysis and have reached opposite conclusions.

Product interdependence was first discussed in Section C.2 of Chapter 1 and again in Chapter 2, Section C.1. Both at Community and national levels, bodies responsible for competition policies in Europe have tended to define markets at horizontal stages of vertical chains of production and distribution and have been criticised by some US observers. The latter have argued that dominance of supply of a component of a wider product cannot be abused to the detriment of the consumer if there exists substitutes for the final product which do not include that component.

Failure to resolve these issues may partly result from ambiguous use of the word "relevant". If the word is used simply to refer to the market relevant to the calculation of concentration ratios then, as the Monopolkommission concluded, it is very difficult conceptually to include supply-side substitution. If there were no significant barriers to entry to a market one could argue that potential competition would be virtually infinite and market shares of existing companies would be zero. Hay (1985) has pointed out that a conclusion approaching this theoretical limit may result in some cases from the US Department of Justice's 1984 recommendation that US relevant market sales should include world-wide capacity of any company with "non-negligible" sales in the country.

The word "relevant" is also used in the wider sense of relevance to competition policy, and in particular to abuse of a dominant position. An enterprise, or group of enterprises, may currently hold a dominant share of a market defined in terms of demand substitution but that position may not confer any appreciable power, because of potential competition from additional supply. This potential competition may result from transfer or creation of production capacity and/or from geographical transfer. Product interdependence may either weaken or strengthen the power derived from dominance of a narrowly defined product market.

The US Department of Justice (1982 and 1984) in defining a "relevant" market used the word in this second, wider sense, as a group of products for which a monopoly supplier would find it possible and profitable to impose a "small but significant and non-transitory price increase". This defined a market as an area (in terms both of product range and geographical space) in which a dominant position would confer the power to abuse.

This approach is complex and tortuous.* Any indications of concentration in a market so defined would be very difficult to interpret. The framework set out in this chapter is intended to provide guidance on two questions:

- (i) What is the market relevant to the calculation of market shares?
- (ii) Does dominance (actual or potential) over the market so defined confer power which may be abused? This second question is equivalent to asking whether the market relevant to the calculation of market shares is also relevant to the concept of monopoly power.

The framework for analysis of dominant selling power comprises five sections:-

- (A) definition of the relevant product, based on demand substitution, at the specific horizontal stage;
- (B) definition of the relevant geographical market, based on whether suppliers are able to discriminate in pricing or other conditions of sale;
- (C) actual measurement of sales or other variable for use in calculation of market shares (a short section);
- (D) potential competition, covering potential elasticity of supply to the relevant market defined in (1) and (2);
- (E) product interdependence.

The sixth section of the chapter (Section F) is a framework for assessment of the market relevant to buyer dominance. In principle, this is the obverse (mirror-image) of the methodology set out for analysis of seller power in Sections A to E.

A final section (Section G) considers the use of the concept of trading dependency (*partenaire obligatoire*) as a method of identifying dominance, either alternative or complementary to a framework based on definition of the relevant market.

*Stigler and Sherwin (1975) pointed out that in merger cases it would be easier to go straight to the question - would the merger lead to significant price increases?

A. DEFINITION OF THE RELEVANT PRODUCT

1. Starting-point

The procedure should start with the **most narrow** definition of the product (x) which is alleged to be dominated. In some cases this may even be an individual brand. Any vertical interdependence may be ignored at this stage - intermediate and final products may be analysed similarly, since interdependence is covered in Section E.

The initial narrow definition of x will normally encompass products which are perfectly substitutable but in some cases it will be reasonable to combine (treat as one product) groups of items supplied with a variety of specifications but with very similar demand and supply conditions. For example, men's shoes might be regarded as a single product even though shoes of different sizes are not substitutes. The UK Monopolies and Mergers Commission defined replacement body panels for Ford cars as a product, even though there are 4,000 individual and non-substitutable panels within this group; the Commission of the European Communities similarly defined a market in spare parts for Hugin cash registers. The criterion for such "commonsense" grouping must be similarity in price-elasticity of demand and supply - if, for example, there were one sub-group in which price-elasticity of demand might be significantly different then this would constitute a separate product.

2. Choice of products for consideration as substitutes

The companies against whom a charge of abuse of dominance is made will generally be eager to emphasise any competition which they may face: this means that they will tend to suggest a broad range of substitute products.

Surveys of customers may also be possible and desirable, especially when an individual case originates from a customer complaint.

3. Criteria of substitutability

As a general principle, subject to modification in the individual case if it is inappropriate, it is recommended that use be made of the basic criterion of demand substitutability proposed by the US Department of Justice and approved by the German Monopolkommission. This states that y is a substitute for x if its existence would prevent a 5% rise in the relative price of x, because within one year of such a price rise

a substantial proportion of demand would transfer from x to y . This criterion is hypothetical but conceptually necessary - substitutability is a matter of degree.

The following factual criteria should be applied to each possible substitute (y) for the narrowly defined product (x)

- (a) **Functional interchangeability:** does y have physical or technical properties enabling it to fulfil the same function(s) as x ? If NOT then y cannot be a substitute - if it can serve some of the functions of x but not others, then this should be noted - sub-markets for x based on different functions may be necessary.
- (b) **Reactive interchangeability:** if the answer to (a) is positive, do consumers/users recognise the functional interchangeability, so that they would react to modest changes in relative prices? If y is not perceived as a substitute for x , it should not be included in the relevant market. (Customer perceptions may also vary between market segments, leading to sub-markets).
- (c) **Barriers to substitution** (assuming "yes" to (a) and (b))
 - (i) does x have better distribution than y , so that transfer to y would be impeded?
 - (ii) is either x or y generally sold with complementary products so that any switch would involve extra transaction costs for customers?
 - (iii) do x and y require investment in different, specific "systems" (eg fuel for heating)?

Not all customers may be equally affected by such barriers and their significance may decline with time. This again may lead to definition of sub-markets.

4. Direct tests of substitutability

Functional interchangeability can be assessed only by consideration of the physical and technical characteristics of x and y . Reactive interchangeability may be assessed through discussions with consumers of the two products. Barriers to substitution may be identified by the same means. Such direct measurement may be expensive, especially in the case of mass-market products, but in such cases associations of trade purchasers or consumers may be able to contribute. Two direct statistical measures of substitution may

be applied in those cases where appropriate data are available. (The research for this project suggests that such cases are rare). These are

- (a) **Cross-price-elasticity**, which is very difficult to derive from time-series because of the need to hold other variables constant. Multiple regression will normally be necessary, with transformation to first-differences of logarithms. The mathematics are set out in Appendix 1.
- (b) **Substitution-elasticity**, which is based on comparison of the relative volumes sold of x and y with their relative prices. This has also proved of limited practical value, though it is much less complex statistically than cross-elasticity; the mathematics are again presented in Appendix 1.

5. Indirect tests of substitutability

Chapter 2 included two other tests based on price comparisons and specifically on the principle that if two products are close substitutes their prices should be equal. These were the Horowitz and Stigler-Sherwin tests. The first examines whether price differences between products tend to zero over time, the second whether there is coincidence between price changes.

Either of these tests may produce misleading results unless modified to deal with inflation; Appendix 1 shows the modifications necessary and provides guidance on the interpretation of the results. In only two of 20 cases (EEC or national) examined would use of these price tests have been possible. In some cases the tests are inappropriate (eg because there were no quoted prices applicable to all customers), in others data were not available or were complicated by product changes.

Although the mathematical formulae involved in the tests described in Appendix 1 may be only rarely applicable, the underlying logic is useful in assessment and discussion of substitutability. If price changes do tend to coincide then this is a positive indication that x and y may be substitutes.

Similarity in elements of marketing other than price should also be considered. The emphasis placed on price by many economists is derived from perfect competition with its assumptions of perfect consumer knowledge, product homogeneity and a large number of firms. Oligopolistic interdependence relates not only to pricing policies but also to a wide range of other elements in the "marketing mix". In determining whether

another product (y) is a substitute for x, the following questions should also be considered:-

- is the advertising of x and y aimed at similar groups?
- do changes in the scale or form of advertising of x and y coincide or follow each other within short time-periods?
- is there similarity in product modification to meet particular market segments?
- do modifications in product specifications coincide or follow each other within short time-periods?

Other, less general, factors may be considered, such as distribution channels, distributors' margins and warranties offered to consumers. In each case, one should consider as evidence of substitutability similarity between x and y and, more particularly, coincidence (or close relationship) between changes in arrangements applicable to x and y.

6. Discontinuities in substitution (substitution "gap")

Substitutability is a matter of degree and this is not always time-related, so that the use of a "cut-off" of one year (for example) does not avoid the problem. A satisfactory definition of the relevant product requires a discrete gap in the range of substitutes. In many cases this gap may be obvious, in some it may be a matter of judgement.

Where a gap is defined, it is important that the criteria for this definition should be specified. Where no discontinuity can be found, definition of the relevant market should not revert to the narrowest group (x), which appears to have occurred in some of the cases described in Chapter 4.*

B. GEOGRAPHICAL MARKET DEFINITION

1. General Principles

It was pointed out in Chapter 2 that little has been written in terms of general principles about definition of geographical markets, except with specific regard to the United States of America. The US analysis provides only limited guidance for definition in Europe, because geographical subdivision of the US market is based much more on physical distances and associated transport costs. Within the European Economic

*eg Continental Can (EEC) and Roadside Advertising (UK)

Community, a much smaller physical area, demand is much less homogeneous than in the USA, because of cultural and institutional diversity. Supply is impeded much less by physical distances but much more by legal, institutional and cultural barriers.

Because the literature search has revealed no previous relevant theoretical framework for analysis of European geographical markets, it is necessary to start from first principles. Two places A and B may be defined as within the same geographical market if suppliers cannot discriminate between them, which means that prices of the same product will be equal. That requires at least one of the following conditions to be fulfilled.

- (a) There are no barriers to (or costs involved in) transfer of demand between A and B, so that for any one product the cross-price-elasticity of demand between them would be infinite.
- (b) Each of a large number of suppliers (perfect competition) has equal access to both A and B, with no cost differences. Thus if the price in A exceeds that in B, the supply to A will rise relatively to the supply to B, causing price equality.
- (c) On the assumption of product differentiation, so that each seller has some choice over the prices which he charges in A and B, the two areas would be in the same market only if the price-elasticity of demand at any single price were the same in each.

For the United States, economists such as Horowitz and Stigler and Sherwin have argued that it is superfluous to attempt to evaluate (a), (b) and (c): relevant geographical markets may be identified by equality of prices or (Stigler and Sherwin) correspondence of price changes. The presumption in the analytical framework proposed here is that in most cases where A and B are in separate countries, none of conditions (a), (b) or (c) will be met sufficiently to produce price equality. The Stigler-Sherwin test, based on positive correlation between price changes in different areas, could be misleading. In international comparisons, such correlation may reflect changes in world prices of component materials rather than interaction between demand and/or supply in the two countries.

As in the case of relevant product definition, it is proposed that potential competition from supply diverted to a geographical market in the event of any attempted abuse of monopoly power be considered separately from definition of the market. Definition is therefore based on current deliveries to the market.

2. Broad factual evidence

(1) As the first stage in determining whether two geographical areas may be regarded as within the same geographical market, one may look at market shares. If integration into a single market were complete, the shares of leading companies should be similar. If the two areas are different countries, then differences in the shares of national producers suggest distinct markets (unless products are completely homogeneous). A useful starting point for the analysis of geographical markets is consideration of the reasons for any differences in shares, of major companies and, perhaps more generally, of producers located in different countries.

(ii) A second factual element to be considered is price differences. There are some practical problems in applying to the EEC some of the more precise statistical tests advocated in the USA, eg by Horowitz or Stigler and Sherwin. One problem is instability of exchange rates, which affects both the prices paid by consumers and those received by suppliers. Time-lags in adjustment of prices to exchange rate changes make short-term comparisons very difficult. However, if there is a significant difference, over a period of at least two years, between the prices of the same product in countries A and B (corrected by the average exchange rate over the period) then A and B cannot be regarded as being within the same geographical market. Reasons for the price differences may then be considered.

(iii) The Stigler-Sherwin test (correlation of proportionate changes in corresponding time-periods in different areas) may be applied if data are available. However, when the areas are different countries with variable exchange rates, great care is required in interpretation: time-lags in responses either by purchasers or suppliers may reduce correlation and obscure interdependence in the market. Conversely, simultaneous changes in the prices of a common input (perhaps denominated in a third currency, such as the US dollar) may produce spuriously high correlation.

For any product, similarity of market shares and of the long-term average prices in two countries provides strong initial evidence that these countries are within the same geographical market. In this case, the following sub-section should be used to confirm this *prima facie* conclusion - so that the reasons why there is a single market are understood. If the conclusion is confirmed, the tests for similarity can be applied to other countries iteratively until differences are found.

3. Further examination of the specific conditions

The reasons why different areas (including countries) form separate markets may be found by reference to the three conditions for integration into a single market, presented in Section 1:-

- (a) transferability of demand between areas
- (b) transferability of supply combined with perfect competition in supply
- (c) transferability of supply combined with identical demand-price relationships in each area.

Any one of these conditions is sufficient to integrate two areas into a single market. If analysis demonstrates that all three conditions are substantially contravened, then one may conclude that the two areas form separate markets. If one or more are partly valid, the drawing of geographical market boundaries may require a degree of judgement.

(a) Transferability of demand

Even if demand characteristics differ between countries and the pattern of supply is also different, prices will be identical if there are no barriers to transfer by final customers. Such barriers might include the following:

- (i) costs of physical transportation (including travel for purchase) - their importance will diminish with the ratio of value to weight (or bulk);
 - (ii) lack of knowledge about availability or prices of the relevant product in the other area;
 - (iii) brand loyalties, goodwill or any long-term contracts, fidelity rebates, etc.
- and when A and B are in different countries
- (iv) any nationalist sentiment, linguistic or cultural obstacles;
 - (v) transactions costs/risks associated with use of foreign exchange or possible trade barriers;
 - (vi) legal or institutional barriers, including tariffs or non-tariff barriers to trade and the administrative procedures necessary to overcome them.

Barriers to demand transfer are least significant in the case of large undertakings purchasing unbranded intermediate products, such as basic materials. These undertakings may purchase in sufficient quantities to outweigh incremental transactions costs, they can afford to employ multilingual staff and are familiar with international

transactions. Many larger companies hold accounts in different currencies (including the ecu to an increasing extent) and are therefore less deterred by foreign exchange processes and risks. The capability to transfer purchases between countries is likely to be greatest in the case of multinational companies.

Where large companies are wholly or partly in public ownership or where they are under any political pressure, they may feel obliged to submit to nationalist sentiment, for example in the purchase of large items of plant and machinery. For example, both UK and French "giants" may at times have been under pressure to buy their computing equipment from domestic sources. The effects of nationalist preferences may not be confined to consumer markets.

(b) Transferability of supply

Although within the EEC final customers may be unable or unwilling to transfer their purchases between countries, producers may have access to different national markets quite openly. Importing wholesalers facilitate this process. However, conventional theory shows that unless demand conditions are the same - ie the same aggregate price-elasticity at any single price, there will be a tendency towards differentiation in prices. In the absence of transferability of demand, transferability of supply is a necessary but not a sufficient condition for price equalisation, one element of market integration.

If actual and potential suppliers were very numerous and unable individually to influence market prices, then in the absence of supply barriers - transport costs, tariffs and non-tariff barriers, nationalistic and other established brand preferences etc - prices would tend to be the same in all countries. The international market price (in a common market free from all such barriers) would approximate to aggregate marginal cost.

The assumption of ubiquitous perfect competition is obviously extreme. It is useful as a starting point. The restraining influence of competition on a local "monopolist" depends not only on the ease with which outside producers can supply the market concerned but also on their willingness to supply. If they are not willing to supply on the same conditions as in their own local markets (here we abandon the assumption of perfect competition) then prices may remain different and the markets separate.

The European motor industry demonstrates these principles very clearly. In the organisation of its production the industry is highly integrated - one car may include output from several EEC countries. However, demand conditions vary - the United Kingdom in particular because of right-hand driving is also separated by non-

transferability of demand. The oligopolistic nature of the industry appears to permit discriminatory pricing of passenger cars, a response to differing demand conditions.

Since oligopoly is fairly general and since transferability of demand by final customers is likely to be exceptional, attention must focus on differences in demand - elasticities between countries. In some cases, it may be possible to establish such differences by econometric analysis but more generally it will be a matter of structured qualitative assessment.

Some guidelines may assist:-

(i) For price-elasticity to be similar, in two countries there must be corresponding similarity not only in the "demand function" in each country but also in the current values of the variables other than price. In particular, variations in income levels and in the availability/prices of substitutes and complementary goods may affect the elasticity of demand for the relevant product with respect to its own price.

(ii) If expenditure or value-added taxes differ between countries, this will generally mean that any company which is able to pursue an independent pricing policy (ie not operating in a perfect market) and seeks to maximise profits will set different prices. If the price-demand relationships for consumers were identical, then elementary price theory suggests that the difference in VAT would partly be absorbed by the producer selling to both countries. In the country with the higher rate of VAT, consumers would pay a higher final price (including VAT) while producers would receive a lower net price (excluding VAT).

4. Summary comments

It is clear from this analysis that the conditions under which different countries may be integrated into the same geographical market are fairly restrictive. The most likely to be fulfilled, from the evidence of cases analysed, is the transferability of demand by major undertakings, especially when the relevant product is fairly anonymous, so that their decision to buy "foreign" is unlikely to be recognised by customers with greater nationalist sentiment. It is important to re-emphasise that even complete absence of barriers to supply would be insufficient to ensure market integration unless either the supplying industry had a very competitive structure or demand conditions in each country were identical.

C. DEFINITION OF RELEVANT MARKET SALES

For measurement of (possible) market power, the most appropriate variable is total sales of the relevant product, ie of x and the demand-substitutes identified in Section A within the relevant geographical market identified in Section B. This is equivalent to total sales of the relevant product by domestic suppliers minus exports plus imports.

The choice between sales volume and sales revenue depends upon the nature of the individual case. In some cases there may be substitute products without a common unit of volume (eg domestic furniture may constitute a relevant product), in other cases wide divergence of prices may make volume figures more appropriate (eg the market for travel between Great Britain and Ireland). Where possible, it may be useful to quote both sales volume and revenue, so that leading companies' shares of each may be calculated.

Data on sales may often be obtained from national statistical sources. Where no direct estimates of domestic purchases are available, it may be necessary to deduct exports from total production and add imports. Practical problems here include (i) the difference between classifications used for industries (eg NICE) and the Standard Trade Classification of the United Nations, which is applied internationally and (ii) the inclusion of transport and insurance costs in import figures.

Where data are not available in sufficient detail from national sources, sales revenue figures may be obtained from the accounts of producing companies. The names of producers can be obtained from trade directories. There are wide variations between countries both in the requirement to publish accounts and in the amount of information to be included. Where companies produce other goods or services as well as the relevant product, the accounts may not show the required split.

Although these data problems are not insignificant, it is usually possible to overcome them by combining a variety of sources.

D. DEFINITION AND MEASUREMENT OF POTENTIAL SUPPLY

In order to determine whether the market relevant to the allegation of dominance is also relevant to that of abuse of dominance, it is necessary to consider the restraining influence of potential competition.

Relevant market potential supply is defined as the maximum supply of the relevant products which would be supplied to the relevant geographical market within one year of a permanent significant increase in profitability. The concept is hypothetical - it assumes that the profitability of all other products/markets remains unchanged (*ceteris paribus*); it also assumes that unlimited demand accompanies the greater profitability.

In assessing the elasticity of potential supply to the relevant market it will normally be advisable to analyse separately the likely responses to increased profitability of (1) companies already supplying that market and (2) other companies. Existing suppliers, whether producing within or outside the geographically defined market, will generally find fewer barriers to expansion.

1. Potential supply from companies already selling the relevant products within the relevant geographical market

(a) Unused capacity of domestic suppliers

The known or presumed existence of excess capacity available to competitors is a long recognised constraint on the freedom of action of major suppliers to oligopolistic markets. Evidence of excess capacity may be hard to obtain directly, though data are occasionally quoted publicly. Evidence of any recent changes in capacity should be noted, whether increases, via acquisition or investment, or decreases, via disposal or disinvestment. Any information on the degree of plant utilisation - overtime or short-time working, or the use of shiftwork - may also give some indication of potential compared with actual output.

(b) Output of relevant products by domestic suppliers not currently sold

There are two possible elements of output of the relevant product not sold at all: (i) that part of the output of vertically integrated undertakings which is used as input to another good or service produced for sale by the company and (ii) any output as a by-product, in quantities (or in a form) which do not justify its recovery and sale at current price levels.

- (i) The response of vertically integrated firms to a price increase of an intermediate product would depend partly on their ability to use an alternative input into the later stages of their production processes, or to use these stages for other marketable products. If any rise in the price of the intermediate product would

be reflected in that of the final product, this would reduce the incentive for the vertically integrated firm to increase its sales of the intermediate product at the cost of its own consumption. This element is not expected to be a significant source of potential supply in most cases.

- (ii) If the relevant products can be produced as by-products of other production processes, some companies may recover for sale only part of the by-product, because of diminishing returns from further recovery and consequently rising marginal cost. A rise in price may increase the proportion recovered - this element is relevant only in certain cases with specific technical circumstances.

(c) Variable production of joint products (domestic suppliers)

If relevant products are produced jointly with other products and the proportions are variable (eg in certain chemical processes), a rise in profitability may lead to fairly rapid increase in supply - also significant only in cases with specific technical circumstances.

(d) Transferable capacity of domestic suppliers

Certain products with different end-uses may be quite similar in production requirements - materials, labour skills and machinery. For example, textile companies can switch between curtain- and dress-fabrics; furniture makers between dining tables and beds; shipping companies between completely different routes. If some production capacity would be transferred from other products in the event of an increase in the profitability of the relevant products, then this "transferable" capacity should be included in the relevant market potential supply.

The word "transferable" does not refer only to the technical possibility of transfer of production. If production were to be switched from other products then the total supply of these other products would fall, leading to a possible increase in their prices and profitability. The key variables (assuming no technical obstacles to transfer) would be:

- (i) the price-elasticities of demand for the products from which capacity would be switched;
- (ii) the ratio of current relevant product sales to the total of technically transferable capacity.

It can be shown that the potential supply from capacity transfer will be positively related to the (absolute value of) price-elasticity of demand for the products from which

transfer is possible; it will be negatively related to the proportion of total transferable capacity currently used for relevant products.

Of these two factors, the proportion of technically transferable capacity currently devoted to relevant market sales may be comparatively easy to estimate. The (weighted average) price-elasticity of demand for production substitutes may be impossible to calculate in many cases. It may be possible to make an intuitive assessment (eg low for protected captive markets) and this should influence the weight accorded to transferable capacity in the analysis of relevant market potential supply.

The switching of capacity between products has so far been assumed to be cost-free both in a technical sense and in a commercial sense. Technically, substitution of products may impose some costs - modification of some equipment, minor investment in specialist plant, recruitment or retraining for specialist labour skills. These should be considered. Commercially, the decision to run down an existing product line is unlikely to be taken unless that product line is only marginally profitable. Abandonment of existing customers in a competitive market would not be considered unless a company were certain that there had been a permanent change in the relative profitability of the relevant product compared with that of production substitutes. It is important not to exaggerate the importance of transferable capacity.

(e) Geographical transfer

In the event of a significant non-transitory increase in the profitability of supplying the relevant product to the relevant geographical market, domestic companies may switch output from exports. Research conducted in the 1960s, eg in the UK by Ball, Eaton and Steuer (1966) showed that companies did switch sales between home and export markets in response to changes in demand. A company with a predominant share of the home market which raised prices might find its competitors gaining sales from it by diverting from exports and undercutting marginally.

The economics of diversion from exports will depend upon the ratio of exports to home sales and the price elasticity of demand for exports of the relevant product. The elasticity of supply to the home market will be positively related to (the absolute value of) both variables. An enterprise in which a high proportion of sales is derived from exports to price-elastic markets will be most inclined to increase supply to the home market in response to an increase in the profitability of that market.

The fact that foreign companies already sell in the geographical market (G) proves that there is no insuperable barrier to supply, such as prohibitive transport costs, nationalistic preferences, tariffs or non-tariff barriers to trade. In order to overcome such barriers, foreign suppliers may have had to set lower prices than those in their home market. As Landes and Posner (1979) pointed out, this price difference may **increase** the elasticity of potential supply from such companies in the event of a small price increase, since this would imply a much greater, proportionate increase in their profit margins in market G.

However, before going as far as the US recommendation that world-wide sales of companies with non-negligible sales in the USA should be included as potential supply to the US market, it is necessary to consider **possible barriers** to switching of supply to market G by foreign companies.

(i) Tariffs

The existence of a tariff against (mainly non-EEC) imports, which has not prevented foreign companies from selling in the protected country, is unlikely *per se* to deter an expansion in supply in response to increased profitability. This applies particularly to flat-rate duties (as opposed to percentage levies).

(ii) Other protective measures

While imports may not be prohibited, there may be "voluntary ceilings" (quotas) on imports from outside a country, eg Japanese cars into the United Kingdom, certain textiles into the EEC. Other non-tariff barriers to trade include slow-moving bureaucratic procedures and nationalist preferences in purchases either made or assisted by governments.

(iii) Nationalistic preferences

It should be noted that significant import penetration does not imply that foreign countries will not encounter nationalist preferences in attempts to increase market share further. The UK car market provides a useful illustration. It is possible to identify three segments with differing propensities to buy foreign cars:-

- the private non-commercial owner, likely to buy on the basis of price versus perceived value and most likely to buy a foreign car; some observers believe that foreign penetration of this part of the market is now high;

- the company, purchasing either for "fleet" use or for provision to its own employees (as tools of their work, eg salesmen, or as perquisites), which may think it commercially wise to proclaim its desire to "buy British";
- the public authority, undertaking or major institution which would be strongly criticised if it did not support the UK industry.

Import penetration of the UK car market has remained just under 60 per cent for much of the last five years, only partly because of the effective quota on Japanese cars.

Assuming that these barriers to expansion of imports can be overcome, one may consider the economics of increased supply by foreign companies in response to an increase in profitability. Such increased supply could come from unused capacity, transferable capacity, output produced but not currently sold (intermediate products consumed or by-products) and finally transfer of relevant product sales from other geographical markets. The factors influencing ability and willingness to supply from these sources are identical to those affecting domestic suppliers; the difference is that in addition to any obstacles to increasing availability of the relevant products there may be barriers to expansion of imports which would not be faced by products within the country.

2. Potential supply from companies not currently selling the relevant product within the relevant geographical market

(a) Barriers to entry

One may begin by considering different forms of entry barrier and then go on to assess whether there exist firms in positions to overcome them.

(i) **Absolute prohibitions** imposed by statute, licences, patents, etc. (conditions attached to such exclusive rights may limit abuse of monopoly power derived).

(ii) **Barriers associated with entry into production** such as minimum economic scale of production - control by existing firms of supplies of materials or other inputs, through vertical integration or other ties.

(iii) **Barriers associated with distribution**, especially where outlets are restricted in number and are owned or tied by exclusive dealing. Wide product range of existing companies, offering savings in transactions costs to outlets using one supplier may make access to such outlets difficult without supply of complementary products.

(iv) **Barriers associated with established brand preferences:-** the cumulative effects of advertising, customer habits, goodwill, augmented by any cumulative loyalty discounts.

(v) **Barriers associated with distance between the geographical market and point of supply:** the significance of physical transportation costs depends on value:weight or value:bulk ratios and on the "perishability" of the product; there may also be difficulties in personal communication and selling.

(vi) **Barriers due to policies of existing sellers:-** these may include predatory pricing, possibly cross-subsidised by other activities, and exclusive dealing arrangements.

(vii) **Barriers affecting new competition from imports:-** as well as any of the barriers listed under (i) to (vi) foreign firms may face additional obstacles:- tariffs, non-tariff barriers, nationalistic preferences (especially associated with government or government-aided purchases), problems associated with communications (language and culture), differences in business practices. Differentiation of complementary products or facilities may be an important additional barrier. For example, different specifications in telecommunications and television transmission limit competition between EEC countries in the electronics industries.

(b) **Factors tending to reduce the significance of certain barriers**

The deterrent effect of these barriers on a company not currently selling the relevant product in the relevant geographical market may be assessed by examination of the following factors.

- Does the company produce the relevant product - either for sale elsewhere or for further processing, or as a by-product not currently sold? If so, barrier (ii) above may not apply.
- Does the company have appropriate capacity, either unused or used for other products but transferable? This may also diminish barrier (ii)
- Does the company sell other products in the relevant market? Is its name well-known? Does it have an established distribution network? If so, barriers (iii), (iv), (v) and, in the case of a foreign firm (vii) may be

significantly diminished. The example of the French company Moulinex in widening its product range in the United Kingdom from food-mixers to other small domestic electrical appliances demonstrates this point.

- Does the company have any production at all within the geographical market? (This applies especially to multinational conglomerate companies). Alternatively, is it able to introduce production into that market without loss of economies of scale? The Belgian car assembly industry in the 1970s provides an example of penetration into a protected market via branch factories. Existing (even if unrelated) activity within a country is likely to reduce barriers to entry to a national market.

Once barriers to entry have been identified these may be grouped, in accordance with the theory of contestable markets, into three categories (in diminishing order of importance):-

- permanent barriers to selling in the relevant market which cannot be surmounted by initial expenditures (these would include legal prohibitions);
- barriers surmountable by initial expenditure which would not be recovered on subsequent exit from the market (sunk costs);
- barriers surmountable by initial expenditure which could be substantially recovered on any subsequent exit.

In assessing whether expenditures required to overcome barriers to entry would involve "sunk costs", one may consider the flexibility of any fixed assets which are purchased for products other than those in the relevant market and, therefore, their potential resale value if the relevant product market were to decline. For example, aircraft or ships are less likely to represent sunk costs than a railway; a factory built for light engineering in a metropolitan area is a more recoverable investment than a cement works built in remote limestone uplands.

Using the logic of contestability theory one may consider that expenditure on fixed assets may involve fewer "sunk costs" than expenditures to overcome commercial barriers to entry - the advertising and public relations required to overcome established preferences, the cost of developing distribution and goodwill. Purchase of fixed assets may be less important in many cases; arguments about minimum economic scale may

also be modified when entry is by conglomerate companies and some of the indivisible fixed costs may be shared by products other than the product relevant to the case.

3. Some practical suggestions

The concept of potential competition is important - if the potential supply to the relevant market greatly exceeds current market sales then concentration of that market does not imply dominance. No existing producer would be able to significantly reduce value for money offered to customers in order to increase his own profitability, because that increase in profitability would attract alternative supply.

However, potential supply is difficult to quantify. For example, the price-elasticity of demand for production substitutes, which influences potential transfer from such products, must be considered but is impossible to measure.

One practical possibility is consideration of past evidence. Each of the following may be examined:

- (a) **Variations in total sales to the relevant market over the past few years** - relevant market potential supply will not be less than maximum sales observed in the past (eg) five years, unless some loss of capacity has occurred.
- (b) **Study of switches of production on an "industry" basis.** How has the product-mix of an industry defined on the basis of technical similarity responded to changes in prices of different products?
- (c) **Any information on entry and exit into the market.** Case studies on entry, whether permanent or "hit and run," may cast considerable light on the factors listed in sub-section 2.
- (d) **Potential supply from foreign competitors (imports) or from diversion of current exports from the relevant geographical market** may be directly measurable, because of exchange rate variations. When there is a rise in the exchange rate of the currency of a country which constitutes a relevant geographical market, this implies an increase in the relative profitability of selling in that market, for both home and foreign producers.

4. Special note on horizontal mergers and horizontal effects of other mergers

In analysis of the possible consequences of horizontal mergers, it is necessary to consider their effect on potential supply. This is particularly important when one of the companies is not currently selling within the relevant market but has unused or transferable capacity which could be applied to the relevant product if this became more profitable. Elimination of potential competition between companies concerned may be an objective of a merger. This is sometimes commended as "rationalisation".

Even "conglomerate" mergers may have a significant horizontal effect in the sense that they may reduce the significance of market contestability. If a large company B were known to be able to overcome the barriers to entry into the relevant market either by establishing a new company or by acquiring a small competitor C, then this threat would restrain the behaviour of an incumbent market leader, A. If, instead, B acquired A, then, although the level of concentration in the relevant market might remain unchanged, the reduced threat of potential competition might allow abuse of A's dominant position.

The US Department of Justice's 1984 Merger Guidelines discussed the horizontal effects and indicated concern about the possibility just described. The Department stated that it was likely to challenge any merger where the existing market participant (A in our description) had a share of 20 per cent or more of current sales.

The recent (1986) pattern of reference and non-reference of proposed mergers to the Monopolies and Mergers Commission in the United Kingdom appears to reflect emphasis on shares of current market sales, rather than potential competition. The UK legislation empowers the relevant minister to refer a proposed merger to the MMC when it would create or strengthen a market share (current sales) of at least 25% or when it would involve the transfer of assets of at least £15m. Most recent decisions appear to have been based on the former criterion.

5. Concluding remark on potential competition

At the end of the assessment of relevant market potential supply, the conclusion may be no more exact than whether it is much larger than existing sales or only slightly larger. If only slightly, and a significant part is controlled by the dominant firm(s) then this means that shares of current market sales are relevant to assessment of dominance. The

framework set out in this section is intended to ensure that such conclusions, even though general in nature, are based on appropriate logic.

E. VERTICAL AND OTHER INTERDEPENDENCES

The implications for competition/dominance of a given level of concentration in the relevant market (x) may be affected by the structure of supply in an interdependent market (y). Two cases may be considered:- (1) x is a "part" of product y and (2) y is a part of product x , or is complementary to x .

1. Relevant products as parts of other products

The simplest case is a primary or intermediate product with little final demand, eg wood pulp or a synthetic fibre yarn. A more complex situation occurs where x forms part of a complement of products and has little function outside that complement, eg spare parts for durable goods, films for cameras, videotapes. Such products have provided some of the more controversial cases in anti-trust jurisprudence. Under the methodology set out in Section A, where one starts with the narrowest definition and widens this by considering substitutes for that narrowly defined product, such products (eg exhausts specific to a particular Mercedes-Benz car model) will emerge as relevant for evaluation of dominance. Assessment of how far any dominance is tempered by competition in a wider product market is a necessary final stage of evaluation of dominant seller position.

The methods of assessment for the intermediate product and the "wider complement" cases are similar but, because the latter has additional aspects, it is discussed separately.

(a) Intermediate good

The following questions should be considered consecutively:-

- (i) What is the final product?
- (ii) What proportion of sales of the relevant product x is absorbed by each of the final products? (P_1)
- (iii) What proportion of the output of each final product requires at least some input of x ? (P_2)

- (iv) What proportion (approximate) of the price of each of the final products represents the cost of x ? (P_3)

When for any final product the value of P_1 times P_2 times P_3 is above (say) 0.05, examine the market for that product. Does it have any existing or potential substitutes which do not contain x so that a rise in the price of x might make those substitutes more attractive to customers? If so, competition in the wider final product market (including substitutes not containing x) may significantly restrain any abuse of dominance of the market for x .

If none of the final product markets shows a value of $P_1P_2P_3$ exceeding a minimal threshold level (0.05 seems reasonable) and the total of the values of $P_1P_2P_3$ is also small, eg below 0.10, then the possible restraining influence of substitute final products not including x may be ignored.

Usually only approximate, even intuitive, estimates will be available for P_1 , P_2 and P_3 but the logic of the approach is still recommended.

(b) Relevant product as part of wider complementary group

The composite of complementary products (C) is defined at the stage of aggregation at which there is existing or potential competition from products not requiring the purchase of x . There may be more than one group - for example, distilled (deionised) water would come into at least two groups: motor transport (use in batteries) and steam ironing.

Using the same notation as in the last sub-section

P_1 = Proportion of sales of x which is linked with use in C often = 1 but there may be more than one distinct use.

P_2 = Proportion of C requiring the use of x rather than a substitute. In the analysis of complementary groups P_2 should be close to 1 - otherwise C should have been defined at an earlier stage of aggregation.

P_3 = Cost of x as proportion of the price of C ; in the case where C is a durable good P_3 = expected expenditure on x divided by the total cost of ownership over life of good.

The influence of competition in the market for the composite of products on that for x will again depend on $(P_1 P_2 P_3)$. The key ratio will probably be P_3 .

Some examples illustrate

(i) Film for cameras

Composite: virtually all amateur photography, most professional photography (the only exception is videotape recording)

$P_1 = 1$

P_2 is close to 1

P_3 probably > 0.5

Although the demand for film depends upon that for photography, this composite product faces only limited competition within a general group of "recreational products". This means that there is little restraint on a dominant producer of film.

(ii) Car windscreen glass (replacement)

Composite: motor transport

$P_1 = 1$

$P_2 = 1$

P_3 is very low. An average actual value of expenditure on replacement windscreens is around 0.005 over the life of a car but few motorists perceive this - for many it is covered by a small element in their insurance. Few would be deterred from car ownership by a moderate increase (say 10%) in the price of replacement windshields! Hence, dominance of the supply of car windscreen glass is a possible source of power.

(iii) Spare engine parts for a particular car (say Austin-Rover)

Composite: Austin-Rover cars using this range

$P_1 = 1$

$P_2 = 1$

P_3 = perceived probability (or frequency) of the need to replace times the price of x , divided by cost of ownership in a year.

A problem arises with durable goods which normally change hands during their lifetime - P_3 tends to rise, partly because of cumulative effects of wear and tear but also because the depreciation element in the denominator tends to fall. How far is the decision of Mr (or company) A about the purchase of an Austin-Rover Metro now likely to be affected by the level of expenditure on gearbox repairs (whether this level is high or low) in five years' time? For evaluation of this, consider the second-hand market and its impact on purchasers of the brand new product.

(c) Some wider considerations

(i) Consumer versus Producer Welfare

The logic of sections (a) and (b) may be summarised verbally. If

- (i) the cost of the relevant product is perceived to form a significant part of the total cost of some final product (or composite of products), and
- (ii) that final product (or composite) faces competition from products which do not include the relevant product, then this ultimate competition may mean that the market relevant to the alleged domination might not be relevant to an abuse of monopoly power, AT THE EXPENSE OF THE ULTIMATE CONSUMER.

The standpoint of the ultimate consumer has so far been only implicit. Dominance over other companies within a vertical chain may be exploited to the detriment of the welfare of those other companies, without affecting the final consumer significantly. Is this "abuse of dominance" or part of a competitive process? Some cases in Chapter 4 illustrate these issues.

(ii) Durable goods - the original equipment v. replacement controversy

In all countries with anti-trust laws, cases have arisen concerning price discrimination by producers of components of durable goods - low prices in the competitive market for the new original equipment and high prices (or even restricted availability) of replacement parts. If each replacement part individually represents a small part of the cost of ownership (purchase plus maintenance) and the original buyer does not even think about it, the methodology above implies that monopoly of the replacement part

market confers power. Price discrimination is an exploitation of that power. From the viewpoint of general consumer welfare this argument is open to question because

- high replacement prices accelerate scrapping of existing stock, leading to higher demand for original equipment, yielding greater economies of scale and higher rates of product innovation;
- the price discrimination spreads the cost of ownership over time: if original prices were higher fewer consumers could afford to buy the equipment at all and/or there would be an increase in debt burden;
- the time factor may be formalised by discounting expenditures on purchase and maintenance by the opportunity cost of capital for consumers.

In other words, price discrimination may be in the public interest. The welfare arguments are complicated when the durable good is exchanged during its life, especially if second-hand prices do not fully reflect maintenance costs. The exploitation of monopoly power by discrimination may not always constitute an "abuse".

2. Relevant market dominated indirectly?

In the last section we considered whether competition between products incorporating x and other products would affect interpretation of concentration in the supply of x . It is necessary also to consider whether suppliers of x may be affected by absence of competition in the supply of necessary inputs or complements for x .

(a) Inputs

If one of the producers of x also supplies an input necessary for production of x then its share of the market for x understates its power. This difficulty cannot be accommodated by vertical extension of the relevant market, because x may absorb only a small part of the input concerned and because other uses may have a different competitive structure.

An example is the weaving or knitting of filament yarns in the textile industry, where major filament yarn producers compete with their own customers. Another is film-processing where Kodak competes with independents processing its own film.

Suggested methodology:

- (i) First check whether the supplier/competitor holds a dominant position in the supply of the input concerned.
- (ii) If so, check whether this dominant position is protected from potential competition.
- (iii) Examine whether any power derived is mitigated by competition from substitute inputs for the relevant product or, ultimately, by products further down a vertical chain which do not include the relevant product.

If a supplier of an input for x is shown to be in a dominant position capable of abuse, the structure of the market for x may be less relevant for the purposes of competition policy. This situation is most likely to arise in assessments of competition in the supply of a pre-defined good or service (eg MMC references in the United Kingdom) or assessments of consequences of mergers. Where an investigation results from allegation of abuse, the source of power will normally be recognised at the outset.

In certain cases of this kind, it may be easier to identify a dominant position by use of the *partenaire obligatoire* (trading dependency) concept rather than defining a company's competitive position in the supply of x by reference to a dominant position in another market.

(b) Other components of a composite product

Producers of complementary products enjoy advantages over competitors producing a narrower range, in that they are able to offer reduced transactions costs to customers. Any producer of x who also has a dominant position in the supply of z , a complement of x , has greater power in the market for x than his share of that specific market would suggest. If x must be compatible with z , then because the producer of z can control its specifications this enables him to limit or interfere with competition in the supply of x .

Examples include production of ancillary telecommunications equipment in the UK (competing with and dependent upon British Telecom), production of cameras (competing with and largely dependent on Kodak) and production of computing equipment to be linked to main-frames (largely dependent upon IBM).

Suggested methodology: Consider the following questions:

- (i) How important is the link between x and z for the sale of x ?

- (ii) What is the structure of the market for z?
- (iii) Is any domination of the z market protected from potential competition?

If the answers are that x does depend on z, that z is dominated and there is little potential competition, then the structure of the market for x, in isolation, is of little relevance to competition policy. The comments at the end of sub-section (a), immediately above, apply to such cases. The market which is relevant to the alleged abuse of monopoly power is that for z, even though the anti-competitive effects may appear in x. The use of the *partenaire obligatoire* approach (study of dependency) may again be easier, and equivalent to, the methodology set out here.

F. PRODUCT MARKET DEFINITION IN CASES OF HORIZONTAL BUYER DOMINANCE

1. Introduction

There have been relatively few cases of abuse of buying power (monopsony) either in Community law or in national jurisprudence, including both Europe and the United States. The analytical framework for definition of the market in such cases is the obverse or "mirror-image"* of that used for definition of the relevant market in cases of abuse of selling power. Whereas analysis of selling power starts from the standpoint of the consumer, whose interests may be damaged by monopolistic practices, analysis of buyer power starts from that of the supplier facing a high level of concentration among purchasers.

This last distinction raises an important question. Abuse of selling power implies adverse consequences for general welfare - divergence of prices from costs implies loss of consumer surplus and misallocation of resources; inertia, inefficiency and lack of innovation may be protected by monopoly power; diversion of competition under oligopoly to advertising, packaging, etc., is another object of criticism by welfare economists. The welfare consequences of "abuse of buying power" are less evident. The term may be used to denote transfer of any "abnormal profit" or producer surplus from the supplier of the intermediate product to the seller of the final product. Does this affect the consumer or general welfare at all? If the seller of the final product

* The German Monopolkommission used this term in its highly formal presentation of the two analytical frameworks (op.cit)

faces intensive competition, then his ability to "squeeze" suppliers may be reflected in lower prices paid by the ultimate consumer - a welfare gain.

In the analysis of cases of buyer dominance, two markets are relevant. First the market represented by purchases of the intermediate product - the "relevant purchase market"; secondly, the selling market in which the intermediate product is finally sold. Both need careful definition.

2. The relevant purchasing market

In the discussion of the selling markets, a demand substitute (*y*) for product *x* was defined as a product to which consumers of *x* would transfer within one year of a moderate but significant increase in the price of *x*. Definition of a "purchasing market" requires identification of substitute outlets to which suppliers could sell their products. If *x* is the narrowest definition of the relevant product then if *y* is a substitute, a modest but significant fall in the profitability of *x* (say, equivalent to 5% of its price) would cause suppliers to switch to outlet *y* within (say) one year*.

Just as with demand substitutes, substitutability of product/outlet *y* for *x* depends on technical capability (functional interchangeability) plus the effects of custom and practice (reactive interchangeability). Of greater significance in the purchasing market, perhaps invalidating the formal approach in some cases, are barriers to substitution resulting from established trading links between customers.

Oligopsony (a small number of buyers) sometimes results in bilateral trading, whereby each large purchaser may use, for example, five suppliers of a product with particular specification. Each supplier becomes dependent on the purchaser, since his production facilities are geared to that purchaser's requirements and he has little or no marketing to outside companies. This process of "tying in" suppliers was noted in the Commission's study of concentration in the UK textile industry (Fishwick 1975).

Because of these effective bilateral links, making it difficult for dependent suppliers to turn to substitute outlets, it is not considered that tests of substitutability similar to those described in Section A would normally be applicable to the purchasing market. The concept of *partenaire obligatoire* is relevant.

* This is the Monopolkommission's definition

However, in order to assess the degree of dependence, it may be necessary to define the range of outlets/products available to the supplier, it is important that these are not grouped by end-use. The appropriate criterion is that suppliers would be able to switch between these goods or services and their associated outlets. It is improbable that this ability to switch will be determined solely (or even mainly) by technical considerations.

The principles here are best illustrated with a hypothetical example. Suppose company A processes and cans a range of temperate fruits - cherries, raspberries, strawberries, plums, etc. It is a small company unable to match the marketing expenditures of major multinationals in this field but economies of scale in production are limited and the company has been able to survive by supplying a major supermarket chain (S) with a part of the requirements of these products. S is one of about seven large chains selling similar products under their own retail brand-names. Because of this established custom, A has discontinued its own marketing, concentrating on liaison with S, quality and cost-reduction.

The relevant purchasing market could be defined as the total of "sales of temperate fruits under retailers' brand names". It cannot be widened to include all retail sales of such fruits, even when these are physically identical, because A could not afford to market its products to the final consumer on a scale sufficient to persuade retailers to stock them with A's own brand name. Moreover, if S and the other supermarket chains have all used their power to push suppliers' margins down, it is possible that A may not be able economically to switch to supplying one of S's competitors. Any significant differences in product or packaging specifications would restrict A's ability to switch. It may well be argued, in extreme cases, that the relevant purchasing market for A's product consists of purchases of that product by S - a position which A might fight to avoid!

G. IDENTIFICATION OF DOMINANCE THROUGH DEPENDENT RELATIONSHIPS ("PARTENAIRE OBLIGATOIRE")

A company may hold a dominant position because its customers or suppliers depend upon it for survival; they cannot avoid trading with it if they are to continue their current activities.

In many instances this position of "obligatory trading partner" (the *partenaire obligatoire* in the terminology of Glais) may result from dominance of a well-recognised market. For example, IBM is a *partenaire obligatoire* of many purchasers of big computers in

Europe because of its large market share and the advantages to companies of having computers which can communicate with and accept software from those of trading partners. The *partenaire obligatoire* concept adds little to the analysis of the market for big computers.

Let us consider the market for micro-computers and computer peripherals. IBM's importance in this market may be greater than is indicated by its share of sales, because of the need on the part of many users of non-IBM equipment for this to be connectable to main-frame computers, in which IBM is dominant. A company like IBM could accelerate the pace of obsolescence in the micro-computer or peripheral markets by modification of main-frame computers. This would be an abuse of dominance of the main-frame market, not the market in which the abuse took place. In such cases, the concept of *partenaire obligatoire* may be a useful, supplementary tool of analysis, though the analytical framework set out in Sections A to E would lead to the same conclusion.

A third type of case, where the *partenaire obligatoire* concept avoids apparent contortion of the notion of relevant market, occurs when individual concerns depend on much larger suppliers or customers. For example, suppose a major computer manufacturer (A) were to license a company (B) to maintain its computers covered by A's service guarantees. The maintenance company's staff would become expert specifically to A's equipment; customers would be owners of such equipment. If A were to enforce trading conditions on B, such as reduced margins on spare parts or exclusive dealing clauses affecting accessories, then it might have no alternative but to accept, at least in the short-term. For B, company A would be a *partenaire obligatoire*.

In this last case the definition of the relevant market would produce an unrealistic, though theoretically valid, result - the market in licences granted by A for the maintenance of computers. Similar examples would be the granting of distributorships (concessions) for motor cars of one particular make, or (on the purchasing side) recognition as an accredited supplier of a major group of chain stores. These are not "markets" in the normally accepted sense of the term.

In cases where the concept of *partenaire obligatoire* is more recognisable and acceptable than dominance of an artificially constructed "relevant market", it is important to fit this into the overall framework outlined earlier in this chapter.

If it is found that B is currently dependent on A (its *partenaire obligatoire*), the following questions need to be considered before it is concluded that A is in a position to abuse its dominance, to the detriment of the ultimate consumer.

- (1) What are the barriers to reduction/elimination of the dependence? (In the hypothetical case above, the need to retrain staff, to find another computer manufacturer as a trading partner and to find new customers.)
- (2) If A were to abuse its position would this attract potential competition, eg in the form of "pirate" spare parts and maintenance agencies able to offer services to replace those of the manufacturer?
- (3) Is the power of A over B constrained by competition in a wider or vertically "down-stream" market? For example, if A insisted that B should fit only A's high-priced accessories, causing A to lose part of the business outside essential maintenance, B might be obliged to charge higher service charges and these may in the longer term affect sales of A's equipment.

It is clear from this outline of the dependency approach that this replaces only the first part of the framework for analysis of dominance set out in this chapter and that the difference is mainly one of presentation. A *partenaire obligatoire* is in a dominant position which it may abuse only if those dependent on it cannot substitute other partners, if abuse would not lead to new (potential) competition and if it is not constrained by competition in wider or "down-stream" markets.

APPENDIX 1

TESTS OF SUBSTITUTABILITY (THE MATHEMATICS)

(i) Cross-price-elasticity of demand (see Chapter 2 C.2(b). For reasons given in Chapter 2, there are likely to be major difficulties in assessing the responsiveness of demand for x to changes in the price of y , most of them derived from the problem of holding other variables constant. In order to isolate the effect of changes in the price of y on the demand for x , it is necessary to use multiple regression.

The equations for estimation of cross-price-elasticity from time-series are either (ia) or (ib):-

$$q_x = a p_x^b p_y^c p_z^d D^g \quad (\text{ia})$$

a , b , c and d are constants : b is the own-price elasticity of x and c is the cross-price-elasticity of x with respect to y ; g is the income-elasticity. (D is disposable income)

Estimation of the equation in this form is likely to encounter significant problems of multicollinearity (equivalent to the *ceteris paribus* assumption), and, since the elasticities may not be constant over time, to errors associated with specification. These problems may diminish if, as is more usual, the equation is transformed to first differences:-

$$\Delta \log q_x = b \Delta \log p_x + c \Delta \log p_y + \dots + d \Delta \log p_z + g \Delta \log D \quad (\text{ib})$$

Even with this first difference equation, multicollinearity may still occur if producers of x and y respond quickly to each other's price changes. It should be recognised that the value of the coefficient c and its standard error cannot be estimated efficiently when the correlation between $(\log p_x)$ and $(\log p_y)$ is significant.

(ii) Substitution elasticity of demand - a measure suggested by the German Monopolkommission (op. cit.) but not developed. This may be more easily applied than the cross-elasticity measure. If x and y are substitutes in the same market then by making the dependent variable the ratio between their sales, one may omit variables such as disposable income and the prices of other products which influence the total market for x and y combined. Thus one may estimate over recent periods the equation

$$\frac{q_x}{q_y} = a \left(\frac{p_x}{p_y} \right)^s$$

$$\text{or} \quad \text{Log } q_x - \text{log } q_y = \text{log } a + s(\text{log } p_x - \text{log } p_y) \quad (\text{ii a})$$

Other factors may influence relative market shares over time. For example, either x or y may have been introduced during the period covered by the analysis and may be making progressive inroads into the market; there may have been significant changes in comparative quality or marketing. It may be possible to modify equation (ii a) to take account of these other variables. As it stands, equation (ii a) should not be used when it yields significant autocorrelation of residuals, which would indicate either the omission of other variables significantly affecting market share or inappropriate specification (e.g. s is not constant over the period studied).

These problems may be reduced, though not necessarily eliminated, by use of first-differences:-

$$\Delta(\text{log } q_x - \text{log } q_y) = k + s \Delta(\text{log } p_x - \text{log } p_y)$$

(A constant term is included here to deal with the possibility of a "trend" change in market shares over the period analysed, e.g., if either x or y were a new product).

Provided the required data exist, the substitution elasticity approach may prove more reliable than the estimation of cross-price elasticity. If competition between x and y is so intense that price changes coincide, then it will not be possible to derive a satisfactory estimate of s. The principal value of this test may be negative - unless s is significantly different from zero one cannot conclude that x and y are substitutes.*

(iii) Price-similarity between products (the Horowitz test)

The principles underlying the Horowitz test were explained in Chapter 2 (C.2(c)), where it was suggested that, in order to eliminate variable inflation, the equation for estimation should be:

$$(\text{Log } p_x - \text{log } p_y)_t = a + b (\text{log } p_x - \text{log } p_y)_{t-1} + W_t \quad (\text{iii})$$

If x and y are substitutes in the neo-classical sense a will tend to 0, b will lie between 0 and 1 and W_t will be randomly distributed.**

* s will lie between zero (either unrelated products or complements) and -∞ (perfect substitutes).

** to be checked by Durbin's h test.

Other results may be interpreted as follows:-

$a \neq 1, b = 0(*)$: prices of x and y are not equal and show no systematic relationship - unlikely to be substitutes.

$a = 0, b = 0$: prices of x and y are (approximately) equal on average with no correlation between any price differences in successive periods. Interpretation of this result is difficult. The products may be perfect and immediate substitutes or common cost inputs may push prices towards equality. The result could arise purely coincidentally, e.g., the prices per kilogram of cement and sugar may not differ much on average in some areas, but it is unlikely in such cases that equation (iii b) would yield a random distribution of residuals.

$a = 0, b = 1$: implies that (P_x/P_y) is constant but not equal to 1. The dearer of the two products may be a "superior" alternative to the cheaper.

This result may also reflect a major weakness of the Horowitz test when applied to definition of product, rather than geographical, markets**: absolute price is very difficult to define. Products may be competing substitutes even though they have different combinations of characteristics. One cannot compare travel modes by prices in pence per kilometre, because that would fail to take account of speed, reliability, etc; one cannot compare foods in pence per kilogram. If x and y are substitutes then their prices will tend to equality in terms of units of satisfaction for the consumer, which often cannot be approximated by any single physical unit.

(iv) Correspondence of price changes (the Stigler-Sherwin test)

The problems in comparison of absolute prices may be avoided by comparison of changes in prices. Correction for general inflation is essential*** to avoid correlation resulting from this common influence. The equation to be tested is

$$\Delta \log p_x - \Delta \log \bar{p} = a + b (\Delta \log p_y - \Delta \log \bar{p}) \quad (\text{iv})$$

* For brevity, the equality symbol (=) is used to mean "not significantly different from" and $\neq$ indicates "significantly different from".

** Horowitz (1981) applied to test whether adjacent US cities were in the same retail meat markets, though he did claim that it could logically be extended to product market definition.

*** Stigler and Sherwin appear to have overlooked this necessity.

Where Δ indicates changes between successive time periods (e.g., years) and $\bar{p}$ represents an index of general prices.

If x and y were perfect substitutes then a would be zero and b would be unity. The degree of substitutability can best be measured by the square of the correlation coefficient (r) derived from equation (iv).

One defect of this test is the danger of correlation reflecting common costs in x and y , for example if x were fuel oil for heating and y were gasoline (petrol) for use in cars. These products can hardly be described as substitutes in demand. Note also that if x and y are complementary products, subject to common demand characteristics, the value of b may be significantly positive. For example, a severe winter might cause increases in the prices of both outergarmets and waterproof footwear. (See also the case of Ice Cream in Chapter 4.)

APPENDIX 2

CHECK-LIST FOR ANALYSIS (BASED ON FRAMEWORK OF CHAPTER 3)

A. DEFINITION OF RELEVANT PRODUCT

A.1 Starting point for narrow definition (x) - depends on reason for case:

- (a) general reference - normally pre-defined;
- (b) effects of merger - any concentration of supply;
- (c) alleged abuse - source of power to abuse.

A.2 Choice of products for consideration as substitutes (y)

In cases of types (b) and (c) the enterprises (or groups) eager to refute allegations of dominance may suggest a "wide range".
Possibility of customer surveys?

A.3 Criteria of substitutability

Hypothetical criterion: y is a substitute for x and should be included in same product group if a rise in price of x (consider 5 to 10% range) would cause substantial transfer of demand to y.

Factual criteria: functional interchangeability (end-use)
reactive interchangeability (consumer attitudes)
barriers to substitution

Do factual evidence and consideration of hypothetical criterion suggest sub-markets for x?

A.4 Direct tests of substitutability

If data are available, test whether either or both of the following can satisfactorily be estimated:

- (a) cross-price-elasticity
- (b) substitution-elasticity

(See Chapter 3 Appendix 1 regarding statistical validity.)

A.5 Indirect tests of substitutability

Horowitz test) if price data are available but
Stigler-Sherwin test) note warnings in Chapter 3, Appendix 1.

Any general observations on coincidence of price changes.

Similarity in other elements of marketing of x and y:- eg advertising, product modifications, distribution channels and margins, customer warranties. For each element consider current similarities and coincidence of changes.

A.6 Substitution gap?

If so, on what grounds. If not, use wide rather than narrow definition or advise use of alternative definitions of market.

B. GEOGRAPHICAL MARKET DEFINITION

B.1 Basic criterion for integration: similarity of prices within the market.

B.2 Starting point for analysis - narrow definition (A)

- (a) general reference - normally pre-defined
- (b) effects of merger - identify areas of concentration
- (c) alleged abuse - geographical source of power to abuse.

B.3 Choice of areas to be tested for inclusion

As with product definition, enterprises (or groups) eager to refute allegation of dominance may suggest a wide range. Other criteria for inclusion: physical proximity, shipments to and from A, personal travel to and from A, absence or low level of trade barriers.

B.4 Broad factual evidence

- (a) Similarity of market shares, of leading enterprises and, in case of different countries, of combinations of national suppliers in each country?
- (b) Similarity of prices? Where different countries involved, calculate series of price ratios for relevant product, corrected by prevailing exchange rates. If mean of these ratios is significantly different from 1 over 2-year period, countries unlikely to be in same market.
- (c) Stigler-Sherwin test may be appropriate but exchange rate variations could either mask or exaggerate correlation between price changes.

B.5 Further examination of specific conditions for geographical integration

Fulfilment of any ONE of these conditions is sufficient for integration. If all three contravened, areas under consideration form separate markets.

(a) Transferability of demand

Are customers able and willing to transfer demand between areas?
Barriers to transfer may include:

physical transportation costs,
lack of customer knowledge,
brand loyalties, goodwill, long-term contracts,
fidelity rebates, etc.,
plus in the case of different countries:
nationalist sentiment and cultural or business differences,
exchange transactions costs and risks,
legal and institutional barriers, including tariffs, and administrative
obstacles associated with them.

Significance of international barriers likely to diminish where demand transfer involves:

large purchasers, especially multinational companies,
an anonymous, intermediate product.

Note, however, that government involvement in purchasing decisions (including any subvention) may imply political pressure towards indigenous industries.

- (b) **Transferability of supply** combined with
either highly competitive supply structure - large number of suppliers,
homogeneous product (no differentiation)
or similar demand conditions in different areas (countries):
similar determinants of demand, variables other than price have same
levels;
any one seller faces the same price-elasticity in each country;
no differences in VAT or other add-on taxes.

Condition (b) may appear rather restrictive. Analysis of how far it is fulfilled can supplement findings under B.4

C. DEFINITION OF RELEVANT MARKET SALES

Denominator for shares of relevant market = Sales of relevant product, from all sources within the relevant geographical market = Domestic output - exports + imports

Choice between sales value and sales volume depends upon nature of product.

D. DEFINITION AND MEASUREMENT OF POTENTIAL SUPPLY

Maximum supply of relevant product which would be supplied to relevant geographical market within one year of a permanent significant increase in profitability. (Hypothetical assumption of unlimited demand.)

D.1 Potential supply from companies already selling relevant products within relevant geographical market

- (a) **Unused capacity of domestic suppliers**
- (b) **Output of relevant products by domestic suppliers not currently sold**
- (i) **Transfer to market from consumption by vertically integrated concerns.**
- Would price of final product reflect increased price of intermediate product? If so, no incentive to transfer. Is there an alternative input to replace relevant product in subsequent processing? Otherwise, can the capacity in further processing be used for other products containing less of the relevant product? If "no" to both of these questions, vertically integrated concerns less likely to transfer output of intermediate product to market sale.
- (ii) **Output of relevant product as a by-product - is the supply for market sale likely to be price-elastic?**
- (c) **Variable production of joint products - technical cases only**
- (d) **Transferable capacity of domestic suppliers**

Transferability not determined exclusively by technical factors. Need also to take into account

- (i) price-elasticities of demand for products from which capacity would be switched - the **greater** the (absolute) values of these price-elasticities the more economic the transfer;
- (ii) ratio of current relevant product sales to total technically transferable capacity - the **smaller** the ratio the more economic the transfer.

(i) may be a matter for intuitive assessment, (ii) probably easier.

Take into account any costs of transfer capacity.

(e) Geographical transfer

Diversion from exports by home producers? Transferability increases with (absolute value) of price-elasticity of demand for exports and ratio of exports to total sales.

Foreign companies already selling some relevant product in relevant geographical market (G) have overcome any barriers such as transport costs, nationalistic preferences, trade barriers, etc. **Provided there is no barrier to expansion of imports**, potential supply from this source may be quite elastic, especially if imports are currently only marginally profitable.

Barriers to expansion of imports may include

- non-tariff trade barriers, such as "voluntary" quotas, bureaucratic procedures,
- nationalistic preferences affecting particularly those segments of market not yet significantly penetrated.

Increased supply by foreign companies can come from their unused capacity, capacity transferable from other products or transfer of sales from other markets. Some comments apply as under (a) to (d) for domestic suppliers.

D.2 Potential supply from companies not currently selling the relevant product within the relevant geographical market

(a) Barriers to entry

- (i) Absolute prohibition?
- (ii) Barriers to entry into production - minimum scale, restricted access to inputs?
- (iii) Barriers to distribution - including need for complementary product range?
- (iv) Existing brand preferences, possibly reinforced by loyalty rebates?
- (v) Physical barriers to geographical market - transportation and communication costs?
- (vi) Defensive actions by existing sellers?
- (vii) Additional barriers to imports?

(b) Factors tending to reduce the significance of certain barriers

Barrier (ii) would not apply to company producing relevant product (but not selling it in relevant market) or with transferable capacity.

Company already selling some other products in relevant geographical market, especially if name well-known and distribution network established, may face fewer barriers of types (ii) to (v) and, if foreign, (vii).

Company with some production (and employment) in a country, even if unrelated to relevant product, may face fewer type (vii) barriers.

Group barriers in diminishing order of importance:-

permanent barriers not surmountable by initial expenditures
barriers surmountable but only with sunk costs
barriers surmountable by recoverable expenditure

Sunk v. recoverable depends partly on flexibility of any fixed assets. Expenditures to overcome commercial barriers - goodwill etc - may be less recoverable than purchase of fixed assets.

D.3 Some practical suggestions

Because potential supply difficult to quantify, some guidance may be obtained from:

- (a) Variations in total sales to relevant market over recent years
- (b) Production switches within industries
- (c) Any information on entry and exit, hence contestability
- (d) Response by importers and exporters to exchange rate changes.

D.4 Horizontal mergers and horizontal effects of other mergers

In merger cases, note particularly the effects on potential competition, which may be of greater significance than addition of market shares. This is true of "conglomerate" as well as "horizontal" mergers.

E. VERTICAL AND OTHER INTERDEPENDENCES

(Relevant product market referred to below as x)

E.1 Relevant products as part of other products

- (a) **Intermediate good**

Determine, as far as possible:-
final product(s)

P_1 = proportion of sales of x absorbed in each final product

P_2 = proportion of output of final product requiring at least some input of x

P_3 = cost of x as proportion of price of each final product

If, for any final product, $P_1 P_2 P_3 > 0.05$ (arbitrary value, subject to discretion)

examine whether that final product has substitutes containing substantially less of x . If so, competition in wider product market may reduce significance of dominance of supply of x .

If, for every individual final product $P_1 P_2 P_3 < 0.05$

and for all final products $\Sigma P_1 P_2 P_3 < 0.10$ (arbitrary)

restraining influence of final product markets may be ignored.

(Approach will rarely be applicable mathematically but logic is important)

(b) Relevant product as part of wider complementary group

Composite of complementary products (C) is defined at stage of aggregation where there is actual or potential competition from products not containing x .

P_1 = proportion of sales of x which is linked with C

P_2 = proportion of C requiring use of x - should be close to 1, otherwise C incorrectly defined

P_3 = cost of x as proportion of price of C.

Where C is ownership of durable good, P_3 =

expected or perceived expenditure on x divided by total ownership cost

Apply $P_1 P_2 P_3$ as with intermediate goods.

(c) Wider considerations

(i) Where competition in market for final products or for a composite of complementary products is found to limit significance of dominance of x from consumer's standpoint, consider the economic significance of any appreciable loss of welfare suffered by other parties.

(ii) For cases involving price discrimination between original equipment and spare parts, the comments in Section E1(c) may be pertinent.

E.2 Relevant market dominated indirectly

Do suppliers of necessary inputs or complements for x also themselves produce x ? If so, with what consequences?

(a) Inputs

(i) Is any supplier/competitor in a dominant position in a previous stage of the vertical chain?

(ii) If so, is this dominant position protected from potential competition?

(iii) Is power limited by competition for products further along the vertical chain? - see section E.1 (a).

If the answer to (i) and (ii) is "yes" and to (iii) "no", then the structure of product/geographical market chosen for study may be less relevant to competition policy than that of the input concerned.

(b) Other components of a composite product

Any producer of x also holding a dominant position in the supply of a necessary complement, has greater power in the market for x than market share may indicate.

If x depends on z and market for z is dominated and protected from competition, structure of market for x is less relevant to competition policy.

CHAPTER 4

CASE STUDIES IN THE APPLICATION OF THE FRAMEWORK TO ASSESSMENT OF DOMINANCE

INTRODUCTION

In this chapter the analytical framework presented in Chapter 3 is applied to a number of cases drawn from EEC, UK and French jurisprudence. The objective is to illustrate how it could have been used to resolve some of the elements of dispute about market definition in cases concerned with abuse of dominance.

The first three cases relate to alleged dominance with no issues of "vertical" product interdependence. The first case, **Continental Can**, is well-known in Community jurisprudence because of the importance assigned by the European Court of Justice to definition of the product and geographical markets. A more recent UK merger case is introduced to provide additional evidence relevant to **Continental Can**. The second and third cases, **Hovercraft and Ferry Services** and **Cat and Dog Foods**, both drawn from UK competition policy, provide useful insight into definition of product markets and evaluation of potential competition and demonstrate the usefulness of the analytical framework.

Case studies numbered 4 to 6 all raised issues of vertical interdependence and illustrate particularly the application of Section E of the framework (though other elements are also important). The cases are **CSC v. Zoja** and **Hugin v. Liptons** (both EEC cases) and **Replacement body panels for Ford vehicles** (UK). Despite criticisms reported in Chapter 1 above, the analysis of these cases reveals that both the Commission of the European Communities and the UK Monopolies and Mergers Commission *did* consider product interdependence, using an approach similar to that in the analytical framework.

Cases 4 to 6 also provide an opportunity to compare the application of the framework relating to the relevant market with the approach based on dependency relationships (*partenaire obligatoire*). Case study number 7 is a recent (December 1985) decision of the Commission of the European Communities relating to **AKZO v. ECS**. The analytical framework appears to support fully those decisions in this case which relate to definitions of the product and geographical markets and to potential competition. Product interdependence is also discussed, since the case relates to an intermediate product.

The framework for assessment of markets relevant to seller dominance is applied in full in cases 1 to 7. Three further cases are analysed only partly, because their main interest is in the elucidation of particular aspects. These are:-

case number 8 - three cases relating to **outdoor advertising** in France and the UK, which illustrate problems of product definition in cases of general reference rather than alleged abuse;

case number 9 - **United Brands** where the analytical framework confirms the Community decision on product market definition but casts doubt on the validity of that of the geographical market;

case number 10 - **Ice Cream (UK)**, which provides an opportunity to test (and to show the pitfalls) of certain of the statistical measures of substitutability.

Case study number 11, the "supercentrales d'achat" (arrangements whereby retailers pool orders through common purchasing organisations) illustrates some of the issues in assessment of markets relevant to purchaser dominance.

The findings from the case study analyses are discussed at the end of the chapter.

CASE STUDY NO.1: CONTINENTAL CAN COMPANY (EEC CASE)

Documentation

Commission of the EC: (CEC)	Decision (8 February 1972) Case 72/2 Journal Officiel (French language) 1972 L7, pp.25-39
European Court of Justice: (ECJ)	Judgement on appeal (21 February 1973) in Case 6/72 European Court Record, pp.215-65
Monopolies and Mergers Commission, UK: (MMC)	Rockware/United Glass - Redfern National Glass, Proposed Merger (1977-8), HC 431, HMSO, London
Price Commission, UK	Metal Box Ltd - Open Top Food and Beverage and Aerosol Cans, HC 135, HMSO, London, 1977.

INTRODUCTION

This case concerned the acquisition by Continental Can Company Inc. (USA), via a European subsidiary, of a majority shareholding in Thomassen en Drijver-Verblifa NV ("TDV") in the Netherlands. Continental Can already controlled the largest supplier of light metal cans (for preserved foods) in W Germany (Schmalbach-Lubeca-Werke AG - "SLW") and since TDV dominated the corresponding market in the Netherlands and Belgium, the takeover gave the US company a dominant position in a wider geographical area.

The case established an important legal principle: extension through acquisition or merger by a company already in a dominant position within a substantial part of the Common Market constitutes an "abuse" of that position, under Article 86. (ECJ, pp.242-5) Critical examination of this logic lies outside the terms of reference of the current study. However, it seems strange that, in order to condemn a takeover by a US company of a near-monopoly supplier in Belgium and Holland, it was necessary for the Commission to prove that the US company's German subsidiary had a dominant position in Germany, particularly as there was very little competition between SLW and TDV.

The decision of the Commission against the acquisition was annulled by the Court of Justice, on the grounds that large shares of three narrowly defined sub-markets did not

constitute a dominant position. The Court stated explicitly that if Continental Can had been shown to hold a dominant position then the acquisition would have constituted an abuse.

The Court's decision on the definition of dominance corresponds closely to the approach set out in Chapter 3 - although SLW was shown to hold a dominant position in three segments defined by substitutability in demand, this position did not confer power, because of potential competition:

"A dominant position on the market for light metal containers for meat and fish cannot be decisive, as long as it has not been proved that competitors from other sectors of the market for light metal containers are not in a position to enter this market, by simple adaptation, with sufficient strength to create a serious counterweight."

(ECJ, pp.248)

A. DEFINITION OF THE RELEVANT PRODUCT

Starting Point (A.1)

Although this case concerned an alleged abuse of a dominant position, the takeover of TDV by Continental Can was not made possible by the domination of the German market by its subsidiary SLW. The starting point was not defined by the abuse. Instead, the Commission investigated SLW's activities and sought to find product markets in which the company held a dominant position.

The Commission considered four groups of products within SLW's range:-

- (a) cans supplied "open top" for subsequent sealing by insertion of a metal top - used for meats, fruit and vegetables, fish, pet foods and drinks (especially beer and soft drinks);
- (b) "general line" cans with separate lids - used for packaging of foods and other products in powder or granular form and for viscous, non-perishable liquids;
- (c) aerosol cans;
- (d) metal closures, especially for glass and plastic jars and bottles, including crown corks.

Substitute products

The commission considered a wide range of substitutes for (a), (b) and (c), including paperboard, plastic and glass containers. Although the terms were not used, the factors listed by the Commission (CEC, p.33) cover aspects of both functional and reactive interchangeability (A.3). These factors included opacity v. transparence, rigidity v. flexibility, weight, shape, etc (all functional) and the preferences of distributors and customers (reactive). A barrier to substitution was identified in the need for investment in packaging equipment specific to each material. No statistical measures of substitutability were reported. (A.4, A.5)

Results of Commission's Analysis

Three product markets in Germany were identified as dominated by SLW: "open top" cans for meat (SLW's share of German market 70 - 80%); "open top" cans for fish (90%); metal lids for wide-top glass containers (55%). The cans for fish faced competition from glass and plastic containers but, because of the cost of changing to these materials, these were not combined with metal cans in the calculation of market shares. It may be noted that the Monopolies and Mergers Commission in the United Kingdom reached a similar conclusion - the cost of re-equipment for packaging created a gap between metal and glass containers which would be substitutable in end-use (MMC, para.45). This view was also shared by the UK Price Commission (op cit, para. 2.7) The Court (para.34) expressed some doubt about the separation of the three products from near-substitutes. In particular, some doubt was cast on the isolation of metal lids for glass jars.

B. GEOGRAPHICAL MARKET

The starting-point was the German Federal Republic, since this was SLW's own market. Support for use of this national definition was provided by the negligible level of trade between Germany and other countries - for "open top" cans, both exports and imports were less than 4% of consumption within Germany. Also the market shares of the major companies were widely different - SLW predominating in Germany, TDV (including Sobemi) in the Netherlands and Belgium and Carnaud in France.

In its judgement, the Court (ECJ, p.246) points to inconsistencies in the Commission's arguments about the geographical market, which did not explain the low level of trade. The Court found as "unsubstantiated" arguments based on transport costs. A reading of

the Commission's own analysis suggests that the main reason for national dominance in each of the four countries - W Germany, Netherlands, Belgium and France - may be found in the collaboration (reported in detail) among all major would-be competitors in the supply of metal cans.

Use of the framework for geographical market definition in Chapter 3 would indicate a wider market, because of **transferability of demand (B.5(a))** and also **transferability of supply combined with similar demand conditions (B.5(b))**. User companies include large multinationals easily able to accommodate international transactions and with little or no national preference; the product (the metal can or metal lid) is anonymous; physical transport costs are low - a "profitability threshold" of between 500 and 1000 km. was suggested by the Commission for products with contents of less than 1 kg. If container producers sought to market their products in other countries they would find generally similar price-elasticities for their products.

The UK Price Commission, in commenting (para 2.1) on Metal Box's 70% plus share of the UK light can market, interpreted the low levels of both imports and exports as a result of high cost of transport. With a significant part of the UK fruit and vegetable industry located near East coast ports, it is difficult to accept this interpretation.

In this case, the absence of shipments and the wide differences in market share suggest national markets. The economic analysis shows no reason for such national separation and reinforces the suggestion that this separation may have been the result of inter-company agreements. A more accurate definition might have been dominance of the EEC market for certain metal cans by a group of enterprises, though even this could be contested on the grounds of potential competition (Section D of Checklist).

Evidence regarding glass containers in the United Kingdom (MMC, p.12) shows significant elasticity of supply through imports at times of shortage, which confirms the view that the market for containers for foods and drinks has no significant national boundaries.

(Section C of the framework requires no discussion with respect to this case)

D. POTENTIAL COMPETITION

The Court referred specifically to two elements of potential competition (1) entry into production of cans by food processors, and increased output and supply by existing

vertically integrated concerns and (2) transfer into production of cans for meat and fish by producers of cans currently used for fruit and vegetables, soups, drinks, etc. None of the companies who might have been able to increase supply by either of these two means was currently selling significant quantities of cans for meat or fish in Germany. The factors likely to influence such potential competition are, therefore, those listed in Section D.2 of the checklist at the end of Chapter 3.

With regard to the development or increase of production of cans by food processors, the Court interpreted the existence of such vertically integrated concerns as evidence refuting the opinion of the Commission that there was a significant barrier to entry in the form of minimum economic scale, deterring all but the largest companies. The Court criticised the lack of evidence to show that the supply of cans for meat or fish could not be increased from this source. Another criticism was that the Commission had failed to show what characteristics of light metal cans for meat and fish distinguished them, in terms of production requirements, from other cans. In the terms used in Chapter 3, what would be the barrier to transfer of capacity if the price of cans for meat and fish rose significantly, because of a dominant position on the part of SLW?

There is an absence of satisfactory answers to these questions, and the geographical market definition is of dubious validity.

E. PRODUCT INTERDEPENDENCE

The demand for metal cans is derived from that for the processed foods they contain. Thus canned meat and canned fish may be substitutable by fresh or frozen products. Although this was not discussed by the Commission or the Court of Justice, the exploitation of any monopoly in the supply of cans for meat and fish may be partly restrained by the availability of the same (and/or substitute) foods in fresh or frozen form.

In order to assess the significance of such indirect competition, it would be necessary to know the value of p_3 in Section E.1(a) of the Chapter 3 checklist - p_1 and p_2 are both close to unity.

CONCLUSIONS ON THIS CASE

The case is slightly unusual because, as the Commission and the Court both explicitly accepted, the acquisition of TDV by Continental Can was not caused by dominance of

the German market. The Commission had to prove that Continental Can's subsidiary in Germany held a dominant position in some product market(s) with protection from competition. The logic failed because it was based on the observed absence of competition rather than the reasons for its absence. These probably lay in the agreements between would-be competitors.

CASE STUDY NO.2: FERRY AND HOVERCRAFT SERVICES (UK)

Documentation (two cases of proposed merger)

Monopolies and Mergers Commission: (MMC)	British Rail Hovercraft-Hoverlloyd (1980-1) HC374, HMSO, London
" " " "	European Ferries Ltd - Sealink Ltd (1980-1) HC65, HMSO, London

INTRODUCTION

The first of these two merger proposals was between two companies operating hovercraft services for accompanying cars and foot passengers between Dover and Calais and Dover and Boulogne (British Rail Hovercraft, Seaspeed) and between Ramsgate and Calais (Hoverlloyd). The effect of the merger was the closure of the latter route and concentration of hovercraft services on the two routes from Dover.

The second proposal was a takeover bid by European Ferries Ltd for Sealink UK, the maritime subsidiary of the British Railways Board; this bid was resisted by BRB management.

The first proposal was allowed by the MMC on the grounds that it was necessary to ensure the survival of hovercraft services between England and France across the Straits of Dover; the second was rejected on the grounds that the combined company would command a dominant position, especially on these same Anglo-French sea routes.

The analysis below looks specifically at the definition of the market in which the short Anglo-French ferry services are located. The case provides interesting illustrations of the criteria of substitutability and the assessment of potential competition.

A. DEFINITION OF THE RELEVANT PRODUCT

1. Starting Point

In the case of the hovercraft merger, the narrowest definition was the market for travel by hovercraft between England and France which after the merger would be controlled completely by the merged company.

In the EFL-Sealink case the MMC's logic was similar to that proposed in the Chapter 3 checklist (A.1): it identified a narrow market (short crossings by ship between England and France).

2. Choice of products to be considered as substitutes

In these two cases there were two forms of possible substitution:

- (a) travel mode - ship, hovercraft, hydrofoil, air
- (b) choice of route - discussed in Section B.

In the hovercraft case (pp.28-9), the MMC reported an extensive and detailed analysis of competition on a spectrum of ferry and hovercraft routes ranging from Plymouth-Roscoff in the far west to Hull or Great Yarmouth to the Netherlands ports in the far east. This analysis drew on a survey carried out for the UK Department of Transport into the travel patterns of the occupants of 14,000 cars using cross-channel services in 1979 and 1980.

3. Criteria of substitutability

Functional interchangeability.

For accompanied car and motorcycle traffic, a choice of mode was available only in the Anglo-French short-sea sector. This "sector" was defined by the MMC as services between Dover, Folkstone or Ramsgate in England and Boulogne, Calais or Dunkerque in France. This modal choice was (and remains) between ferry and hovercraft.

Since some of the Anglo-French traffic could alternatively have travelled via Oostende or Zeebrugge (in Belgium), one might add the "Jetfoil" service between Dover and Oostende, for foot passengers only. Again for passengers not obliged to transfer cars, airline services linking origins and destinations directly could be considered.

The MMC considered ferry and hovercraft services as functional substitutes - the shorter time required to cross by hovercraft gave this mode a slight advantage, reflected in a "premium" in the price (see below) but this was partly offset for some travellers by the fact that it provided less break-time. (In particular, unlike ferries, hovercraft could not be used to "spend a night" on the journey.)

For foot passengers only, Jetfoil services were functionally substitutable for those hovercraft or ferry passengers on the short-sea crossing for whom Dover-Oostende would be a convenient alternative. Air travel offered such major savings in travel time that its functional substitutability was limited. (One might add that if waiting time and airport access time are included, the saving on journeys between city centres is less significant.)

Reactive interchangeability

Passengers did consider both rival ferry services and hovercraft services as substitutes and compared prices with service quality, such as frequency and crossing times. The impact of the introduction and development of hovercraft services on ferry traffic in the late 1960's and early 1970's was quoted by the MMC as further evidence of consumer reaction.

For foot passengers between England and Belgium, the Jetfoil service competed not only with the Dover-Oostende ferry service but also with the Anglo-French short crossing, by ferry or hovercraft, because of coach (autocar) links between Calais or Dunkerque and Belgian cities.

While aircraft provided functionally substitutable services for some foot passengers, business travellers in particular do not appear to regard them as functional substitutes.

Barriers to substitution

There are no obvious barriers to substitution between shipping and hovercraft services. One factor limiting competition between surface transport and the more expensive air travel is the comparatively low proportion of air travellers paying their own fares.

4. Tests of substitutability

Although the MMC uses the term "high cross elasticity of demand" (Hovercraft report, p.4) in describing competition, it does not report any statistical estimation of cross-elasticity. Without specific data collection it would not be possible to calculate either cross-price elasticity or substitution elasticity.

There is some potential for comparison of price movements, including the Stigler-Sherwin and Horowitz tests (A.5). Relevant data could be obtained from tariff

information published annually.* The incomplete evidence now available suggests parallel price changes.

Similarity in prices and product tailoring

In 1980, market shares of accompanied tourist vehicle traffic on the Anglo-French short-sea routes ("French straits") were European Ferries 36%; Sealink 27%; Hoverlloyd 15%; Seaspeed 14%.

An examination of the 1986 tariff structures of European Ferries, Sealink and the merged Hovercraft company, Hoverspeed, shows remarkable similarities. Each company has four basic tariff grades for Dover-Calais and Dover-Boulogne (B,C,D,E) and these grades are applied at almost identical times of the year and times of day. Within each grade the fares of European Ferries and Sealink are virtually identical; those of Hoverspeed are about 10% higher - BRHL (Seaspeed) told the MMC that this premium was made possible by the difference in "service quality" (Hovercraft report, p.4). This premium is consistent with the emphasis placed in speed in the advertising of hovercraft services. The MMC, however, believed that this premium did not invalidate the substitutability of hovercraft and ferry services, because a high cross-price elasticity remained. (ibid.)

Both ferry companies and Hoverspeed offer very similar "bargain deal" arrangements: five-day mini-break, 60-hour excursions and day-trips for foot passengers. The tariff structure of Jetfoil is based on that for Dover-Oostende ship crossing (£6 supplement for each crossing). The MMC found that the Belgian RMT aimed to match its car ferry tariffs on the Dover-Oostende route to those of the much shorter French straits crossings. For foot passengers, the fares on the Belgian ferries differ little from those on the Dover-Calais route, even though the latter is one-third the distance.

From the evidence presented in the MMC's reports, it seems probable that prices and tariff structures were due to competition rather than collusion. The MMC reported instances where new bargain fares had been introduced by one of the competing operators, in the belief that this particular offer would increase the total market. Other competitors has been obliged, by competitive pressure, to offer a similar bargain arrangement.

* It has proved difficult to obtain comprehensive retrospective data for this study but these would probably be supplied in full in response to an official request.

The separation of air travel is emphasised by the different tariff structures, deals and advertising. Air fares are lower for week-end travel in direct contrast to ferries and hovercraft and the winter-summer variation is also the reverse of that applying to sea crossings.

5. Definition of Relevant Product (Mode)

The MMC concluded that on the short Anglo-French sea routes hovercraft and ships operated in the same product market; for foot passengers to Belgium the hydrofoil (Jetfoil) service was a substitute but these represented only a small proportion of the market. Air travel was not included in the product market, because it applied only to foot passengers and appealed to a different group of passengers (businessmen). The MMC did state, however, that air fares acted as "an upper limit for the ferry operators' pricing policies" (EFL-Sealink report, p.45). In view of the gap between the fares, it is hard to interpret this last comment.

B. GEOGRAPHICAL MARKET

1. Starting Point

The product market was defined as ferry and hovercraft services and the narrowest definition for study of the geographical market must be the services linking Dover, Folkstone or Ramsgate with Calais, Boulogne or Dunkerque (the "short crossing sector"). Services on these routes compete intensely with each other.

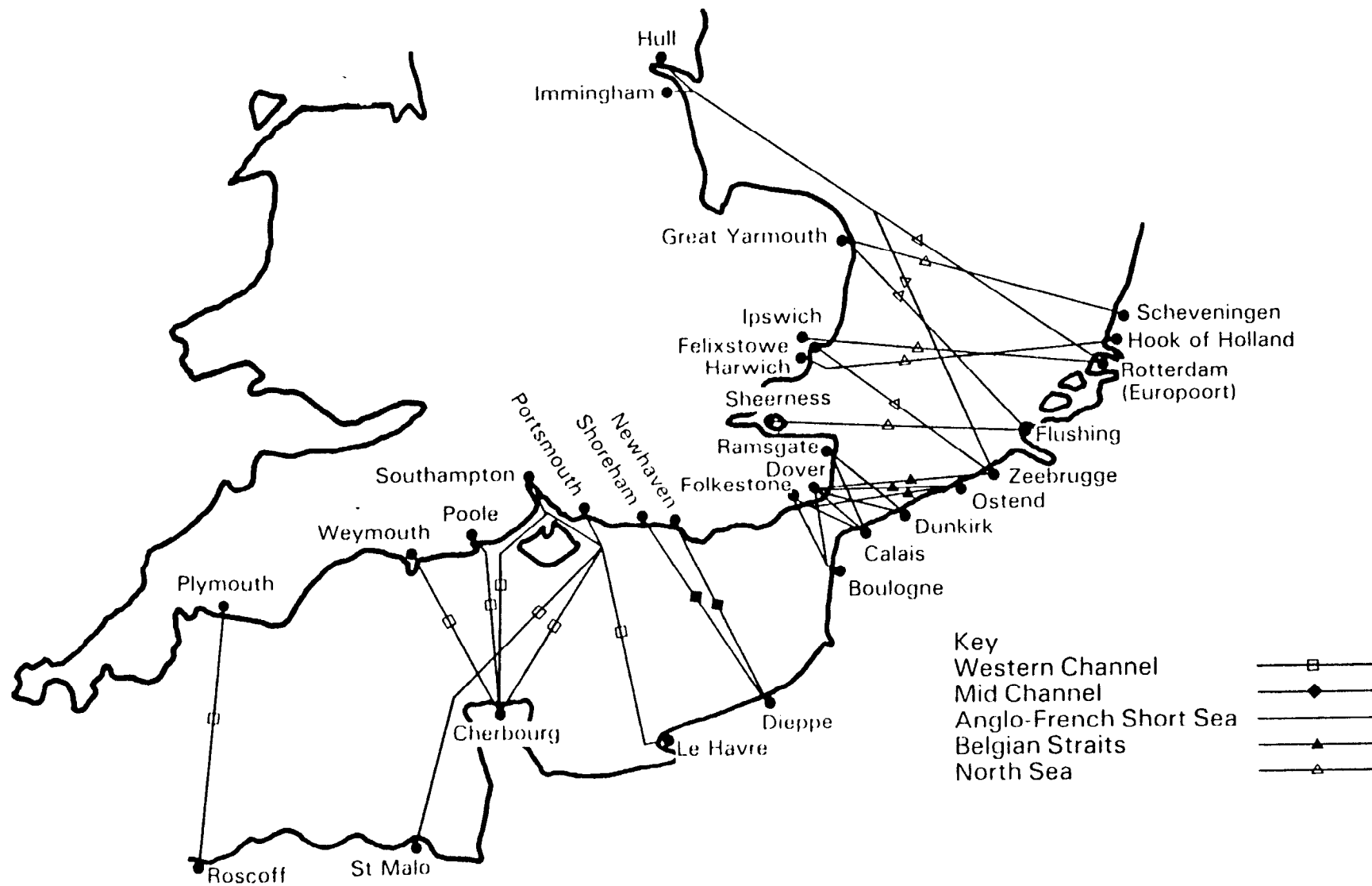
2. Choice of other sectors for inclusion

This was easy in this case because of information on routes available and service quality. The choice of route is influenced by origins and destinations of travel and by the importance of time. Information on these factors was available from the D.Tp. survey.

One factor which may influence comparison of sectors is that for major conurbations in the United Kingdom, the Kent ports are en route for most continental destinations, whereas the ports in East Anglia or further west along the Channel coast require some diversion.

For many passengers in the short-crossing sector, alternatives would mean significantly longer journeys. Substitutes would be considered by those passengers travelling to/from

Routes and sectors: Anglo-Continental Services



places further north in Europe, in Belgium, Netherlands or Northern Germany. Another group who would be likely to consider substitute services are passengers travelling to and from places in the western half of France, for whom routes further west in the channel would be appropriate (see map).

3. Factual Evidence

Some evidence on prices has been presented in Section A. It is interesting to compare the current (1986) fares between Dover and Calais with those between Dover and Oostende and Newhaven and Dieppe. The distance involved on each of the latter two services is approximately three times that between Dover and Calais. On the Dover-Oostende service the fares are virtually identical with those on the Dover-Calais. On the Newhaven-Dieppe service the fares are significantly higher. This evidence confirms the conclusion of the MMC that the relevant geographical market was the short-sea crossing sector plus Belgian services out of Dover.

One slight problem with this definition is that the overlap between the short-sea crossing sector and Belgian routes applies only to those passengers wishing to travel via Belgium. A small but significant price increase on the short-sea routes would have a smaller effect on passenger traffic on those routes than the corresponding effect of a price increase between Dover-Oostende. For this reason, the geographical market associated with a dominant position in the short-sea crossing sector might well be defined as that sector only.

This last conclusion illustrates the theoretical point made by the German Monopolkommission, that y may be considered as a substitute for x when a change in the price of y has a substantial effect on the change in demand for x (not vice versa). Thus, the short-sea crossing is a substitute for the Dover-Oostende service but the latter is not a substitute for the short-sea crossing.

(Section C, Definition of Relevant Market Sales, is not an issue in this case.)

D. DEFINITION AND MEASUREMENT OF POTENTIAL SUPPLY

1. Potential supply from companies already selling relevant products within the relevant geographical market

In 1980, at the time of the proposed merger, a fall in traffic had coincided with a large increase in capacity and capacity utilisation in the short-sea crossing sector had fallen to 30-35%. The existence of this excess capacity was one of the specific reasons for the merger proposals.

Another element of potential supply is **transferable capacity**. Both European Ferries and Sealink as well as P & O (the other company in this sector at the time) operate ships on a number of routes outside the relevant market and also own freight only ships which could be converted.

"One of the more important developments during the 1970's on the Anglo-Continental routes has been the development of new services, partly by the entry of new competitors, and partly by existing competitors opening additional services."

(EFL-Sealink report, p.54)

2. Potential supply from companies not currently active in this market

(a) **Access to ports** is the principal barrier to entry. The right of entry to a port is legally established and the owner or operator of a port may not refuse access to any shipping line prepared to pay harbour dues. However, port authorities may be granted powers to limit the use of a particular berth (section of quay) to specified shipping companies. Also the right of entry is subject to existing user rights and a new entrant may be able to obtain less attractive harbour facilities and timings (slot cycle). Sealink owned part of the port facilities at Dover which gave it control over slot cycles.

To overcome this problem a shipping company new to a particular sector may need to persuade port authorities to invest in new capacity, which may entail long-term financial guarantees from the shipping company. These guarantees would prove a burden in the event of subsequent withdrawal, ie they would be sunk-costs (EFL-Sealink report, p.56).

(b) **Capital requirements other than those associated with harbour facilities** are less likely to act as a barrier to entry. Except occasionally in a literal sense, investment in ships is rarely a sunk-cost, because these can be transferred to other routes.

(c) **Minimum scale of entry** may be required for commercial rather than technical reasons. In order to make a route attractive, shipping may need to operate a sufficient frequency of sailings to offer choice to passengers.

Conclusion on Potential Competition

The nature of the barriers indicates strongly that competition is most likely to come from companies already within the relevant market or adjacent to it. If the merger between Sealink and European Ferries had been allowed, this would have given the combined group a dominant position in the ferry operation and, together with the merged hovercraft operator, it would have formed an effective duopoly. However, if the merged company had acted to reduce excess capacity by limiting the number of sailings, this would have reduced the principal barrier to potential competition from other companies. One potential competitor (Bell Lines) expressed the view that excessively high pricing by a merged company would quickly be followed by new entry into the market as long as port capacity was available (EFL-Sealink report, p.71). Another potential rival, Brittany Ferries, took a similar view and considered that the merger would be of net benefit provided that the merged company were not allowed to control ports and thereby restrict potential competition.

The Monopolies and Mergers Commission recommended that the merger should not be allowed mainly on the grounds that the merged company would be able to control access to ports.

Section E, dealing with product interdependence, is not pertinent to this case.

CASE STUDY NO.3: CAT AND DOG FOODS (UK CASE)

Documentation

Monopolies and Mergers Commission: Cat and Dog Foods (July 1977)
(MMC) HC447, HMSO, London

INTRODUCTION

This case resulted from a reference to the UK Monopolies and Mergers Commission of the United Kingdom sales of prepared food for dogs and cats. About 50% was supplied by Pedigree Petfoods, a division of Mars Ltd (a wholly owned subsidiary of Mars Inc (USA)); a further 30% was supplied by Spillers. The case illustrates problems of product definition and emphasises the importance of the restraining influence of potential competition.

A. DEFINITION OF THE RELEVANT PRODUCT

The generic description "cat and dog foods" covers a wide variety of different products. It would clearly be risky to assume that every cat or dog would regard with equal favour every product included within the group. However, the purchasing decision and the system of distribution is fairly consistent across the range and it was therefore reasonable for the MMC to regard the group as a single product at the outset (Section A.1 of Chapter 3).

The product range includes canned, semi-moist and rehydratable foods, biscuits and meal and a variety of other products.

Possible substitutes would include fresh meat and fish, household scraps and milk. Pedigree Petfoods and the MMC calculated that specially prepared foods accounted for 46% of the diet of British cats and dogs in 1975, compared with only 25% in 1960. Since there was an estimated 48% increase in the numbers of both cats and dogs during this 15 year period and an increase in prices, the total retail sales value of prepared foods rose five-fold over the 15 years.

The reasons for the higher proportion of prepared foods include their convenience (at a time when more pet owners were going out to work); the declining availability of household scraps because people were eating more convenience foods; heavy advertising

which was facilitated by the advent of commercial television in 1955; finally efficient marketing and distribution by the companies concerned.

In terms of functional substitutability prepared foods enjoy significant advantages. They can be bought in a wider range of shops than fresh foods, they are more easily stored and they need no cooking.

Reactive substitutability is slightly ambiguous. Who is the final consumer? Apparently some dogs and more particularly cats are very unwilling to switch between products. There is a significant gap in substitution between prepared pet foods and the less expensive alternatives, but both major manufacturers and the MMC itself were satisfied that competition from these alternatives acted as a restraint upon prices which could be charged for prepared pet foods.

One may perhaps consider the addictions of particular pets as a barrier to short-term substitution. In the longer-term, there can be little doubt that a significant increase in the price of prepared foods would lead to declining sales. The barrier to substitution is probably increased by the continued advertising of pet foods (much of it intended to maintain a market share) in contrast with the complete absence of any advertising of the alternatives.

B. GEOGRAPHICAL MARKET

The starting point for the analysis (B.2) was pre-defined as the United Kingdom. The MMC report contains very little information about overseas trade, either existing or potential. Both companies have some multinationality but international shipments appear to be low.

Examining the geographical market using Section B of the framework, it is easy to recognise that the final consumer demand is not transferable, that the structure of the industry does not approach perfect competition at EEC level and that demand conditions are unlikely to be similar in different countries (partly because of the relative supply of scraps etc). International trade is likely to be limited also by the low value to volume ratio.

Although the information contained in the MMC report is rather limited, it seems reasonable to conclude that it was correct in not widening the geographical market beyond the United Kingdom.

C. RELEVANT MARKET SALES

The MMC report contains information both on the total sales of prepared cat and dog foods and also on the total value of products given to cats and dogs for consumption. The commercial interests of Mars and Spillers in this area have led them to devote considerable resources to monitoring the market and the case presents an unexpected abundance of relevant statistical information.

D. POTENTIAL COMPETITION

1. Potential supply from firms already selling the relevant product

The MMC report does not discuss capacity utilisation and one must assume that the leading companies were operating at or near full capacity. This would be consistent with the rapid growth of the market which had preceded the MMC investigation.

Transferable capacity is significant. Both of the major suppliers and some of the more recent entrants (Quaker and Carnation) are also producers of food for human consumption and all these companies have "massive resources available" (p.43) which could be directed towards the processing, marketing and distribution of pet foods.

2. Potential supplies from companies not selling the relevant product

Barriers to entry are mainly of a commercial type. They are significant but could be overcome by companies producing human food. Among barriers to entry are the following:-

- (a) Brand loyalties created by heavy advertising. Existing producers of branded foods for human consumption could transfer their goodwill and reputation to pet foods if they were to enter this market. This explains the successful entry of Quaker and Carnation.
- (b) Access to widespread distribution outlets. Again it would be necessary to enter on a significant scale in order to cover the variety of outlets but companies producing branded foods for human consumption would already be present in the majority of these outlets.

The MMC concluded that smaller suppliers would face disadvantages in trying to enter the grocery trade but that these were not insurmountable. Such smaller concerns could confine their activities to a particular locality or could enter the significant market in supplies to multiple retailers for sale under those retailers "own brand" labels.

(Section E is not relevant to this case.)

CONCLUSION

This is a market dominated by two enterprises. Analysis of substitutability does indicate a "gap" in substitution in the short-term, though in the longer-term a significant increase in prices would cause a switch to cheaper alternatives available. More significantly, the MMC concluded that this market was highly vulnerable to potential competition ("contestable" in the more recent economic terminology), especially because of potential entry by general food manufacturers.

The MMC conclusion was that Pedigree and Spillers did hold a dominant position in the market relevant to the reference but that this dominant position could not be abused and was therefore not relevant to the aims and objectives of UK legislation concerned with competition policy.

CASE STUDY NO.4: COMMERCIAL SOLVENTS CORPORATION (EEC CASE)

Documentation

Commission of the EC: Decision (14 December 1972) in case of Zoja v. CSC, Journal Officiel (French language) 1972, L299, pp.51-58.

European Court of Justice: Judgement on appeal (6 March 1974) in cases 6 and 7/73, European Court Record 1974, pp.223-75.

INTRODUCTION

At the time of the case (1970-1) the Commercial Solvents Corporation (CSC) of the USA enjoyed an effective world monopoly of products derived from the nitrification of paraffins, including nitropropane from which is derived aminobutanol. The last is an essential raw material for the production of ethambutol, used in anti-tuberculosis drugs.

In 1962 CSC acquired a majority holding of Istituto Chemioterapico Italiano (ICI), Milan, which then became the sole direct distributor of CSC's products in the EEC. From 1966 onwards the main customer of ICI for aminobutanol was the Laboratorio Chimico Farmaceutico Georgio Zoja ("Zoja") which manufactured ethambutol and exported it to France and Germany and to countries outside the EEC. In 1968 CSC decided to extend its activities in Europe forwards to the manufacture of ethambutol and ethambutol-specialities. After unsuccessful negotiations for a merger with Zoja, ICI began this manufacturing at the beginning of 1970. At the same time, CSC decided to discontinue the supply of nitropropane and aminobutanol to customers in the EEC.

Zoja had a contract for supplies from ICI but following a substantial price rise by ICI at a time when stocks of aminobutanol held by independents were high, it cancelled its order. When the alternative supplies were exhausted, Zoja found that neither ICI nor other distributors outside Europe were prepared to sell it any of the raw material, a consequence of CSC's policy.

The Commission decided that CSC's refusal to supply constituted an abuse of its (world wide) dominant position over the market for nitropropane and aminobutanol. This decision was upheld by the Court of Justice.

A. DEFINITION OF THE RELEVANT PRODUCT

The Starting Point (A.1)

This was defined by the alleged abuse. Unless CSC held a dominant position in the supply of an essential material with no easy substitute, its refusal to supply would be of no consequence to Zoja. The starting-point was **nitro-propane**, from which aminobutanol can easily but (according to Zoja) exclusively be derived.

Substitutes?

CSC suggested a number of substitutable methods of producing aminobutanol other than from nitropropane and also of producing nitropropane by methods other than those used by CSC (A.2). The technical evidence on this issue was conflicting - the Court (p.247-8) appears to have decided that, in both respects, the methods described were still mainly experimental and not economic on a commercial scale. Absence of products **functionally interchangeable** (A.3) confirms that nitropropane was the relevant product.

B. GEOGRAPHICAL MARKET

This was not an issue in this case because of CSC's world-wide dominance of the supply of the relevant product. In seeking alternative supplies, after ICI's refusal in 1971, Zoja contacted possible sources world-wide (Commission, p.53) suggesting free transferability of demand. If other suppliers had existed elsewhere in the world, Zoja would have purchased from them. Aminobutanol has a high value:weight ratio - in 1970 about \$3 per kg. (in today's prices about 11 ecu); its identity is anonymous. It would therefore seem reasonable to define the geographical market as at least the entire EEC and possibly all countries not affected by trade restrictions.

(Section C of the framework was not at issue)

D. POTENTIAL COMPETITION

The patents relating to the production methods used by CSC had expired but the Commission (p.51) listed other barriers to entry to the production of nitropropane:-

- the necessity for long and costly research to obtain know-how;
- the high cost and technical complexity of installations
- the difficulty of finding new outlets for the two other products derived from the nitration of paraffin.

This aspect was not analysed at any length nor was it discussed before the Court. Only the last of the three is a commercial barrier; one may have expected to read some evidence about how far the first two were insuperable for a large entrant. The new enterprise might have been able to attract established researchers from the incumbent monopolist; the extent to which expenditure on the fixed assets would be "sunk cost" depends on the degree to which their design is specific and also on the minimum scale of activity. One reason why these issues may not have been discussed is the relatively small size of Zoja compared with CSC. Nevertheless, if CSC's ultimate goal were to maximise profits by eliminating competitors via vertical integration, other companies bigger than CSC, with substantial chemical know-how and experience might have considered entry.

E. PRODUCT INTERDEPENDENCE

Nitropropane and the derivative aminobutanol are both intermediate products; CSC argued in its appeal that a dominant position in the supply of nitropropane could not be abused to the detriment of the ultimate consumer because of competition at the level of final products. Ethambutol faced competition from other drugs in the treatment of tuberculosis.

This argument implies that the decision by CSC to develop its own manufacture of ethambutol and to eliminate competition from Zoja by refusing to supply to it the essential raw material was not an abuse because the consumer was unaffected. The market for nitropropane for use in ethambutol was not relevant to competition policy because dominance of that market could not be exploited to the detriment of the ultimate consumer.*

* It is surprising in this connection that the appellants do not appear to have cited Article 86(b), which (in its English version) specifically condemns "limiting production, markets or technical development *to the prejudice of consumers*" (author's italics).

There appears to have been a difference between the response of the Commission to this argument and that of the Court. The Commission (CEC p.55) sought to refute it by showing that, although ethambutol was not the single largest anti-tubercular drug, the various treatments for the disease were complementary rather than competitive. In other words, abuse of dominance in the intermediate product market was not restrained by competition in that of the final product.

In its judgement the Court seems to have rejected the principle that abuse must affect the final consumer:-

"An undertaking being in a dominant position as regards the production of raw material and therefore able to control the supply to manufacturers of derivatives, cannot, just because it decides to start manufacturing these derivatives (in competition with its former customers), act in such a way as to eliminate their competition, which, in the case in question, would amount to eliminating one of the principal manufacturers of ethambutol in the Common Market."

(ECJ, pp.250-1)

Fox (1983) is among critics of this decision. She stated :

"Commercial Solvents is a case of internal vertical integration. The decision to vertically integrate did not, as the Court said, eliminate a competitor; it substituted one competitor for another."

CONCLUSION ON APPLICATION OF FRAMEWORK TO THIS CASE

The logic set out in the Commission's decision seems to correspond closely to that in the framework set out in Chapter 3. It defined the relevant product from the nature of the abuse; considered functional substitutes and found that there was no commercial alternative (hence no need to consider reactive substitutability or substitution barriers); looked at barriers to entry and decided that these were substantial, so that potential competition was limited; finally it assessed the degree of competition for the final product in which the relevant product was used. The question which remains unanswered is what the Commission's decision would have been if it had found intense competition between ethambutol and other anti-tubercular drugs.

The analysis of this case would not be significantly assisted by the introduction of the concept of dependency. Zoja was dependent upon CSC, which (in the terminology of Glais, 1983 and 1985) was a *partenaire obligatoire*, but this dependence resulted entirely from CSC's monopoly of the supply of nitropropane. It applied to any purchaser of nitropropane. The degree of dependence can be assessed only by analysis of possible substitution and potential competition. Its importance for competition policy can be measured only when the degree of competition in the "downstream" end-use market is considered. The adoption of the *partenaire obligatoire* approach in this case would require use of the analytical framework in full.

CASE STUDY NO.5: HUGIN v. LIPTON (EEC CASE)

Documentation

Commission of the EC:
(CEC)

Decision (8 Dec.1977),
Official Journal 1978, L22 (pp.23-35)

European Court of Justice:
(ECJ)

Judgement on appeal (31 May 1979) in
case 22/78, European Court Record 1979,
pp.1869-1922.

INTRODUCTION

This case casts further light on the question whether dominance in a market defined in terms of demand substitutes can be compensated by competition in a wider, composite market to the extent that it cannot be abused.

Hugin AB is a Swedish manufacturer of cash registers, wholly owned by the Swedish consumers' cooperative organisation. At the time of the case it sold its product via subsidiaries or appointed distributors in EEC member countries. The shares of the market for new cash registers enjoyed by major suppliers in the United Kingdom in the mid-1970's were estimated by the Commission (CEC, p.25) as follows:-

	<u>%</u>
National Cash Register (USA)	40
Sweda (USA)	18
Gross (UK)	16
Hugin (Sweden)	13
Anka (Germany)	4
Others	2
	<u>100</u>

Liptons Ltd is a London company which rents, services, reconditions and sells cash registers from a wide range of manufacturers. From the late 1950's to 1969 Lipton was able to purchase spare parts for the repair of Hugin machines from the appointed UK importer of Hugin cash registers, a subsidiary of the UK Cooperative Wholesale Society.

Under an agreement with this latter company, Lipton was appointed in 1969 as main agent for the sale of Hugin cash registers in the UK with rights to service and repair. This arrangement lasted until after the introduction of decimal currency in 1971, which caused a boom in this market.

Early in 1972 Lipton's agency was terminated and later in the same year Hugin refused to supply either machines or spare parts to Lipton's (or to any other UK company), at wholesale prices, reserving this business to a new wholly owned subsidiary. The company explained that this was part of its policy of maintaining quality and providing its own comprehensive repair and maintenance service.

The effect of the change in Hugin's policy (of which Lipton had been forewarned) was a sharp (but temporary) drop in Lipton's turnover, which caused the latter company to complain that Hugin's policy, applied throughout the EEC, contravened Article 86.

A. DEFINITION OF THE RELEVANT PRODUCT

1. Starting Point

The narrowest definition would be an individual spare part for a Hugin cash register. This would mean 5,000 separate markets. It was suggested in Section A of Chapter 3 above that in such circumstances, where there is a group of variants of a product with common demand and supply conditions, all used for the same purpose, the group may generally be taken as the relevant product. This step was adopted by the Commission which defined the market as "Hugin spare parts required by independent undertakings". This definition is based on the abuse - refusal to supply spare parts to independent undertakings specialising in the maintenance, repair and reconditioning of cash registers, who require them for their business.

2. Substitutability

There were no substitutes - components of cash registers of other manufacturers were not interchangeable with those of Hugin. The manufacturers argued that it did not have a 100% control over the supply of its own spare parts because of the possibility of dismantling used machines (cannibalisation). The Commission considered that this

source of supply was insignificant; the effects of the withdrawal of supplies on Lipton's turnover was evidence of the effective dominance of the market by Hugin.

3. A comment on the definition adopted

The definition of the relevant product with specific reference to a group of customers (independent undertakings) caused certain difficulties in the subsequent analysis - see Sections C and D below. Such a distinction may be useful, as well as valid, for definition of a sub-market, especially where some discrimination is involved. However, in this case the definition described a **non-existent** market. Hugin did not supply spare parts to independent undertakings. The analysis would have been easier if the relevant product had been defined simply as Hugin spare parts and the abuse the refusal to supply these to independent undertakings.

B. GEOGRAPHICAL MARKET

There was a difference of view between the Commission and the Court about the geographical market and Hugin's appeal was upheld on the grounds that its conduct in refusing to supply spare parts could not affect trade between member countries of the EEC.

The Commission's view (CEC, p.32) was that the alleged abuse of a dominant position by Hugin did affect trade between member countries. Hugin's policy of refusal to supply spare parts applied Community-wide; subsidiaries and appointed distributors in member states were explicitly prohibited by Hugin from selling spare parts anywhere, including export customers. Moreover, Lipton had actively tried to obtain supplies via other member countries.

The Court (ECJ, pp.1898-1900) defined the geographical market as the United Kingdom. Part of its reasoning for doing so seems to be based on confusion about the definition of the product. Paragraph 19 of its judgement (ECJ, p.1899) stated:-

"It is established that the centre of Lipton's activities is the London region and that, in any event, its commercial activities have never extended beyond the United Kingdom."

(ECJ, p.1899)

So the market in which Lipton was competing was Greater London or, at most, Great Britain. This was **not**, however, the relevant geographical market for the supply of spare parts, but that for repair and reconditioning of cash machines. In the words of Chapter 3, the geographical market should be based on "the source of power for the abuse" (B.2). In this case Hugin's power was world-wide and certainly covered the EEC.

The second part of the Court's reasoning is less easy to challenge but is based on a hypothetical argument: if Hugin allowed resale of spare parts between member countries its refusal to supply anyone but its appointed agents would be inoperable and would be discontinued. If there were no refusal to supply, there would still be no trade between member countries since each would buy directly from Sweden. Thus the ban on intra-EEC trade did not prevent trade which would otherwise have taken place.

The validity of this argument lies outside the terms of reference of this analysis. Under the framework of Chapter 3, the geographical market would include all areas within which Lipton would have been willing to purchase the relevant product if it had been allowed to do so ("transferability of demand"). Since it tried throughout the EEC then the Community could be regarded as the relevant geographical market.

C. MEASUREMENT OF RELEVANT MARKET SALES

This aspect was not analysed in any detail by the Commission or before the Court but is quite important in this case. Some difficulty was created by the inclusion of a customer group ("independent undertakings") in the product definition. In 1975, Hugin's turnover from the sale of spare parts world-wide was estimated by the Commission at S Kr. 7 million out of total turnover of S Kr. 246 million. In the UK the respective figures were S Kr. 0.7/22.0 millions (CEC, p.24).

However, it is not clear how these estimates take account of transfer pricing between companies within the Hugin group. Of Hugin's total UK turnover of S Kr. 22.0 million, S Kr. 7.5 million (35%) was derived from maintenance services. (ibid.) It must be presumed that a substantial part of this was accounted for by spare parts - the sales figure of S Kr. 0.7 millions for spare parts might relate only to those parts sold directly to customers without maintenance contracts which were also easy to fit (see ECJ, p.1881). Spare parts for customers with maintenance contracts were supplied "free of

charge". Some estimates of the total size of the relevant market, if this were defined so as to relate to spare parts for Hugin cash registers throughout the EEC, could be derived from the total turnover from maintenance and repair within the wider area.

D. POTENTIAL COMPETITION

Hugin has exclusive rights over most components (ECJ, p.1905) and (though there was some doubt about this) may also have enjoyed protection from copy manufacturing in the United Kingdom because of the Design Copy Act 1968. Apart from the legal risks, there would also be disadvantages to a new entrant from Hugin's lead in know-how and its ability to modify machines. Production would also be less economic because of the small scale of operation compared with that of the original equipment producer. Hugin's monopoly in spare parts for its own machines was not regarded as contestable by the Commission, or by the Advocate-General (ECJ, pp.1906-7).

E. PRODUCT INTERDEPENDENCE

Lipton was able to survive without handling Hugin's machines and is still trading in the rent, repair and sale of cash registers (used and new) in 1986. However, if every major producer had adopted Hugin's policy of undertaking all maintenance and repair of cash registers originally produced by it, companies such as Lipton would have been forced out of business. This would have given each cash register supplier a monopoly in the servicing of its own machines.

Product interdependence was the most disputed aspect of this case. Hugin argued that neither the supply of spare parts nor the provision of maintenance services could be regarded as a market separate from that for cash registers as a whole. The provision of a reliable maintenance service, at competitive prices, was an essential parameter of competition in the market for cash registers; the quality and cost of maintenance was one of the criteria taken into account by customers when choosing cash registers. The dominant positions held by Hugin in the supply of spare parts and, consequently, in the repair, maintenance and reconditioning of Hugin's machines could not be abused to the detriment of the consumer, who would turn to other machines.

The Court did not pronounce on this issue, because its judgement that the alleged abuse did not affect trade between EEC-member countries made it unnecessary to do so. In

countering Hugin's argument, the Commission and the Advocate-General (ECJ, p.1908) quote the fact that spare parts sales accounted for only 3% of Hugin's UK turnover as evidence that spare parts purchases amounted on average to only 3 per cent of the cost of owning a Hugin cash register over its total life. The logic of Section E.1 of the framework in Chapter 3 reflects the argument of the Commission ($p_3 = 0.03$). In this current analysis of the case, the Commission's view is questioned only on grounds of fact - is the figure of 3% correct? (See Section C above.) A second figure provided by the Commission before the Court was the minimum ratio of 18 to 1 between the price of a new cash register and the annual charge for maintenance. (ECJ, p.1879.) If this figure was correct, then the Commission's view that a dominant position in the supply of spare parts could be exploited with negligible effect on the customer's choice of new cash registers would be consistent with our framework.

It is unfortunate that the Commission's factual evidence should have related to 1975 in the United Kingdom, for two reasons. First, 1975 was a year of recession following the oil price increase and the introduction of anti-inflation policies; secondly, the UK market for cash registers had been disturbed by the change to decimal currency in 1971. In order to obtain a more reliable estimate of the relative importance to Hugin of new machine sales, repair and maintenance and spare parts, it would have been necessary to use average figures for a number of years.

Although the facts are uncertain, the Commission does appear to have followed fairly closely, in this case, a logical framework very similar to that set out in Chapter 3.

WAS DEFINITION OF THE MARKET NECESSARY IN THIS CASE?

The Commission's approach to relevant market definition in this case has been criticised from two different angles by Glais and Laurent (1983) and Fox (1983).

Glais and Laurent argued that the definition was contrived unnecessarily in order to impose an inappropriate rigid methodology. The concept of *partenaire obligatoire* was sufficient to demonstrate the dominance - dependence relationship between Hugin and Lipton (op. cit., p.289).

Their argument may be challenged. It may be true that in 1970-1 the sale and maintenance of Hugin machines accounted for 89% of Lipton's turnover (CEC, p.26),

that since its appointment as Hugin's main agent it had reduced other activities, that transfer to other machines would be difficult because other cash register companies had their own distributors and Lipton had become specialist in servicing Hugin machines. However, possibly because of Hugin's modest (13%) share of the UK market, Lipton was able to find other business. It did survive - Hugin was not a *partenaire obligatoire*.

Although the relationship between the two companies is an interesting aspect of this case, an analysis based exclusively on the dependence (alleged) of Lipton on Hugin might have missed the main issues. (Indeed it is possible that the focussing of attention on Lipton led to the Court's definition of the geographical market, here considered mistaken). By withholding supplies of spare parts, Hugin was able to eliminate competition in the maintenance of its own machines - it used dominance over one "market" to establish dominance over another. That Lipton survived by developing other business is immaterial to the issue raised for public policy. Owners of Hugin cash registers could get maintenance only from Hugin.

Fox's criticism was that the market defined by the Commission was only part of a wider market - the supply of cash registers. This criticism also appears unjustified. The analytical approach adopted by the Commission (essentially equivalent to the framework of Chapter 3) correctly identified the source of Hugin's power (supply of spare parts) and, using the ratio of maintenance to purchase costs of cash registers, explicitly assessed whether competition in the wider market would restrain abuse of a monopoly in maintenance. There may be some doubt about the factual evidence, based on one untypical year, but the method of analysis appears sound.

SOME CONCLUDING OBSERVATIONS

Because of the uncertain factual evidence and the absence of any judgement of the Court regarding market interdependence, it is not possible to derive from this case a definitive view of the concept of abuse in cases where markets are interdependent, where any possible abuse would affect another trader rather than the consumer.

Let us assume that Hugin's arguments had been validated - it held only about one-eighth of a highly competitive market in which it was ranked third; assume that it could not charge prices for maintenance significantly above costs because maintenance was an important element of competition in the cash register market. Let us suppose also that

all cash-register companies had adopted the same policy of "cornering" the maintenance of their own machines possibly to preserve turnover after the slump in new machine sales. What would have been the consequences?

(a) For the customer, perhaps little of significance. Individual traders may purchase cash registers only at irregular intervals but they are specialist customers with trade associations, trade magazines and regular professional contacts. Any attempt at exploitation of a maintenance monopoly might rebound.

(b) For independent undertakings engaged in maintenance and repair, perhaps extinction.

A definitive judgement on the applicability of Article 86 would have been valuable.

Postscript

The case is rather dated. The electro-mechanical cash registers then predominant have been extensively replaced by much less expensive electronic units using silicon chips. Some shopkeepers, with whom the matter was discussed, expect to use new cash registers until they go wrong and then replace them with further improved, perhaps still cheaper, models.

CASE STUDY NO.6: REPLACEMENT BODY PANELS FOR FORD CARS (UK CASE)

Documentation

Monopolies and Mergers Commission: Ford Motor Co. Ltd., Cmnd.9437
(MMC) HMSO, London, Feb. 1985

For similar case in France:

Commission de la Concurrence: Avis relatif à des pratiques par lesquelles
(CC) des importateurs* d'automobiles se réservent le monopole d'approvisionnement de leur réseau de distribution de certaines pièces détachées, Rapport de la CC 1983 (pp.300-311), Journaux Officiels, Paris, 1984
(* including Ford)

Also relevant

Monopolies and Mergers Commission: Car Parts, HC 318, HMSO, London, May 1982

INTRODUCTION

This is one of a number of cases involving the distribution of car parts and, in particular, actions by vehicle producers to ensure that they maintain dominant positions in the market for replacement parts.

In 1975 the Commission of the European Communities exempted from prohibition under Article 85 an arrangement whereby BMW dealers in Germany were restricted to obtaining certain parts from the vehicle producer, on the grounds that this arrangement contributed to improving the production and distribution of goods and to promoting technical progress.

In the German Federal Republic in 1981, the Federal Supreme Court set aside decisions of the Federal Cartel Office and the Higher Regional Court and allowed VW to continue a restrictive arrangement of this kind. The argument was that VW had rights and responsibilities regarding the entire life of the motor vehicle, including the existence of appropriate after-sales and spare parts service.

In contrast, the Monopolies and Mergers Commission in the United Kingdom in 1982 and the French Commission de la Concurrence in 1983 decided that the arguments in

favour of the exclusive purchasing arrangements were insufficient to justify the distortion of competition which these restrictions entailed.

Car parts in total would be a product range too wide for application of the detailed analytical framework. The case of body panels for Ford cars provides a more specific example.

The case arose from a complaint that Ford was pursuing an anti-competitive practice in refusing to license independent companies to produce replacement body panels for Ford cars (for which it held a design copyright) and in instituting legal proceedings against independent companies producing such panels illegally.

A. DEFINITION OF THE RELEVANT PRODUCT

1. Starting Point (A.1 in the check-list in Chapter 3)

The narrowest possible definition would be a specific body panel **supplied by Ford**, eg for the right front wing of a Fiesta. Ford lists over 4,000 individual panels, none of which is a substitute for any other. However, as suggested in Chapter 3 and as assumed by the MMC, it is possible to group together large numbers of these variants because the same demand and supply conditions apply to each.

The MMC starts with Ford panels and groups these into the same categories adopted by Ford:-

"full panel", identical to that used in the original vehicle assembly;

"service part panel", a sub-division of the full panel produced specifically for repairs;

"crash part panel", a smaller part specially developed to facilitate repair of localised crash damage;

"corrosion part panel", for replacement of areas of the car body most susceptible to rust and for welding into position when the rusted area has been cut out.

2. Possible substitutes (A.2)

All body panels except corrosion part panels are subject to Ford design copyright - the actions taken by Ford to enforce this copyright prompted the reference to the MMC. Possible substitutes exist in the form of

- (a) imports from Ford plants in other EEC countries, which Ford UK suggested as a possible threat restraining their freedom of action, but of which the MMC found little evidence;
- (b) "illegal" copies produced by independents, mostly outside the UK; these were mainly for older cars.

Corrosion part panels were produced only by independent companies until 1984 when Ford entered the market to distribute imports from the Van Wezel International group, which produces in four EEC countries outside the UK.

3. Criteria of substitutability (A.3)

Functional interchangeability: for many of the more frequently replaced panels there was at least one substitute available from independents, especially for older cars;

Reactive interchangeability: many car owners would not be aware of the existence of non-Ford panels and some might be reluctant to substitute them because of fears about quality;

Barrier to substitution: MMC estimated that 75% of all crash repairs were financed by insurers. The fitting of panels other than those supplied by the original vehicle manufacturer might contravene warranty arrangements and insurers are generally prepared to pay the cost of replacement panels of the car manufacturer. This means effectively that almost all of the market for panels resulting from crashes is automatically obtained by the car producer.

Another barrier was the tendency for many owners to take Ford cars to specialist Ford dealers for repair. The latter obtain most of their spare parts from Ford. However the MMC reported (para. 3.15) that some independents occasionally supplied their substitute panels to Ford dealers.

The purchasers most likely to consider independently-produced substitutes for Ford panels are (i) fleet-owners of sufficient size to undertake their own crash repairs and insuring only against third-party claims and (ii) cost-conscious owners of older cars making private arrangements to get badly corroded panels replaced. Both of these elements are small. The MMC reported that Ford held over 85% of the total market for replacement body panels in 1984 (not including corrosion part panels).

4. Tests of substitutability (indirect, A.5)

The MMC made a study of prices which confirmed the analysis of substitutability, suggesting that Ford had a measure of protection from competition in the full- and part-replacement body panel segment, that is excluding corrosion part panels. Among a random sample of 17 panels, the Ford price was higher than those quoted by independents in 16 of the 17 cases. Nevertheless, the MMC confirmed Ford's report that competition in the supply of panels for some older cars had forced it to make significant price reductions.

In the supply of corrosion part panels, where Ford was breaking into a market from which it had previously been absent, the price it charged was higher than those of all independents in only 5 of 19 cases. In this particular sub-group the barrier to substitution associated with the practice of insurance companies was not present.

Conclusion on product definition

There is an obvious substitution gap isolating the product "body panels for Ford cars" but there is also reason to argue that body panels produced by Ford constitute a separate product for many customers by whom no substitute would be considered even if it were available.

B. GEOGRAPHICAL MARKET

The logic of Chapter 3 would indicate that the relevant market is the United Kingdom, despite the role of imports and the multinational nature of Ford's operations. The reasoning is as follows:-

- (i) final customer demand is not transferable overseas;
- (ii) while supply may be organised on an EEC basis, much of this supply is dominated by Ford, which is therefore in a position to discriminate according to different demand conditions.
- (iii) demand conditions are probably different, not least because of variations in prices of new cars, which affect the economics of the repair v. replace decision. Another factor is the much greater proportion of cars in the United Kingdom which are owned by businesses.

(Section C, Measurement of Relevant Market Sales, is not necessary in this case.)

D. POTENTIAL COMPETITION

Ford was protected by four factors:

- (1) It could insist that repairs made to a car under warranty must include only Ford replacement panels.
- (2) Although its control over Ford distributors and dealers was not absolute (some did occasionally buy competitive panels), these companies were highly dependent on Ford (a *partenaire obligatoire*) and it could limit any incursion by new competitors into specialist Ford outlets.
- (3) For crash repairs, the majority of vehicle owners relied on insurance companies, who generally approved the use of manufacturers' parts.
- (4) The only segment of the market in which potential competition might be significant was the supply to independent (not Ford-franchised) car body repairers of panels to replace those which had corroded (on older cars). Ford was trying to stem this limited competition by legal enforcement of copyright on its own designs. Potential competition from the substitution of corrosion part panels for replacement parts was being countered by Ford's entry into this market at competitive prices. Again penetration through its own dealer network would give it some advantage though much of the low-cost patching of older cars is undertaken by concerns unconnected with the original manufacturers. The fact that Ford had decided not to market certain corrosion part panels on grounds of safety could contribute to the building of customer confidence in those panels which it did not supply.

E. PRODUCT INTERDEPENDENCE

This is of key importance in this case. Ford's defence of its policy of reserving the total market for replacement panels was that it needed to obtain adequate return on its investment in product improvement.

It argued that competition in the sale of cars was sufficient to prevent abuse of the dominant position in the sale of replacement parts.

This argument may be analysed with the help of Section E of the check-list. Using the notation of the check-list we can see that P_1 and P_2 are both equal to unity. (Nobody would buy a replacement panel for a Ford car unless he also had the car concerned and there is no substitute for a Ford replacement panel if the definition is extended to

include independent "copies".) The main argument must relate to P_3 , the expected cost of replacement panels over the life of the car.

This expected cost can be broken down into two components, crash repairs and wear and tear. For most people crash repairs are financed by insurance companies, who can modify premiums to take account of known costs of replacement parts. Data from the UK Family Expenditure Survey (1984) enabled one to estimate that premiums for comprehensive insurance are about 18% of the average annual cost of car ownership, (excluding fuel costs). The element in this which represents crash damage to the insured vehicle is probably about one third. This means that P_3 will be marginally above the critical value of 0.05 during the first few years of the car's life. Subsequently, the car will probably cover fewer kilometres per annum and so will run less risk of crash damage, but there will be a corresponding increase in wear and tear replacement. Overall the value of P_3 at about 6% of total ownership costs seems reasonable.

Given that $P_1P_2P_3$ is approximately 0.06 does this mean that purchasers will be at all influenced by the cost of replacement panels when they are deciding on their choice of car? This may depend upon the extent to which possible crash repair costs are reflected in the insurance premium. The expected level of insurance premium may influence the car purchase decision. A survey of fleet purchasers undertaken by the MMC showed that 16 of the 56 fleet operators interviewed considered the cost of "spare parts, particularly body panels" a vital factor in their decision to buy a particular car; a further 31 said it would be a marginal factor. Again of the 56, 6 said that insurance rating would be vital and 27 said that it would be marginal. All this evidence suggests that the cost of replacement panels is just about significant in influencing the decision about which car to purchase.

The problem is complicated by the general practice whereby cars are sold after three or four years use. To what extent does the cost of replacement panels influence the secondhand prices of cars and to what extent does the secondhand price influence the initial purchase decision? Ford argued that both these influences were significant. There is little in the MMC document to enable one to quantify the arguments, but it would be possible to do so fairly easily, both by direct survey and by study of the large quantity of statistics available. The motor industry is characterised by an unusual degree of transparency.

The MMC concluded that Ford's argument about the total "package" of car ownership, corresponding to the "composite" product in Section E of Chapter 3, applied least

strongly to the motorist who purchased Ford cars secondhand. Elimination of the (fairly limited) competition in replacement panels through the court actions pursued by Ford would enable it to raise prices in this sector (para.6.39).

For this reason the MMC reached a compromise conclusion - in order to protect and legitimise competition in the market segment where substitution could take place, while at the same time recognising the need for Ford to recover design and development costs. This decision is also consistent with the observation that, either directly or via insurance premiums, the cost of panels to replace crash damage might be taken into account by some larger commercial purchasers - Ford is strong in the UK company car sector. The compromise was that Ford's design copyright should be limited to five years, thus restricting its effect to relatively new cars (and to the first few years of a model's existence).

COMMENTS ON THE CASE

Like the Commission of the European Communities in cases 4 and 5, where product interdependence was also an issue, the MMC used a logic for analysis essentially similar to that set out in Chapter 3.

The issues involved are fairly complex. Ford was implicitly accused of two "abuses" - first of trying to reinforce its already dominance position in the supply of replacement body panels for its own cars and secondly of charging higher prices for those panels than those which would have prevailed under competitive conditions.

There is one aspect of this case and others involving car parts and accessories to which the concept of *partenaire obligatoire* is highly pertinent - exclusive purchasing arrangements enforced by contract or by commercial persuasion, which restricted the freedom of Ford dealers to stock competitive panels. The fact that Ford had only recently found it necessary to protect its design copyright in the courts and that other vehicle producers had not had to take such action reflected the "captive" nature of much of the market.

The MMC's general report on car parts (1982) listed exclusive dealing arrangements within the United Kingdom and commented on cases in other countries involving this practice. In some of these cases the franchised distributor was required to obtain exclusively from the vehicle producer not only vehicle components but also accessories and, in one US case, even lubricants. The prohibition of contractual exclusive dealing

will not affect the practice significantly (as the MMC pointed out) when the distributor depends upon the vehicle manufacturer.

The imposition of exclusive dealing as a means of securing a dominant position in the supply of vehicle components or accessories may itself be regarded as abuse of dominance, which results from the power to grant and withdraw the status of authorised distributor. Ford's share of the UK car market in 1984 was 29%, hardly dominant. The greater this share the more difficult it would be for a current Ford dealer to find an alternative vehicle franchise but, since most other vehicle producers already had distribution networks, Ford was for most of its distributors a *partenaire obligatoire*.

Ford's dominance over an individual distributor depends only partly on Ford's share of the car market: other factors include the size of the distributor, the existence of possible alternative outlets for Ford and whether other vehicle producers are aggressively seeking to extend their distribution within the area concerned.

In the case of exclusive dealing arrangements imposed on franchised distributors the relevant market approach proves much less satisfactory than consideration of the concept of *partenaire obligatoire*. This comment applies only to this aspect of the case of replacement panels for Ford cars; for the rest of the case the relevant market approach identified the major issues clearly.

CASE STUDY NO. 7: AKZO v. ENGINEERING AND CHEMICAL SUPPLIES LTD

Documentation

Commission of the EC:
(CEC)

Decision (14 December 1985) reported in
Official Journal 1985 L374, pp.1-27

INTRODUCTION

This case arose from a complaint by Engineering and Chemical Supplies Ltd (ECS), a small producer of benzoyl peroxide (an organic peroxide) located in England, that AKZO Chemie had abused a dominant position in the EEC organic peroxides market. The alleged abuse was selective and below-cost price-cutting in the relatively specialised sub-market for flour additives in the UK and Ireland from which ECS then (1980-2) derived most of its turnover. The alleged price-cutting occurred after ECS had begun to extend its activities to the wider market for organic peroxides in the plastics industry, initially in Germany.

The case raised a number of disputes concerned with market definition, including both the relevant product and the relevant geographical market.

A. DEFINITION OF THE RELEVANT PRODUCT

The Commission's discussion refers to two markets - the EEC market for organic peroxides and the UK/Irish market for flour additives. It concludes that the former is the relevant market in which AKZO abused a dominant position. (The "flour additives market" is a disputed concept since flour additives are complementary, rather than substitute, products.)

1. Starting point

In this case the narrowest definition may be taken from the alleged abuse - AKZO's source of power was its dominance of the sales of organic peroxides in total within the EEC. Its share of such sales exceeded 50%; it offered a broader range than that of any rival and held a secure stable lead in this sector. Since AKZO was accused of price-cutting in the small sub-sector of flour additives in the British Isles, the source of its power to do so could not be within that sub-sector.

2. Substitutes

Except in the relatively minor cross-linking application, for which sulphur compounds are substitutable on a limited basis, there are no functional substitutes for organic peroxides. As a proportion of the total costs of the final products in which they are incorporated, the price of organic peroxides is insignificant. This means that purchasers, while obtaining supplies from the cheapest source, have little incentive to search for alternative chemicals.

B. GEOGRAPHICAL MARKET

Organic peroxides are an anonymous product with relatively high value to weight ratio. Purchasers can transfer demand easily and would tend to switch to imports if these were significantly cheaper. Two features of this case confirm the international nature of competition. These are:

- (1) the entry of ECS into the market for application in plastics in Germany, which provoked AKZO into the response of (alleged) predatory price-cutting in the UK;
- (2) the apparent effectiveness of AKZO's price-cutting in the UK flour additives sub-sector.

(Section C - Measurement of Relevant Market Sales - is not necessary in this case.)

D. POTENTIAL COMPETITION

AKZO have a number of advantages which could be grouped under the heading of "economies of scale". These include a strong commercial and technical marketing organisation, a broad product range and considerable technical know-how maintained by high research and development expenditure.

The power of the wider AKZO group, with its wide-ranging chemicals interest, might provide defensive cross-subsidisation if this were necessary to ward off large-scale entry into the organic peroxides market.

A more probable source of potential competition is entry by small specialist producers aimed at narrow sub-sectors of the market, for specific organic peroxides. AKZO's overall power has enabled it, on previous occasions as well as in response to the

attempted expansion into Germany by ECS, to restrict or prevent such potential competition by selective price-cutting. This price-cutting may not only be used to defend the sub-market which the small firm attempts to enter but may also extend to retaliatory action, possibly threatening the potential competitor's survival. Small companies may find their existence dependent on the sufferance of AKZO.

E. PRODUCT INTERDEPENDENCE

For all the final products in which organic peroxides are incorporated, their cost is only a small proportion of the final product total price. Because of this low proportion (P_3 in the analytical framework), competition in the market for all the final products is unlikely to have any significant restraining effect on the freedom of a company with a dominant position in the supply of organic peroxides.

CONCLUSION

Although the record of this case indicates considerable controversy about the definition of the relevant market, analysis based on the framework in Chapter 3 leads relatively simply and incontrovertibly to the conclusions reached by the Commission:- the relevant market is organic peroxides in the EEC as a whole; dominance is not significantly restrained by either potential competition or by product interdependence.

CASE STUDY NO. 8: CERTAIN FORMS OF OUTDOOR ADVERTISING

(3 CASES - UK AND FRANCE)

Documentation

Monopolies & Mergers Commission:
(MMC)

Roadside Advertising Services, HC365,
HMSO, London, 1981

Commission de la Concurrence:
(CC)

Situation de la concurrence dans le secteur
de la publicité sur les abribus et le mobilier
urbain, Rapport Annuel 1978, pp.26-9,
Paris, 1979.

" " " "

Situation de la concurrence dans le secteur
d'affichage publicitaire extérieur, Rapport
Annuel 1981, pp.45-6, Paris, 1982.

INTRODUCTION

The differences between the approaches of the MMC in the United Kingdom and the CC in France illustrate that general references may provide a misleading point of departure for analysis.

It may be useful at this point to consider the terms of reference of the MMC regarding "the existence or possible existence of a monopoly situation". It is asked to consider

- (a) whether a monopoly exists,
- (b) the identity of the monopolist(s)
- (c) steps to maintain or exploit monopoly,
- (d) other effects attributable to monopoly,
- (e) whether facts found under (a) to (d) operate against the public interest.

The titles of the three references - roadside advertising services (UK), advertising on bus shelters and urban fixtures (France, 1978) and outdoor poster advertising in general (France, 1981) - raise an obvious first question: do these constitute separate markets from advertising by other media? There is evidence in the MMC report to support the French conclusion that from the point of view of the *purchasers of advertising space* (the customers), they are parts of a wider range of substitutes. However, the MMC concluded otherwise, possibly because it found evidence of exploitation of a "monopoly". If its analysis had *begun* from the abuse, it would have become evident that this was a

case of *monopsony* in the renting of sites by advertising agencies, to the detriment of the owners of the sites.

In both countries there was oligopolistic collusion. In the UK in 1978, two companies shared 50% of total turnover in roadside advertising; these companies supplied part of their services via British Posters Ltd. which they owned jointly with eight other companies. The combined share of turnover attributable to member companies of British Posters was 79 per cent. In France in the same year, four companies controlled 83 per cent of the total sales of poster advertising but market segmentation agreements limited competition between them: in particular, one company had a virtual monopoly of advertising on bus shelters and certain other urban fixtures.

DEFINITION OF THE RELEVANT PRODUCT (only section of framework considered in this case study)

1. Starting Point

In all cases this was defined by the reference from the government department concerned. In the UK case the reference specified "the undertaking and performance of engagements to display and exhibit advertisements on sites of not less than 40 inches wide and 60 inches deep*, visible from a highway, excluding sites on or within any form of conveyance".

In the French 1978 case the definition was "la publicité sur les abribus et le mobilier urbain" (advertising on bus shelters and urban street fixtures) and in the 1981 case "l'affichage publicitaire extérieur" (outdoor poster advertising).

2. Substitutability

(a) In the UK case, the MMC stated the following:

"Our conclusion is that although there is an element of choice for advertisers and their agents between roadside and other posters and also between posters and other media, the market defined in the reference is sufficiently discrete to justify our examination" (MMC, p.5)

The grounds for this implied "substitution gap" were as follows:- (i) British Posters' activities were confined to roadside sites; (ii) British Transport Advertising Ltd

* approximately 1.0m x 1.5m

distinguished between roadside and transport advertising; (iii) many advertisers regarded fixed roadside advertising as more effective than that on or within vehicles. The first of these reasons seems tenuous - British Railways do not operate aircraft between London and Edinburgh but this does not imply absence of competition between rail and air on this route! The second and third reasons refer only to one element of possible substitution. A more detailed study of functional and reactive substitutability would appear necessary.

While direct tests of substitutability (cross-price elasticity etc) are not possible, because of lack of data on actual prices paid for poster advertising, indirect evidence is presented in the MMC's discussion of prices. This appears to contradict quite starkly the Commission's earlier conclusion that there was a distinct market for roadside advertising. For example

"The objective of the poster contractor will in principle be to set his prices at the highest level which is consistent with a sufficiently large body of advertisers choosing to use his medium rather than rejecting it in favour of other media." (MMC, p.92, para.10.19)

and

"The evidence we have been given by those involved in pricing decisions suggests that the movement in rates charged for other media, and particularly for television advertising, has been the principal determinant of the general movement in roadside advertising rates." (ibid., para.10.21)

On the basis of the analytical framework in Chapter 3, one would conclude from this that the relevant product market was advertising though all media. The main reason why the MMC did not reach this conclusion appears to be its discovery of an abuse of power: the roadside advertising contractors were collaborating, through effective agreements, to keep down the rentals of their roadside sites (owned by local authorities or companies with roadside premises). This had the effect of discouraging the provision of new sites. But this was an abuse of monopsony - concentrated buying power. For owners of sites (temporary or permanent hoardings, street fixtures etc) there was no alternative source of income to lease for advertising. The MMC's analysis appears defective in its failure to recognise that the market needed to be defined from the standpoint of buyer dominance.

(b) In the French 1978 case, the logic is more clearly presented. The CC stated

".... vis à vis de la clientèle des annonceurs, le marché de la publicité sur le mobilier urbain ne peut être isolé du marché plus vaste de la publicité extérieure." (CC, p.25)

Although the CC thus concluded that from the point of view of the customers (advertisers) only the total of all media was a relevant market, it also considered the position of local authorities who depended upon advertising revenue to finance bus shelters, street light fixtures, litter bins and other urban "street furniture". From this point of view, advertising on such fixtures constituted a distinct market.

The CC went on

".... le groupe Decaux occupe une position dominante vis à vis des collectivités locales désireuses de faire mettre par des entreprises de publicité des abris à la disposition des usagers des transports en commun." (ibid.)

No advertising, no bus shelters. Advertising on bus shelters was dominated by Decaux, by agreement with potential competitors. This is analogous to the monopsony enjoyed by British Posters in the UK. The French analysis correctly identified the distinction.

(c) In the French 1981 case, concerning outdoor advertising in total, the CC decided that although this was dominated by three companies, the relevant market was wider and there was sufficient competition to prevent abuse of dominance of customers. It reasserted a need for vigilance regarding the anti-competitive effects of agreements within the industry, similar to those observed in the 1978 case.

CONCLUSION

It is not clear from the French documentation whether the 1978 case was referred to the Commission de la Concurrence because of complaints by local authorities. The origins of the British reference are also unknown.

When a case originates from an alleged abuse or an expression of concern about a possible specific abuse, this makes a good starting point for analysis - is there a source of power? In the French 1978 case the source of power was ability to finance the erection and maintenance of bus shelters and street furniture. Since local authorities had no alternative revenue from such fixtures, dominance of advertising via this specific medium constituted monopsony.

Similarly in the British case - owners of hoardings or other potential advertisement sites depended on roadside poster advertisers for their revenue. If the reference had resulted from a complaint that site rents were being forced down by abuse of buying power, the definition of the market would have been simpler. The contorted (perhaps fallacious) arguments to show that roadside advertising was a distinct segment from the viewpoint of the customer would have been obviously irrelevant.

The cases demonstrate certain dangers in general references and emphasise the need to adhere to some formal analytical framework in the definition of substitutability.

CASE STUDY NO. 9: UNITED BRANDS (BANANAS - EEC CASE)

(part analysis)

Documentation

Commission of the EC:
(CEC)

Decision (17 December 1985),
Official Journal 1976, L95, pp.1-20

European Court of Justice:
(ECJ)

Judgement (14 February 1978),
European Court Record 1978, pp.207-333

INTRODUCTION

This is one of the more controversial cases in European Community jurisprudence. The United Brands Corporation (UBC), one of four US companies which dominated the world supply of bananas, was accused (and found guilty) of the following elements of abuse of dominance:

- (a) imposing conditions on companies which purchased its bananas for ripening and resale;
- (b) applying price discrimination between countries, facilitated by one of the restrictions under (a);
- (c) charging "unfairly" high prices in certain countries.

Two particular issues are illustrated by this case - definition of the relevant product (bananas or fresh fruit?) and of the geographical market. This part-analysis concentrates on these two aspects.

A. DEFINITION OF THE RELEVANT PRODUCT

1. Starting Point

This was bananas in total; neither UBC nor the Commission argued that branded bananas constituted a separate market, though there was evidence of price differences. Within the countries included within the Commission's definition of the relevant geographical market (see Section B), UBC's share of total sales of bananas varied from 40 to 50 per cent (ECJ, p.215)

2. Substitutability

UBC suggested that the relevant product should have a wide definition - "the fresh fruit market, since bananas are reasonably interchangeable by consumers with other kinds of fresh fruit: for example, apples, oranges, grapes, peaches, strawberries, etc, and these other kinds of fruit offered on the same stall or shelves at comparable prices can be substituted for bananas at the level of consumption, distribution and of the wholesale trade." (ECJ, p.224)

The Commission argued that substitution was a matter of degree and described three distinctive features of bananas: their physical characteristics, functional convenience and non-seasonality. Although evidence from FAO studies confirmed competition from other soft fruits, particularly peaches and grapes, during the summer months, at other times bananas formed a distinct product. It was especially suitable for young children and elderly people (CEC, p.12).

With reference to the framework of Chapter 3, functional substitutability is difficult to assess. Bananas are unique in flavour and texture but it is difficult to assess how important these features are. For example, harder fruits such as apples and pears, available all the year round because of imports from the southern hemisphere, can be made easier to eat and digest by liquidisation or boiling. Few groups of consumers depend on bananas. Reactive substitution may be restrained by the fact that bananas are generally inexpensive. Price-elasticity is generally inversely related to price: a rise in the price of bananas of (for example) 10 per cent is unlikely to affect demand to the same degree as a 10 per cent increase in the price of a product which represents a larger proportion of consumers' expenditure. In order to prove this argument it would be necessary to study consumers' buying habits.

This suggests that bananas are a distinct product and that dominance of the market for the product would enable the supplier to make profits well in excess of costs, subject only to a ceiling imposed by the prices of fruits which are more expensive to supply. These other fruits are also either seasonal in character (other soft fruit) or would require some processing before they would be acceptable to certain groups of consumers.

3. Conclusion on definition of relevant product

The Commission's decision, confirmed by the Court, that bananas were a distinct product was based on careful analysis of both functional and reactive interchangeability. One might add to this the further consideration that products which are inexpensive compared with substitutes are generally characterised by low price-elasticity of demand.

B. DEFINITION OF THE GEOGRAPHICAL MARKET

The Commission defined the geographical market as the rest of the EEC after the exclusion of France, Italy and the United Kingdom. In France there were restrictions on imports and price controls which reduced the accessibility and attractiveness to UBC; in the United Kingdom competition was distorted by Commonwealth preferences; in Italy quotas were applied to imports of bananas from outside the EEC. In all other member countries access to importers was non-discriminatory, so they could all be treated as one market from the standpoint of the external supplier.

UBC disputed this view on two grounds: (a) different rates of customs duties applied in the remaining member countries; (b) there were considerable differences in market sizes and characteristics.

Use of the framework in Chapter 3 suggests a logical weakness in the definition of the Commission, a definition confirmed by the Court. Except in Ireland, the market shares of the major world-wide suppliers were fairly similar in each of the countries within the Commission's definition. This evidence suggests that competition between suppliers is similar in each country, one of the criteria for integrating them into a single geographical area (Section B.4 of the framework). However, the most fundamental criterion of a single geographical market is equality of prices; since UBC was specifically accused of abusing its dominant position by charging significantly different prices in different countries, the conclusion that these formed a single geographical market was inconsistent with economic principles.

Further confirmation that the national markets should have been treated separately may be obtained by considering the basic conditions which lead to integration:-

- (a) Customers were not able to transfer demand to other countries within the EEC, because the trading conditions imposed by UBC specifically prohibited this.

(b) Although banana producers were able to supply each country on similar conditions (apart from relatively minor tariff differences), this would lead to market integration only if

(i) the structure of supply were highly competitive, which it was not because of a world-wide oligopoly

or

(ii) demand conditions in each country were identical.

This last condition was not fulfilled, hence the discrimination in prices.

In this particular case, the definition of the geographical market was not pertinent to the conclusion - this would not have been significantly affected if it had been argued that UBC had a dominant position in each country. This alternative argument would have been more consistent with the mainstream of economic literature summarised in Chapter 2 and would have emerged from the application of the framework in Chapter 3.

CASE STUDY NO.10: ICE CREAM (UK CASE)

(part analysis)

Documentation

Monopolies and Mergers Commission:
(MMC)

The Supply of Ice Cream and Water Ices in
the United Kingdom, Cmnd.7632, HMSO,
London, 1977

INTRODUCTION

Ice cream was considered by the MMC in 1977 following a reference by the Office of Fair Trading. The case does not illustrate any elements of the analytical framework which have not been equally illustrated by more recent cases included in this Chapter, with one exception: some of the statistical tests described in Section A.5 can be used to resolve some of the questions raised regarding substitute products. Two companies (Unilever and Lyons) together held about 63 per cent of the UK national market for ice cream but both had stated that their freedom of action on prices was restrained by the existence of substitute products, including soft (ie non-alcoholic) drinks and sugar confectionery. Although the MMC does not appear to have attempted any statistical evaluation of this substitutability, data are now available for this purpose. The results are presented and discussed below.

DESCRIPTION OF THE TESTS

Two groups of substitutes were considered:

- (1) Carbonated non-alcoholic drinks
- (2) Sweets and chocolates

Producer price indices were derived from volume and value data in Business Monitor series, except that for sweets and chocolates the relevant series was discontinued in 1980 so that it was necessary to use the retail price index for subsequent years, with correction for the change in value added tax (from 8 to 15 per cent) in 1979.

Derived price indices 1975 = 100

	Ice cream	Soft drinks	Sweets & chocolate	General r.p.i.
	p_x	p_y	p_z	$\bar{p}$
1974	83.4	73.9	75.5	80.5
1975	100.0	100.0	100.0	100.0
1976	110.7	109.4	109.6	116.5
1977	133.1	124.0	135.2	135.1
1978	154.0	135.1	154.4	146.2
1979	166.8	148.8	172.3	165.8
1980	187.0	181.6	189.5	195.6
1981	199.1	190.9	206.1	218.8
1982	198.0	198.2	212.7	237.7
1983	199.4	179.5	222.5	248.6
1984	175.9	173.6	230.6	261.0
1985	159.6	163.8	243.5	278.7

1. Ice Cream (x) v. Soft Drinks(y)

The first stage was the Stigler-Sherwin test, which is based on the principle that if x and y are substitutes their prices should tend to equality. Because of the need to eliminate correlation due to common time trends, Stigler and Sherwin (1985) suggest the correlation of first differences of logarithms of prices (broadly equivalent to correlation of annual percentage changes).

$$\Delta \text{Log } p_x = 0.007 + 0.720 \Delta \text{Log } p_y \quad r = 0.800$$

(0.285) (0.184) DW = 1.71

The regression coefficient is significantly different from zero but not from unity. This would confirm that x (ice cream) and y (soft drinks) are products of which the prices vary in parallel. The Stigler-Sherwin paper (1985) would suggest that they were substitutes.

However, it is necessary to correct the data for general inflation:-

$$\Delta \text{Log } (p_x/\bar{p}) = -0.034 + 0.503 \Delta \text{Log } (p_y/\bar{p}) \quad r = 0.46$$

(0.024) (0.315) DW = 1.57

The regression coefficient is no longer significantly different from zero though because it is also not significantly different from unity, the test is inconclusive.

The example illustrates another problem with the Stigler-Sherwin concept: a positive correlation between price changes may be due to complementarity rather than substitutability. An increase in demand for complementary products in inelastic supply would lead to parallel price increases. This may be tested by substitution elasticity:

$$(q_x/q_y) = a(p_x/p_y)^s$$

where s must be negative if x and y are substitutes. Transforming the equation into logarithms and using data for quantities (q) in litres of ice-cream (x) and soft-drinks (y) we have

$$\begin{array}{llll} \text{Log } (q_x/q_y) = & -2.39 + & 1.479 \text{ Log } (p_x/p_y) & r = 0.60 \\ & & (0.624) & \text{DW} = 1.04 \end{array}$$

which indicates that ice-cream and soft-drinks were not substitute products. (The positively significant regression coefficient may be misleading. The DW coefficient suggests autocorrelation. When the equation was transformed to first differences, the coefficient remained positive at 0.604 but its standard error increased to 0.507.)

It is clear that the Stigler-Sherwin test in isolation would have led to an erroneous conclusion.

2. Ice-cream (x) v. Sweets (z)

Here the results of the Stigler-Sherwin test were similar, suggesting that x and z are substitutes, though again the DW coefficient indicates autocorrelation:

$$\begin{array}{llll} \Delta \text{Log } p_x = & -0.056 + & 1.082 \Delta \text{Log } p_z & r = 0.82 \\ & (0.035) & (0.270) & \text{DW} = 1.03 \end{array}$$

The correction for general inflation again reduced the regression coefficient and increased its standard error, leaving the test inconclusive. The DW coefficient remained unsatisfactory.

$$\begin{array}{llll} \Delta \text{Log } (p_x/\bar{p}) = & -0.049 + & 0.715 \Delta \text{Log } (p_z/\bar{p}) & r = 0.488 \\ & (0.020) & (0.427) & \text{DW} = 0.79 \end{array}$$

Since there are no data on quantities of sweets after 1980, it was not possible to test whether the two product groups were complements rather than substitutes.

CONCLUSION

This exercise has shown clearly two dangers in the Stigler-Sherwin test:

(a) spuriously high correlation due to general inflation and (b) its inability to distinguish between substitutes and complements.

Since more of both ice-cream and soft-drinks will be sold in hot summers a positive correlation between price changes may be expected. In order to test whether they are substitutes or complements it was necessary to compare relative sales with relative prices.

CASE STUDY NO. 11: POOLED PURCHASING ORGANISATIONS IN DISTRIBUTION

Documentation

Glais, M.

Les effets économiques de la création des supercentrales d'achat dans la distribution, Economie et Gestion - printemps 1985, pp.99-102, Brest, 1985.

INTRODUCTION

Glais analyses the economic effects of arrangements whereby retail distributors pool their purchases via a combined organisation in order to achieve "economies of scale". He suggests that the real objective may be an attempt to transfer to distributors a part of the profits of producers, that is to establish and exploit purchaser dominance:-

"Il est à craindre que cette référence aux économies d'échelle constitue une sorte de paravent dissimulant la volonté des distributeurs de confisquer ... les profits réalisés par leurs fournisseurs industriels."

He goes on to argue that for most of the products concerned the economies of scale from large orders - savings in production and transactions costs - are relatively modest and that the main savings obtained by pooled purchasing organisations are the fruits of negotiating strength.

The three pooled organisations considered by Glais together accounted for about 32 per cent of all retail trade in France in 1984; the largest single retailer in France had a total market share of 3.3%.

Glais argues that such organisations may become "*partenaires obligatoires*" (obligatory trading partners) of certain suppliers and that this concept is more useful for purposes of competition policy than the "relevant market" approach. It is argued below that the latter approach may be necessary.

DEFINITION OF THE RELEVANT PURCHASING MARKET

In order to determine whether any one retail distributor is a *partenaire obligatoire* it may be necessary to estimate his share of a market. For any individual supplier, the relevant market is not the total retail trade but the total of purchases of the product range which

he is capable of supplying. This will include total purchases by wholesalers and retailers and (if any) direct purchases by final consumers, with the exclusion of any elements to which the supplier cannot gain access (eg because of vertical integration).

In order to assess the influence of pooled purchasing organisations, it is necessary to estimate their share of major product markets. For example, one might expect chains of independent retailers with pooled purchasing to have much greater market shares in products bought frequently with little advance planning at local outlets than in more specialist goods. The first category might include most types of prepared foods, domestic cleaning materials and soft drinks; the latter would include gramophone records, books and any more expensive items. A manufacturer of household detergents would be interested in the share of the total market for that specific product which is obtained by a retail chain. This will determine whether the chain is an obligatory customer.

POTENTIAL COMPETITION ON THE PURCHASING SIDE

Pooled purchasing organisations will lead to monopsony power only if their profitability does not attract additional distributors into the market, not only reducing retail margins but also reducing the dependence of the supplier on the limited number of existing purchasers. Even if there is some effective restraint on the number of retail outlets (eg because of environmental planning restrictions), suppliers of certain products may be able to by-pass the powerful distributors by using other channels of distribution, eg specialist outlets backed up by advertising aimed at the final customer.

CONCLUSION

In this particular case, the concept of *partenaire obligatoire* appears to be no substitute for the analysis of the relevant market, including potential competition. Unless such an analysis is undertaken, it is not possible for the external observer to determine whether a major purchaser can be regarded as an obligatory customer of the suppliers of any particular product.

SOME GENERAL CONCLUSIONS FROM ANALYSIS OF CASE STUDIES

(Cases 1 to 10)

1. Definition of the relevant product

In cases 1 to 3 (Continental Can, Ferry and Hovercraft Services and Cat and Dog Foods) the starting point for analysis was not specific abuse but was defined either by the activities of the companies involved or (cat and dog foods) by a general reference from the body responsible for competition policy. In all three cases, the analysis made by the Commission of the European Communities (case 1) or by the UK Monopolies and Mergers Commission was similar to that proposed in the framework of Chapter 3 and appears to have led to fairly clear-cut conclusions.

Cases 4 to 7 (Commercial Solvents, Hugin-Lipton, spare parts for Ford cars and AKZO) all related to allegations of specific abuse of dominance and in each case the starting-point was defined by the alleged abuse. Assessment of functional and reactive interchangeability together with barriers to substitution appears to have been made in each case, either by the Commission of the EC or by the MMC in the UK, whose decisions in each case are confirmed by the analysis here.

In cases 8 and 9 (outdoor advertising and United Brands) definition of the relevant product was a major element of dispute.

In defining a product market in roadside advertising in isolation, the UK Monopolies and Mergers Commission overlooked the indications in its own evidence on pricing practices that there was close competition with other media. Use of the analytical framework would have avoided this apparent error. The MMC seems to have been influenced by the evident market power of the group which controlled most of roadside advertising, but this was power over suppliers of sites, that is monopsony. This distinction was recognised by the French Commission de la Concurrence in a very similar case.

The definition by the European Commission of a market in bananas, rather than all soft fresh fruit, received considerable press criticism at the time but is supported by analysis based on framework in Chapter 3.

Finally, case 10 (ice cream) provided an opportunity to test certain of the statistical devices proposed by some authors as short-cuts to product market definition. It was

shown that, unless these are used with great care and awareness of pitfalls, they can lead to misleading results. After appropriate modifications the tests proved inconclusive.

Overall, the analytical framework of Chapter 3 produced reasonably clear-cut definitions of product markets. These confirmed the decisions of the anti-trust authorities concerned, with the single exception of roadside advertising in the UK, where use of the Chapter 3 framework would have avoided an apparently mistaken definition.

2. Definition of the geographical market

There is less agreement in this respect between the decisions taken by the organs of the European Community and those which would have emerged from use of the framework.

Case 1 (Continental Can) was unusual in that there was no international competition, not because of obstacles beyond the control of producers but because of collusion between them. The European Court of Justice found it a weakness in the Commission's case that it did not explain the absence of international trade; it rejected the significance of transport costs (on which the UK Price Commission's observations are also unconvincing). Use of the framework would have shown that there was no reason (other than collusion) for isolation of the German Federal Republic as a geographical market.

In case 5 (Hugin-Lipton) the definition of the geographical market by the European Court of Justice (but not that of the Commission) appears to have been based on confusion. The Court focussed its attention on Lipton, the company which complained of abuse and defined the geographical market as the area of Lipton's activities. If the reasoning of the Court had adhered more closely to the relevant market concept (Hugin dominated the supply of its own spare parts world-wide) it would have avoided this mistake, which led to the Court to conclude that the case lay outside Community jurisdiction (because the abuse did not affect trade between countries).

Use of the framework would also have led to a different definition of the geographical market in case 8 (United Brands). In this case the Commission ruled and the Court upheld that United Brands had abused a dominant position in a single market (EEC countries other than France, Italy and the UK) by charging differential prices in countries within that market. This conflicts with the theory of price discrimination which is possible only when price-elasticities of demand differ between areas and when there is no transfer or resale between them, that is. they form separate markets. United

Brands' pricing reflected different characteristics of demand for bananas in each of the countries in which it dominated the supply of this product.

Although Section B of the analytical framework adds very little to received theory and previous research, these three apparent aberrations suggest that accepted economic analysis has been applied less consistently to definition of geographical markets than to that of products.

3. Potential Competition

In case 1 (Continental Can) the decision of the European Court of Justice implied that the Commission of the European Communities had paid insufficient attention to potential competition, which might be expected to follow any abuse of the dominant position that Continental's subsidiary was alleged to hold in the German market. This case was unusual in two respects: (i) the development by takeover of a near-monopoly for Continental Can in Benelux countries was not an abuse of its dominant position in Germany and (ii) both actual and potential competition were restricted by agreements with possible competitors. This made the logic artificial. In all the other cases reported in full (cases 2 to 7) the body responsible for competition policy does appear to have considered potential competition quite comprehensively and has generally adopted analysis similar to that set out in the Chapter 3 framework.

Potential competition was an important aspect of three of these cases. In case 2 (Hovercraft and Cross-Channel Ferries) the UK Monopolies and Mergers Commission identified the main barrier to entry as limited access to port facilities, rather than investment in ships which would be at least partly recoverable. In case no 3 (Cat and Dog Foods) the MMC concluded that potential competition meant that current dominance of these products did not imply monopoly power which could be abused. In case no 7 (AKZO), restriction of potential competition was an important consequence of the alleged abuse (predatory pricing).

4. Product Interdependence

The analysis of cases has not provided a definitive conclusion on whether dominance over the market is of significance to competition policy only when it can be abused to the detriment of the welfare of the final consumer.

The pronouncements of the Court of Justice in cases 4 and 5 (Commercial Solvents and Hugin Lipton) indicate that elimination of a dependent customer, down-stream in a vertical chain, may constitute abuse under Article 86. Such views have been strongly criticised by American authors such as Fox (1983) and Hay (1985). On the other hand, the Commission of the European Communities (cases 4 and 5) and the UK Monopolies and Mergers Commission (case 6) examined product interdependence in great detail, using an approach almost identical to that set out in the framework in Chapter 3. In the Commercial Solvents and Hugin-Lipton cases respectively the CEC assessed whether competition in the anti-tubercular drugs and cash register markets was sufficient to prevent any adverse effects for the ultimate consumer. In both cases they concluded that the wider competition provided insufficient constraint.

In the UK, the MMC discussed in some detail whether exploitation of the captive market for replacement body panels for Ford cars would be prevented by overall competition in the car market. On the basis of specific quantitative evidence and using a logic very similar to that proposed in the framework of Chapter 3, the MMC decided that some purchasers did consider crash repair costs in choosing new vehicles but that competition in the new car market did not diminish the captive nature of the market for panels for older cars. Its recommendation (of design rights protection for five years) reflects this analysis.

An unequivocal ruling on the interpretation of Article 86 in this respect would emerge only if the Commission and the Court, on appeal, were to consider a case in which

- (i) a dependent trader had been adversely affected by "abuse" of dominance of some intermediate product, but
- (ii) the Community authorities explicitly acknowledged that because of "down-stream" or wider competition, there were no welfare consequences for final consumers or for the efficient allocation of resources.

5. The concept of *partenaire obligatoire*

In all cases except nos 5 and 6 (Hugin-Lipton and body panels for Ford cars) it would not be possible to determine whether one company (or group) was a compulsory trading partner for its customers without considering most of the elements of the framework. It would be necessary to define the market, in terms of products and geographical area, calculate market share and, if this were substantial, assess whether any resulting power might be reduced by potential competition.

In the case of Hugin-Lipton the definition of a market in Hugin spare parts is obviously, as Glais (1983 and 1985) asserts, an artificial construct. However, the analysis of that case suggests that use of the *partenaire obligatoire* approach, without the reference to the relevant market, would not have revealed the main issues. The dependence of Lipton on Hugin was emphasised in the Commission's analysis and in the Court proceedings, which focussed attention on Lipton and possibly led to the misdefinition of the geographical area of Hugin's dominance - the Court decided that this coincided with the area of Lipton's activities. The main focus raised by the case, as shown in the Commission's own analysis, should have been the refusal by Hugin to supply spare parts to any independent maintenance company and the implications of this for the quality and costs of maintenance. In the event, Lipton's survival has proved that Hugin was not a *partenaire obligatoire*.

Case 6, replacement panels for Ford cars, demonstrates that the concept of *partenaire obligatoire* is useful as one element of analysis of a dominant position, in explaining how vertical dependence may augment power beyond that attributable to market share. A franchised distributor (B) of a product like a motor-car is "tied" to the manufacturer (A), to the degree that it may be difficult to switch to another manufacturer because distribution channels have already been established. This enables A to impose conditions on B, including exclusive dealing clauses tying B to him and affecting not only vehicles and components but also accessories and even lubricants and ancillary products (cleaning fluids etc). One could define a "market" in franchises to distribute A's product and then use the framework of Chapter 3 but most of this would be superfluous.

In the particular case of the use of vertical tie-ins to distort competition in other markets, the concept of *partenaire obligatoire* may well provide a better method of analysis. Assessment of this concept requires consideration of barriers to reduction of dependence, potential new trading partners and any possible constraints on exploitation of the dominance-dependence relationship (See Section G of Chapter 3).

The case of vertical tie-ins may not be unique and, on the other hand, it may be not be satisfactory to use the *partenaire obligatoire* approach in all cases involving vertical links. (Hugin-Lipton was an example.) The conclusion of the arguments presented here is that the analytical framework of Chapter 3 should be applied to all cases of alleged seller or buyer dominance. In certain cases it may become obvious that this is artificial and inappropriate because much of the framework is superfluous. Only then should the *partenaire obligatoire* approach be used to provide more realistic analysis.

CHAPTER 5

DEFINITION OF THE MARKET IN CASES NOT INVOLVING ALLEGED ABUSE OF DOMINANCE

INTRODUCTION

Chapters 3 and 4 have been devoted to the definition of the relevant market in the context of that of a dominant position. This is consistent with the emphasis in previous literature and research; also, most of the disputes about the relevant market in the judicial application of the competition policy have arisen in cases involving the definition of dominance.

In Chapter 1, it was explained that the concept of the market was implicit not only in Article 86 of the EEC treaty but also in Article 85, prohibiting anti-competitive agreements, and it may also arise in the application of Article 92, which regulates aid to enterprises granted by member states (see p. 8 above).

A. DEFINITION FOR THE PURPOSES OF ARTICLE 85

1. General comments

Article 85 (i) is a general prohibition of all agreements, joint decisions or concerted practices on the part of undertakings

"which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market..."

The third clause, Article 85(3) provides for exemptions in the case of specified economic benefits (improvement of the production or distribution of goods or promotion of technical or economic progress), provided that this does not afford the undertakings concerned "the possibility of eliminating competition in respect of a substantial part of the products in question."

Focsaneanu (1975) claimed to have observed, in the early years of Community competition policy a degree of vacillation on the part of the Commission between narrow and broad interpretations of "the product in question". The narrow definition was the specific product to which the agreement, joint decision or

practice related; the broad definition introduced similar or substitutable products. This broad definition has now become the norm and is embodied in the current regulations for block exemptions under Article 85(3), obviating the need for individual cases which meet the conditions stated.

2. Block exemptions under Article 85(3)

Six Regulations providing for block exemptions under Article 85(3) have been introduced by the Commission since 1983, mostly revising earlier provisions. These Regulations refer to agreements between undertakings within the following categories:-

- (i) Exclusive distribution - Regulation 1983/83
- (ii) Exclusive purchasing - Regulation 1984/83
- (iii) Patent licensing - Regulation 2349/84
- (iv) Certain categories of motor vehicle distribution and servicing - Regulation 123/85
- (v) Certain categories of "specialization" - Regulation 417/85
- (vi) Research and development - Regulation 418/85

Each of these contains conditions to ensure that there should remain a sufficient level of competition in the supply of the product. This relevant product is defined in each of the six regulations in a very similar way (there are only slight variations in the form of words):

"Identical products or services or products or services considered by users as equivalent in view of their characteristics, price and intended use."
(Reg. 2349/84, Article 9(2))

Very similar wording has been used in all regulations providing for exemptions under Article 85(3), since the first block exemptions for exclusive dealing under Regulation 67/67. It was pointed out in Chapter 2 that this definition of the relevant product corresponds fairly closely with the concept of "Bedarfsmarkt" in the German language literature; it emphasises the importance of demand-substitution and requires the analysis set out in Section A of the analytical framework of Chapter 3.

The importance of the definition of the product market varies between the different regulations and there are also differences in the approach to geographical market definition.

Regulations 1983/83 and 1984/83 exclude from exemption exclusive dealing arrangements* between manufacturers of "identical goods or of goods considered by users as equivalent..." Under Article 6 of Regulation 1983/83 the Commission may withdraw the benefit of the block exemption for an exclusive distribution agreement when the goods covered by that agreement are not subject, "in the contract territory, to effective competition from identical goods or goods considered by users as equivalent..." or when "access to other suppliers to the different stages of distribution within the contract territory is made difficult to a significant extent." This restriction involves definition of the product market, assessment of competition within that market and also of potential competition. The geographical area to be taken into account is the area to which the exclusive distribution agreement applies.

Regulation 2349/84 relating to patent licensing agreements contains a provision for withdrawal of benefit by the Commission which is very similar to that of Regulation 1983/83:

"where the licensed products... are not exposed to effective competition in the licensed territory from identical products or services or products or services considered by users as equivalent (etc)..."

(op. cit., Article 9)

This seems to avoid the problem of geographical market definition.

Regulation 123/85 relating to distribution and servicing agreements in the motor vehicle trade gives explicit recognition to competition in a wider geographical area. Article 10 of this Regulation empowers the Commission to withdraw the benefit of block exemption for an agreement in the following circumstances (inter alia):

"where in the common market or a substantial part thereof, contract goods or corresponding goods are not subject to competition from products considered by consumers as similar by reason of their characteristics, price and intended use."

This appears to require consideration of whether the area affected by the agreement constitutes a separate geographical market or whether it forms part of a wider area, within which competition may reduce any adverse effects.

Regulations 417/85 and 418/85 relating to agreements on specialization and research and development require definition of the relevant market, in terms both of products and

* except when these are non-reciprocal and neither undertaking has an annual turnover exceeding 100 million ecu.

geographical area, and also the quantification of sales in that market. Article 3 of Regulation 417/85 states that the block exemption shall apply only if (inter alia):

"the products which are the subject of the specialization together with the participating companies' other products which are considered by users to be equivalent in view of their characteristics, price and intended use do not represent more than 20% of the market for such products in the common market or a substantial part thereof."

Regulation 418/85 states that when two or more of the parties to a research and development agreement are competing manufacturers of products to be improved or replaced, the block exemption will apply only when their combined share of the output of these products does not exceed 20% of total sales in the common market "or a substantial part thereof". (Article 3(2)) After five years from the introduction of products covered by any agreement, the exemption will continue to apply only

"as long as the production of the contract products together with the parties' combined production of other products which are considered by users to be equivalent in view of their characteristics, price and intended use does not exceed 20% of the total market for such products in the common market or in a substantial part thereof." (Article 3(3))

To summarise, the administration of all six of the block exemptions introduced since 1983 requires definition of the relevant product market, that dealing with exclusive distribution involves additionally the assessment of potential competition. The exemptions involving motor vehicle distribution, specialization and research and development also require definition of geographical markets; the last two necessitate the estimation of total sales within the market as delineated both in terms of products and geographical boundaries.

3. Wider considerations

The detailed analysis of the conditions for block exemptions demonstrates primary attention to demand-side substitution and to current trading patterns - existing shares within a geographical area of products which the purchasers would consider substitutes. The definition of the relevant market in this sense is covered by Sections A to C of the framework in Chapter 3 (relevant products, geographical area and quantification of the denominator for calculation of market shares). Does this mean that the application of Article 85 does not require consideration of the degree to which any power derived from dominance of the relevant market (defined in terms of demand substitution) may be diminished by potential competition (supply-substitution) or competition in another interdependent market?

Both Focsaneanu (1975) and Schröter (1977(b)) imply a negative answer to this question in emphasising the common objectives of Articles 85 and 86. After quoting judicial pronouncements on these common objectives, Schröter commented:

"Or, s'il est vrai que les articles.. 85 et 86 constituent un ensemble de dispositions homogènes qui doivent être interprétées suivant les mêmes critères et surtout dans le même sens, on ne peut guère s'imaginer que la même règle ne s'appliquerait pas à la définition du 'marché en cause'. Il faudra, par contre, conclure à l'identité de cette notion où qu'elle soit utilisée dans le droit communautaire de concurrence."

(op. cit., p469)

If an agreement affects only a fairly small part of a market defined in terms of demand substitution then its effect on competition cannot be substantial - this is the logic of including only demand-side substitution in the conditions for block exemptions (that relating to exclusive distribution also requires no interference with potential competition). A share of the market, so defined, which is and remains below 20% is sufficiently small to ensure that the companies involved in specialization or research and development agreements continue to operate in a competitive environment. Application of the block exemption is therefore admissible.

When the agreement concerned affects a much greater share of the relevant market, so that the parties concerned face little current competition in the relevant product range, its exemption from Article 85(1) requires further examination. The assessment of such agreements requires a comparison of their benefits to the consumer, (for example, economies of scale, better distribution, product innovation) with their anti-competitive effects. The possible importance of these anti-competitive effects will vary inversely with potential competition from newcomers to the market and with restraints imposed by competition in wider markets. There is also a further factor to be considered - conflict of interest among the parties to the agreement.

The economic theory relating to collusion between companies is fairly complex (see Waterson, 1984, pp. 47-52 for a succinct summary). In particular, it would be naive to assume that the principal aim is always to maximise joint profits and still worse to assume that any joint-profit maximisation will always be achieved. This approach ignores conflict of interest within the group - quite often the agreement represents a compromise between these conflicting interests. This means that the anti-competitive effects of an agreement cannot simply be analysed by combining data for the parties concerned, treating these as a group and using the analytical framework of Chapter 3 to determine whether they hold a position of collective dominance, which they are able to abuse to mutual advantage.

4. Application of the framework of Chapter 3 to agreements covered by Article 85

In order to illustrate how the framework set out in Chapter 3 for analysis of market dominance may be applied in modified form to agreements or concerted practices, two practical examples will be considered.

The first of these is resale price maintenance on books - the system practised in some EEC countries, notably the UK, Ireland and France, whereby the final retail prices of books are determined by publishers. This arrangement has been the subject of two Article 85 cases, one involving Dutch language books in Belgium and the other the legal enforcement of fixed retail prices in France. The subject has also been examined in a series of studies financed by the Commission of the European Communities at the instigation of the European Parliament. The resale price maintenance arrangements in the United Kingdom were upheld by the UK Restrictive Practices Court in 1961 and, because they also affect sales by UK publishers to the Irish Republic, are the subject of an outstanding request to the Commission of the European Communities for exemption under Article 85(3).*

*Selection from Community documentation relating to resale price maintenance on books:-

Commission of the EC:	Decision no. IV/428 VBBB/VBVB (Dutch-Flemish books), OJ L54, 1982
Court of Justice of the EC:	Judgement in joint cases 43 and 63/82 (Dutch-Flemish books), Luxembourg, 1984
"	Judgement in case 229/83 Reference from French courts of appeal against r.p.m. by Leclerc), Luxembourg, 1985
Fishwick F & Preston D:	Book Publishing and Distribution, CEC 1982
Fishwick F:	Book Prices in Australia and North America, CEC, 1982
De Jong H W et al:	Production and Distribution of Books in the Netherlands and Flanders, CEC, 1982
Toussaint-Desmoulins N et al:	La production et la distribution du livre dans la zone linguistique francophone, CEC, 1983

The second illustration is not a judicial case but a matter of current controversy in the United Kingdom - the explicit concerted attempt by distributors of petrol (gasolene) to raise prices to a common level acceptable to all of them. (This example is chosen for its simplicity)

(a) Definition of the relevant product

The starting point, the most narrow definition should be the good or service which is the subject of the agreement, in which competition is restricted. In the case of resale price maintenance on books, this starting point is the retail distribution of the books affected. In the case of petrol (now a fairly homogeneous product) this is the starting point.

Because of the general application of resale price maintenance on books, the only current substitute within the United Kingdom or France for existing distribution channels is book clubs, which distribute only a limited range and are inappropriate for the single specific purchase.

There is no immediate substitute available for petrol for use in the motor car (supplies of functional substitutes such as alcohol derivatives are not accessible), especially since outlets in the United Kingdom are owned by or vertically tied to petrol distributors. Although some cars are powered by diesel and a few by electric motors, the barriers to substitution by existing car owners are very substantial.

Generally, in order to define the relevant product, for the specific purposes of the block exemptions or for other cases, it will be necessary and sufficient to apply Section A of the Chapter 3 framework - to analyse functional and reactive interchangeability, to consider barriers to substitution and to try to find any "substitution gap."

Certain of the statistical tests of substitutability may be easier to apply to products affected by agreements, simply because data on both quantities and prices are more likely to be available.

(b) Geographical markets

Section B of the framework in Chapter 3 may be used to assess the geographical area of the market in which any agreement has its effect. It should be stressed that this market may be greater or smaller than the area covered by the agreement. For example, the market for the retail purchase of books is very fragmented, especially since most books

are purchased only after visual inspection and over half on impulse (Fishwick and Preston, 1982). The same applies to the market for petrol. Almost all filling stations in Great Britain are currently charging 37.4 pence per litre, but a London motorist would not be deterred from paying this price even if petrol were available at 35p per litre in Edinburgh.

Institutional purchasers of books might be able to transfer demand to overseas suppliers, if UK distributors were to have very high margins. This possibility is limited by the application by publishers of international market segmentation but direct purchases from overseas retailers can circumvent such arrangements.

In order to assess whether the geographical market for certain English language books should be extended to all English-speaking countries it would be necessary to consider all barriers to demand transfer, including (in this case significant) transport costs.

(c) Definition of relevant market sales

Especially in the case of block exemptions, many studies of the anti-competitive effects of agreements will end at this stage, where the products covered by the agreement will be related to the total sales of substitutable products within the geographical area defined in (b).

The texts of Regulations 417/85 and 418/85 do not specify whether market share is to be measured in terms of value or volume. The comments of Section C of Chapter 3 therefore apply - in most cases value will be the more acceptable measure but in some (for example shares of travel by different modes) volume figures may be equally or even more important.

(d) Potential competition

Even if an agreement restricts competition between companies with a combined share close to 100% of the relevant market defined in sections (a) to (c), the adverse effects on customers (or suppliers in the case of a collective buying agreement) may be mitigated by the threat of potential competition.

Even though an agreement may not be aimed at joint profit maximisation, its objective must be to increase profitability by some means or to make the same level of profits available with less effort (to provide a quiet life). The adverse effects of agreements

may include high prices or diminished product quality or variety (e.g. agreed limits on the length of life of electric lamps, restricted opening hours for shops, specified limits on legroom on aircraft). The existence of high or "easy" profits and/or the potential market among customers affected by the agreement are likely to attract new suppliers who will not be parties to the agreement, unless there is some insuperable barrier to entry.

De-regulation of air travel between the UK, the Irish Republic and the Netherlands has led to the entry of additional carriers offering either lower fares or fares subject to fewer restrictions. De-regulation has removed the main barrier to entry. As suggested in Chapter 3, the air travel market is much more contestable than either shipping (restricted harbour facilities) or railways (unrecoverable expenditure on non-transferable fixed assets). The agreements between the major national carriers, under IATA, were sustainable only as long as governments restricted the entry of new competitors.

In the case of books, there is a barrier to entry in as much as the system of resale price maintenance in the UK is enforced by publishers, the majority of whom consider that sales of books are increased significantly by the greater display achieved through the removal of price competition in retailing.* A new retailer who slashed the prices of new "net" books might find his supplies withdrawn. However, if the margins required by retailers became too high or if the absence of competition protected inefficient retailing of books, publishers would be free to use other channels of distribution, such as direct mail or subscription. Book clubs are seen by some observers are resulting, at least partly, from the absence of price competition in book retailing.

In the case of petrol the main barriers to entry of new low-margin retailers are the ownership or control of sites by major distributors and oil refiners. The entry into retailing of petrol by some companies with chains of hypermarkets has been one element of competition - the operations of these independent retailers depend on supplies from wholesalers outside the control of the major multinationals. This element of low-margin sales, supplied by an independent source, has undermined some previous attempts by the "majors" to secure a stable agreed price at a level which they find acceptable.

* If this view is correct, it implies that r.p.m. has a positive welfare effect for the consumer, see Marvel, H.P. and McCafferty, S., *The Welfare Effects of Resale Price Maintenance*, Journal of Law and Economics, Chicago, May 1985

(e) Product interdependence

Neither book retailing nor petrol is consumption goods. Book retailing is one stage in the chain of supply of books; petrol is used almost exclusively for burning in the engines of motor vehicles. To what degree are the anti-competitive effects of agreements relating to stages of supply or essential inputs constrained by the substitutability of the final product.

Section E of the framework in Chapter 3 requires consideration of three ratios - the proportion of the relevant product used in a final or composite product (P_1) the proportion of the final product which used the relevant product (P_2) and the ratio of the cost of the relevant product to that of the final or composite product (P_3).

The "final" or "composite" product is to be defined at the point where the user has a choice of substitutes which do not incorporate the relevant product. In the case of petrol, this product will be car use rather than ownership, since the owner of a car has a choice as to how much he will use it. For petrol $P_1 = 1$; P_2 is about 0.95 (a small number of diesel engines); $P_3 =$ (approx.) 0.7 (the cost of fuel as a proportion of the marginal cost of car use). This means that $P_1P_2P_3 =$ (approx.) 0.6 and that the degree to which agreements can put up petrol prices will be limited by any price-sensitivity in the use of cars. Alternatives to use of cars include alternative means of transport (including telecommunications) and reduction of travel, by substitution or relocation of activities. In the case of petrol it is also possible to reduce consumption per kilometre by choice of engine and speed of driving.

Experience of recent attempts at concerted price increases confirms econometric observations that the price-elasticity of total demand for petrol in the UK, while below unity (in absolute value), is significantly greater than zero. In certain districts and on certain routes, where a higher proportion of motoring is for non-essential purposes or where there is a good public transport system to which a car may be used to gain access, price-elasticity may well be greater than unity. Once retailers in such areas feel the effects of resistance to price increases, the first cracks occur in the solidarity of common prices.

In the case of books, substitutability varies between individual titles. Econometric studies, undertaken by the present author in a number of countries, suggest an overall price-elasticity of demand for books of about - 1; that is, total quantity purchased varies in inverse proportion to average price. This observation while remarkably consistent

between countries (see Fishwick and Preston 1982 and Fishwick 1984), must conceal wide variations, between certain unique standard texts at one extreme and highly interchangeable general leisure interest books at the other. There is no doubt that price competition between different books and between books and other means of information or entertainment must diminish the anti-competitive effects of price-fixing in book retailing.

(f) Conflicts of interest among contracting parties

Sub-sections (a) to (e) suggest no particular problems in the application to anti-competitive effects of agreements of the framework set out in Chapter 3, for definition of the relevant product and geographical markets, and for assessing whether the markets so defined were also relevant to the concept of dominance. However, it is necessary to consider one further aspect of an agreement - possible divergences of objectives or interests among the parties to it. Even if these parties together control a relevant market and their collective power is not appreciably diminished by the threat of potential competition or by competition in a market on which the relevant product depends, they, will be able to abuse this collective power only when this will be of mutual advantage.

In the case of petrol, where there is no formal agreement, the price-elasticity of demand for the individual retailer or for the individual brand is very high. The application of government standards has made petrol a homogeneous commodity. Marginal costs vary between retailers, between distributors, between refiners. When any one trader believes he has a cost advantage over his competitors which would make it difficult for them to match a price cut, he is tempted to reduce his price, perhaps only slightly. When prices are raised to a common level, as in the two weeks preceding this analysis, those retailers (and their distributors) who were selling petrol at prices lower than their immediate competitors will observe a drop in market share. They will observe that their own sales are price-elastic and (on the evidence of previous unsuccessful truces in the petrol price-war) will tend to cut prices again soon.

The books case is more complex. In general, publishers would prefer low margins and support resale price maintenance only because protection from possible rapid depreciation of stock is believed to encourage retailers to stock and display more books. Some retailers stock only a narrow range of titles and by passing on some of the benefits of economies of scale could possibly increase their share of the market considerably. Their agreement to resale price maintenance may be reluctant or may reflect their ability to use the fixed margins to finance sales promotion, shop improvements etc. as an

alternative means of increasing share. The diversity of interests is such that one cannot conclude that the margins on books are raised to the point at which combined profits for retailers and publishers are maximised.

Indeed, research in Australia and North America (see Fishwick 1984) showed that, in the absence of resale price maintenance in those countries, average actual retail margins were higher than in the United Kingdom. The comparatively low margins in the UK may well reflect the diversity of commercial interest which is embodied in resale price maintenance - in return for the publisher's help in guaranteeing margins, retailers may be prepared to accept that these margins be lower than otherwise.

(g) Conclusions on the application of the analytical framework to agreements considered under Article 85

The objective in applying the framework to analysis of the effects of an agreement is an assessment of what differences the agreement may produce in the competitive structure and (ultimately) in the value for money obtained by the consumer.

In the case of resale price maintenance on books, one may conclude that the parties to the agreement collectively control the UK retail book trade and that there is only limited potential competition. However, the price-elasticity of demand for some books places an upper limit on the retail margins which can be fixed and it is not in the interests of all parties to the agreement that these retail margins should be higher than they would be in the absence of the agreement.

The analytical framework may be used in such cases to identify the possible effects of an agreement. Where possible, this approach should be supplemented by direct comparison of markets affected by such agreements and similar markets with no equivalent collusion.

B. DEFINITION FOR THE PURPOSES OF ARTICLE 92

Article 92 prohibits, with certain specified derogations, the granting by member states of aid to enterprises which affects trade between states and "distorts or threatens to distort competition". Analysis of the anti-competitive effects of state aids is particularly important when a discretionary dispensation is sought under Article 92(3). In such cases it is necessary to balance the claimed advantages of state aids with their possible effects on inter-state trade and competition. Can the concept of the relevant market and the

framework proposed in Chapter 3 be usefully applied to the assessment of these anti-competitive effects?

1. Definition of the relevant market not legally necessary?

In a legal sense, the decision of the European Court of Justice in the case of Philip Morris Holland BV versus Commission of the European Communities appears to imply that explicit formal definition of the relevant market is not required in such cases*.

Philip Morris, a multinational cigarette producer, had asked the Court to declare void a decision of the Commission of the European Communities that an element of investment subsidy proposed by the Netherlands government contravened Article 92 because of its anti-competitive effects. The aid in question would have amounted to just under 4% of the total cost of a project, involving the closure of one of Philip Morris's two factories in the Netherlands and the expansion of capacity at the other. The project was expected to increase Philip Morris's output in Holland by 40%, equivalent to a 13% increase in total cigarette production in the country.

One of the grounds of Philip Morris's appeal was that the Commission had not used appropriate criteria for deciding whether the aid in question restricted competition. The criteria should be the same (according to the appellants) as those applied to cases under Articles 85 and 86:-

"The Commission must first determine the 'relevant market' and in order to do so must take account of the product, the territory and the period of time in question. ...But these essential aspects of the matter are not found in the disputed decision."

(ECJ, p.2688)

The Court did not comment explicitly on this particular ground of appeal. Instead, it dismissed the objection because undisputed evidence about the economic effects of the project showed that this would affect competition in the market for cigarettes in the EEC:-

"It is common ground that when the applicant has completed its planned investment it will account for nearly 50% of cigarette production in the Netherlands and that it expects to export over 80% of its production to other Member States."

(ibid)

* European Court of Justice, Case 730/79, ECR (1980) pp.2671-2704

The Court proceeded to decide that material aid to the company must in these circumstances distort competition between undertakings established in different member states. It upheld the Commission's decision and did not overrule it for the procedural reason that it contained no definition of the relevant market.

2. The effects of state aids on intra-Community competition: some basic principles

In order to assess the effects of any particular aid by government on competition between undertakings in different states it is necessary to compare the probable evolution of the pattern of supply if the aid were allowed with that which might be expected to occur in its absence. One must not compare the likely pattern of supply and the nature of competition if the aid goes ahead with the present or previous conditions; instead, the comparison must be between two hypothetical futures - with and without the aid.

The application of this basic principle is complicated by the uncertainties which are likely to surround such hypothetical predictions. Some of the concepts presented in Chapters 2 and 3 above may be applied to reduce these uncertainties but, in many cases, the uncertainties themselves may make it impossible to apply rigorously the framework set out in Chapter 3.

3. The applicability of the Chapter 3 framework to consideration of state aids.

(a) Product market

The definition of the relevant product market in the Chapter 3 framework begins with a narrow starting point - the "reference product" in a general case, any product with concentrated supply in the case of a merger or the product which provides the source of power for alleged abuse. From this narrow starting point the product range is widened to include goods (or services) which can be regarded as substitutes (in terms of both technical properties and the perceptions of purchasers).

This procedure could have been applied fairly easily to the Philip Morris case. The starting point would have been cigarettes and the criteria set out in Section A of the framework could have been used to decide how far the product range should be widened to include goods with varying degrees of substitutability - loose tobacco, own-roll cigarettes, etc. In this case the aid was related to a single, specific product.

Article 92(3) lists four forms of aid which may be considered to be compatible with the Common Market. These include assistance by governments which may not be specific to a single product. For example: aid to promote economic development or aid to remedy "a serious disturbance in the economy of a member state". Specific illustrations include aid to multi-product companies to ensure survival, to companies in declining industries to enable them to diversify into new products, and grants for research and development. In these instances it is not possible to specify a starting point for definition of a relevant product - one objective of the aid may be to encourage enterprises to enter new product markets.

In cases where the aid is not product-specific, Section A of the framework cannot be used. Factors influencing supply-side substitution may be more important than substitution in demand. In other words, the influence of the aid may be on product markets not associated, in terms of end-use, with the existing products of the companies concerned.

In considering aid directed at geographical criteria - for example, grants to all companies relocating to steel-making areas badly affected by unemployment - it is impossible to relate this to a relevant product market. Rigid adherence to the analytical framework set out in Chapter 3 would be possible only if the grant to each individual company could be considered and then only if the company were a single-product firm.

(b) Geographical market

Definition of the geographical market in cases of proposed state aids may be possible even less frequently than that of the product market. When the latter cannot be defined, for example with aids to depressed areas or for research and product innovation, it will also be impossible to define the geographical market. Even when the aid is product-specific, for example grants for machine-tool companies to assist the introduction of computer controls, it is not always correct to use these companies' existing sales areas as a starting-point. The subsidy may enable some of them to develop new geographical markets, thereby distorting competition over a wider area. The procedure of Section B of the framework is not appropriate for this.

When the definition of a geographical market is required for assessment of a dominant position, of an individual enterprise or a group of enterprises acting in collusion, that definition must recognise artificial barriers to competition between member states. In assessment of state aids, the Commission and Court of the European Communities are

asked to consider whether these would hinder interstate trade. Except when there are barriers of a physical or technical nature, the analysis is based on the presumption that there ought to be competition between enterprises in the Common Market. This approach is different from that adopted in definition of dominance - except where technical factors indicate otherwise, the geographical area to be considered on principle is the Common Market as a whole.

This view was expressed by the Advocate-General in the Philip Morris case:-

"It is permissible to start from the presumption that any public aid granted to an undertaking distorts competition unless exceptional circumstances exist (for example the total absence in the Common Market of goods which may be identical to or may be substituted for those manufactured by the recipient of the aid)". (my own emphasis - FF)

In summary, there are good reasons for analysing state aids in the context of the Community as a whole. In many cases it would be impossible to do otherwise, because the geographical effects of assistance to companies are not easily predictable.

(c) Potential competition

This aspect may be important in the case of state aids and the arguments presented in Section D of the framework are pertinent.

A recent case* demonstrates this. The provision of equity capital by the regional public authority for the Walloon region of Belgium to a paper manufacturer was declared by the Commission of the European Communities in 1982 to be incompatible with Article 92. The total package of assistance by the regional authority also included a loan to finance restructuring - the closure of factories producing general papers and development of speciality papers. The equity capital injection, which exceeded the company's previous net assets, was regarded by the Commission as a means of ensuring the survival of the undertaking which might otherwise have failed.

Intermills appealed against this decision on the grounds that the Commission had failed to show that the additional injection of funds would not be required to finance redundancies which would arise under the restructuring plan and that the distinction between the loan and equity capital was invalid. This appeal was upheld by the Court.

* European Court of Justice, Decision on Case 323/82 (Intermills) Luxembourg, November 1984

In commenting on the decision in the Fourteenth Report on Competition Policy (pp.127-30)* the Commission recognised the need to "clarify its own position" and acknowledged that the distinction between forms of aid was irrelevant.

In its comments, the Commission emphasised that measures which have as their effect the preservation of an undertaking from failure distort competition:

"Inter-state trade may also be affected ... in cases where the output of a firm which is kept alive artificially by transfusions of aid supplants the trade which would otherwise have taken place. If the investigation of the effect on trade is not to be restricted to a purely static or retrospective approach, the analysis must also take into account the potential competition which could reasonably be expected to affect trade flows"
(op. cit., p.129)

Therefore, in assessing the anti-competitive effects of state aid, analysis of trade statistics may in the Commission's view be inconclusive; the assessment must take into account the development of trade which may follow if companies without aid are eliminated by the competitive process.

(d) Product interdependence

In the context of state aids this may have a wider meaning than in cases of dominance or collective practices. Assistance to a company may be to the disadvantage not only of its own competitors but also to competitors of its suppliers.

For example, one of the justifications for assistance by the UK government to the (then) British Leyland company was that many component manufacturers in Great Britain depended on that company. It could be argued conversely that this aid distorted competition not only in the car market but also in that for components. For example, it penalised those British companies which, predicting the demise of their principal customer, had invested money and effort into establishing links with French and German vehicle producers.

Another wider aspect to be considered is the impact on the price of production inputs to other undertakings and industries. By preserving the West Midlands motor industry in the mid-1970's the UK government may have prevented a fall in wage levels which would have benefited other industries in the area. The UK textile industry complained bitterly in the late 1970's about the aid given to "sunrise" industries (such as computer

* CEC, Fourteenth Report on Competition Policy, Brussels-Luxembourg, 1985

manufacturing) in textile areas, because this subsidisation enabled the newer industries to pay higher wages, forcing up rates of pay in the existing local economy.

Although these elements of product interdependence may be important and state aid to a particular enterprise may have adverse consequences for non-competitors in the same country, these may not be of major concern to Community competition authorities. Such indirect effects may cross national boundaries in certain cases but it would be inappropriate to set out a procedure, similar to that in Section E of the Chapter 3 framework, to be applied generally. In the isolated case where an indirect effect of this kind were very significant, it is likely that those affected would bring their problem to public attention.

(e) Conclusion

Although there are some cases in which the analytical framework set out in Chapter 3 could be applied to assessment of the anti-competitive effects of state aids (Philip Morris was an example), there are many to which it is inapplicable. In the evaluation of aid to multi-product companies of grants for diversification or for research and development and of any schemes not specific to one firm (eg for geographical areas), it is not possible to define product markets. The definition of geographical markets is even less easy and it is also questionable whether any area smaller than the Common Market as a whole is relevant to the assessment of state aids (except where there are physical or technical barriers).

Certain of the concepts presented and analysed in Chapters 2 and 3 are pertinent to the assessment of the distorting effects of state aids. Potential competition is particularly important - both in terms of product and geography. However, the relevant market concept and the analytical framework proposed in this report cannot be generally applied to the consideration of state aids.

BIBLIOGRAPHY

(References for specific cases in Chapters 4 and 5 are shown in the text or footnotes of those chapters.)

- Adelman, M.A. The Measurement of Industrial Concentration, Review of Economics and Statistics, 1951
- " " The Antimerger Act 1950-60, American Economic Review 51, May 1961, pp.236-44
- Areeda, P. & Turner, D.F. Antitrust Law, Little Brown, 1978
- Bain, J.S. Barriers to New Competition, Harvard U.P., Cambridge, Mass., 1956
- " " Industrial Organisation, Wiley, New York, 1968
- Ball, R.J., Eaton, J.R. and Steuer, M.D., Export Performance and the Pressure of Home Demand, Economic Journal, Sept. 1966
- Bandt, J. de Measures de la dimension des unités de production, IREP, Nanterre, 1970
- Baumol, W.J. Contestable markets: an uprising in the theory of industry structure, American Economic Review 72, 1982
- Bishop, R.L. Elasticities, Cross-elasticities and Market Relationships, American Economic Review 30, 1940
- Brock, J.W. Industry structure and market power: the relevance of the "relevant market", Anti-trust Bulletin, Fall 1984
- Bundeskartellamt (BRD) Decision in Merger Case Haindl-Holtzmann, WuW/E B Kart 1475, 1974
- Chamberlin, E.H. The Theory of Monopolistic Competition, Harvard University Press, 1956, (1st edition 1933)
- Chamberlin, E.F. Monopolistic or Imperfect Competition, Quarterly Journal of Economics, 1937
- Clark, J.M. Towards a Concept of Workable Competition, American Economic Review 30, 1940
- Commission de la Concurrence (France) Rapports Annuels, Direction des Journaux Officiels, Paris, annually 1978-84
- Commission of the European Communities Memorandum sur le problème de la concentration dans le marché commun, 1965
- " " Draft regulation on mergers, 1973

- Elzinga, K.G. & Hogarty, T.F. The Problem of Geographic Market Delineation in Antimerger Suits, Antitrust Bulletin, 18 Spring 1973
- " " The Problem of Geographic Market Delineation Revisited: The Case of Coal, Antitrust Bulletin 25, Summer 1981.
- Fairburn, J.A. British Merger Policy, Fiscal Studies 6, February 1985
- Fishwick, F A Study of the Evolution of Concentration in the United Kingdom Textile Industry, Commission of the European Communities, 1975
- " " Research into Industrial Concentration in Europe, Cranfield Institute of Technology, 1979
- " " Multinational Companies and Economic Concentration in Europe, Gower Press, 1982
- Focsaneanu, L. La jurisprudence de la Cour de Justice des C.E. en matière de concurrence: Marché des produits en consideration, Revue du marché commun No. 191, Dec. 1975
- Fox, E.M. Abuse of a dominant position under the Treaty of Rome - a comparison with US Law, Annual Proceedings of the Fordham Corporate Law Institute, pp. 367-421
- Galbraith, J.K. American Capitalism, Hamish Hamilton, London 1957
- Glais, M. & Laurent, P. Traité d'Economie et de Droit de la Concurrence, PUF, Paris, 1983
- Glais, M Les Fondements Microéconomiques de la Jurisprudence Concurrentielle Française, Colloque de Microéconomie appliquée, Paris, May 1985
- George, K.D. Monopoly and Merger Policy, Fiscal Studies 6, February 1985. pp.70-81
- Hart, P.E. & Morgan, E. Market Structure and Economic Performance in the United Kingdom, Journal of Industrial Economics, 1977
- Hay, G. Competition Policy, Oxford Review of Economic Policy, Autumn 1985
- Hayek, F.A. The Use of Knowledge in Society, American Economic Review 35, 1945
- Holley, D. The Concept of Undertaking(s) in Dominant Position and the Systems of Control in US Law in La réglementation du monopole en droit communautaire, College of Europe, Templehof, Bruges, 1977

- Horowitz, I. Market definition in antitrust analysis: a regression-based approach, Southern Economic Journal 46, July 1981
- " " Market Definition, Market Power and Potential Competition, Quarterley Review of Economics and Businesses, Autumn 1982
- Howe, W.S. Industrial Economics, Macmillan, London, 1978
- Jacquemin, A.P. & de Jong, H.W. European Industrial Organisation, Macmillan Press, 1977
- Joliet, R. Monopolization and Abuse of Dominant Position, Nijhoff, The Hague, 1970
- Jong, H.E. de The Relevant Market in same collection as Holley 1977
- Kaysen, C. & Turner, D.F. Antitrust Policy. An Economic and Legal Analysis, Harvard University Press, 1959
- Kirzner, I. Competition and Entrepreneurship, University of Chicago Press, Chicago, 1973
- Landes, W.M. & Posner, R.A. Market Power in Antitrust Cases, Harvard Law Review 94, March 1981
- Lerner, A.P., The Concept of Monopoly and the Measurement of Monopoly Power, Review of Economics and Statistics, 1934
- Markert, K. The Concept of Market Dominating Enterprise and the Methods of its Control in German Antitrust Law, in same collection as Holley, 1977
- Marshall, A. Principles of Economics (8th edition), Macmillan, 1920
- Maunder, W.P.J. Workable Competition and the Assessment of Market Performance, Loughborough Journal of Social Studies, Vol. II (1969), 22
- Merkin, R. & Williams K. Competition Law: Antitrust Policy in the United Kingdom and the EEC, Sweet & Maxwell, 1984
- Monopolkommission (BRD) Die Sächliche Abgrenzung des relevanter Marktes, Kapitel VII von Ökonomische Kriterien für die Rechtsanwendung, Hauptgutachten 1982-3, Nomos Verlagsg., 1983
- Needham, D. Economic Analysis and Industrial Structure, Holt, Rinehart and Winston, Inc., 1969
- Notes (anon) The Market: a concept in anti-trust, Columbia Law Review, 1954
- Robinson, Joan The Economics of Imperfect Competition, 2nd edition, Macmillan 1969. (includes reprints of 1st edition, 1933 and article of 1953)
- Scheffman, D.T. & Spiller, P.T. Geographic Market Definition under DOJ Merger Guidelines, Federal Trade Commission (working paper), August 1985

- Schmidt, I. Wettbewerbstheorie und Politik, Eine Einführung, Gustav Fischer Verlag, 1981
- Scheider, E. Einführung in die Wirtschaftstheorie II. Teil, 13, Tübingen, 1972
- Schroter, H. Le concept de position dominante dans l'application des Articles 66, paragraphe 7, du Traité CEE, in same collection as Holley, 1977 (a)
- " " Le concept de marche en cause dans l'application des Articles 66, paragraphe 7, du Traité CECA et 86 du Traité CEE, ibid, 1977 (b)
- Schumpeter, J. Capitalism, Socialism and Democracy, Allen and Unwin, 1947
- Sharpe, T. British Competition Policy in Perspective, Oxford Review of Economic Policy, Autumn 1985
- Shepherd, W.G. 'Contestability' versus Competition, American Economic Review 74, 1984
- Sosnick, S.H. A Critique of Concepts of Workable Competition, Quarterly Journal of Economics 72, 1958
- Stigler, G.J. & Sherwin, R.A. The Extent of the Market, Journal of Law and Economics, vol. XXVIII, October 1985
- Triffin, R. Monopolistic Competition and General Equilibrium Theory, Harvard
- US Dept of Justice Merger Guidelines, Washington, 1968, 1982 and 1984
- Vickers, J. Strategic competition among the few - some recent developments in the economics of industry, Oxford Review of Economic Policy, Vol. 1(3), October 1985
- Waelbroeck, M. Rapport Général: La notion d'entreprise(s) en position dominante et les méthodes de contrôle en droit comparé, in same collection as Holley, 1977
- Waterson, M. Economic Theory of the Industry, C.U.P., Cambridge, 1984
- Weitzman, M.L. Contestable Markets: An Uprising in the Theory of Industry Structure: Comment, American Economic Review 73, June 1983
- Werden, G.J. Use and misuse of shipments data in defining geographic market, Antitrust Bulletin 26, Winter 1981