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Market Definition in the Media Sector
- Economic Issues -

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PREFACE AND DISCLAIMER

This report has been prepared by Europe Economics as part of an assignment for the Media Unit of the Competition Directorate General of the European Commission.

Europe Economics was appointed to produce this report following the restricted tender procedure COMP/C2/2001/16, which comprised two lots:

Lot 1: Market definition in the media sector: comparative legal analysis (awarded to Bird & Bird).

Lot 2: Market definition in the media sector: economic issues (awarded to Europe Economics).

The two studies are complementary, and Europe Economics read and took account of Bird & Bird's interim report when drafting the present report.

Further information on decisions of the Competition Directorate-General of the European Commission in the media sector can be found in the 2002 compilation "EU competition policy in the media sector", available on request from the Media Unit of the Competition Directorate General of the European Commission.

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1 EXECUTIVE SUMMARY

1.1 Purpose and Scope

- 1.1.1 The purpose of this report is to analyse the methodological problems of market definition in the media sector, and, based on the European Commission's Notice on Market Definition (1997), to develop practical approaches to market definition for media cases.
- 1.1.2 In the light of a literature review and of an analysis of problems with market definition in the media sector, the report seeks to identify which of those perceived problems are genuine ones, which reflect weaknesses of traditional methods used for market definition purposes in competition cases, and which can be addressed simply by a careful application of traditional market definition techniques, grounded in the hypothetical monopolist test.
- 1.1.3 The report also considers how the problems that have been identified can be addressed in practice, in particular by analysing feasible avenues of inquiry when the data required by traditional market definition techniques are not available.

1.2 Structure of the Report

- 1.2.1 This section provides a brief overview of the main results of the study. The remainder of the report is structured as follows.
- 1.2.2 Section 2 considers the methodological issues arising in defining markets in the media sector, based on an analysis of the main economic characteristics of media industries that may affect the assessment of market definition. It seeks to identify whether, and how, these features may give rise to specific problems for market definition in media cases, and outlines how these problems might be addressed.
- 1.2.3 Section 3 considers how these issues manifest themselves in practice when defining markets in the media sector. Based on a proposed framework and key steps for market definition in media cases, it provides an economic critique of approaches to market definition in media that have been adopted in some competition decisions in the past, and outlines ways of addressing the practical problems that might be faced.
- 1.2.4 Section 4 draws out the implications and conclusions of these analyses.
- 1.2.5 The analysis is supported by a number of appendices. Appendix 1 provides a detailed economic overview of the concept of market definition, highlighting the central role of substitutability in terms of product/service characteristics and intended use as well as price: this provides a consistent foundation for the report's approach to defining markets. Appendix 2 reviews critically a strand of literature that promotes the view that market definition, and specifically the hypothetical monopolist test, are not appropriate approaches to competition analysis for "new economy" and media cases. Appendix 3 proposes a categorisation of traditional market definition tests and techniques. Appendix 4 provides a list of bibliographic and case references.

1.3 Defining Markets

- 1.3.1 Market definition is primarily an analytical tool to help identify, in a systematic way, the competitive constraints faced by an undertaking. The purpose of defining the relevant market is that of identifying those products (in which we include services) whose suppliers are capable of exerting effective competitive pressures on each other and of constraining each other's behaviour.
- 1.3.2 The theoretical approach to define markets put forward by the European Commission notice is based on the hypothetical monopolist test, also called the small but significant and non-transitory increase in price (SSNIP) test. This test should be seen as a thought experiment, which provides the framework within which the exercise of defining the relevant market is carried out, rather than as a specific quantitative technique for market definition.
- 1.3.3 The proposition behind the hypothetical monopolist test is that, for antitrust purposes, a relevant market is defined when a hypothetical monopolist (or hypothetical cartel acting as if it were a single undertaking) of all products included in a candidate market could increase its profits by imposing a small but significant and non-transitory increase in price.
- 1.3.4 If the hypothetical monopolist were able to profitably raise its prices, the candidate market is accepted as a relevant market, since competition from outside does not act exert an effective constraint on behaviour within it. On the other hand, if the prices of other products of similar characteristics and intended use effectively constrain the terms offered by the hypothetical monopolist, then the relevant market must be defined more broadly. At the heart of the assessment of whether a price increase is profitable or not, is an estimate of the constraints exerted by demand- and supply-side substitutability.
- 1.3.5 Appendix 1 discusses in greater detail the concept of market definition and the framework given by the hypothetical monopolist test.

1.4 Market Definition Issues in Media

- 1.4.1 We have taken two parallel approaches to the identification of the issues raised by market definition in the media sector:
- (a) an analysis of the specific economic characteristics of media industries, and their implications for the methodologies that can be used for market definition (Section 2); and
 - (b) an analysis of some past competition decisions in the media sector, and the practical problems that appear to have been encountered in dealing with market definition (Section 3).
- 1.4.2 Few, if any, of the issues identified are entirely specific to the media sector. Instead, our analysis focuses on the relative prevalence of certain issues in the media sector

compared to other industries, and the economic characteristics of media that give rise to particular problems.

- 1.4.3 Our analysis of the typical economic features of media industries indicates that the fundamental methodological problem of defining markets in the media sectors arises from rapid change. In addition, the analysis is sometimes complicated by the need to consider markets in which no or very few transactions take place.
- 1.4.4 These features make the economic understanding of markets inherently difficult, since they require an analysis of competitive constraints to be performed without the support of a significant track record of the operation of the markets, and in particular without any of the price and volume data that are required by some quantitative techniques for market definition.
- 1.4.5 Besides these fundamental issues, there may be further practical difficulties with market definition in many media cases. Our analysis highlights the following features.
 - (a) First, little reliance can be placed on similarities or differences between products, for example in terms of the technology that they use, as a guide to market definition. In particular, convergence of products and/or technologies is not a good guide to changes in market definition.
 - (b) Second, the value of market definition precedents will often be quickly eroded by rapid change, and conclusions on market definition can rarely be transferred to new cases even if they appear superficially similar.
 - (c) Third, the analysis is often complicated by the fact that competition in many media activities occurs on dimensions other than price, for example in circumstances where media content is provided for free.
 - (d) Fourth, many potential markets need to be considered in connection with a competition inquiry, adding to the effort required to determine robust market definitions. For example, markets may need to be defined by time, by customer group, in terms of different bundles, and at different levels in a complex chain of production, as well as by the traditional characteristics of product type and geographical location.

False problems

- 1.4.6 Our analysis also highlights a number of problems that have been faced in the past with market definition in media but which do not, in fact, reflect any genuine impediment to the application of the traditional market definition framework in media cases. They include:
 - (a) the failure to define markets by reference to the supply (or purchase) of clearly specified products;

- (b) the failure to identify the most relevant stage of production at which markets should be defined;
 - (c) undue reliance on similarities or differences in technology or prices; and
 - (d) undue reliance on evidence of past substitution induced by technological change.
- 1.4.7 However, none of these issues would arise within a rigorous application of the hypothetical monopolist test framework based on an assessment of the scope for substituting between products in order to meet a specific need.

1.5 Framework for Defining Markets in Media Cases

Weaknesses in the traditional tests

- 1.5.1 We have not found any fundamental weaknesses in the traditional test for market definition based on the analysis of substitutability. The hypothetical monopolist test is applicable to the media sector in the same way as to other industries, and is a valid framework for defining markets in competition cases relating to the media sector.
- 1.5.2 However, it is important to recognise that the hypothetical monopolist test is a framework for designing the analysis required to define markets, rather than a directly operational technique. In media as in many other industries, the data required for a direct quantitative implementation of the test (known as residual demand analysis) will often be unavailable, and instead market definition analysis must rely on a combination of qualitative and quantitative evidence. The hypothetical monopolist framework assists in ensuring that this evidence is interpreted in a conceptually meaningful way.
- 1.5.3 Some techniques which are not based on the hypothetical monopolist test are sometimes considered as tests for market definition: for example, evidence of price correlations or of product substitution in the past. The specific economic features of the media sector, particularly rapid change, reduce the value of these tests compared to what it might be in some other sectors, thus reinforcing the pre-eminence of the hypothetical monopolist test as the conceptual framework underpinning both qualitative and quantitative analyses of market definition.

False solutions

- 1.5.4 Some authors have suggested that there are such difficulties with market definition in media or new economy industries that it should not be undertaken at all. In particular, some argue that competition law should be enforced by using a so-called “first principles” approach under which the potential for abusive behaviour or lessening of competition is identified directly.
- 1.5.5 We do not consider that the obstacles to market definition in media are insurmountable, or that they vitiate the value of market definition as part of an economic analysis of the competitive process. In fact, we believe that market definition, if well done, is particularly

valuable in complex industries such as media, and can be a significant aid to the understanding of competition and potential anti-competitive behaviour in the presence of complex inter-related markets. Thus, irrespective of any legal requirements to define markets, we consider that market definition should be considered an important part of the economic analysis of competition issues in media.

- 1.5.6 When faced with complex market definition issues in media cases, especially in cases where price and volume data series are not available to support quantitative analysis of substitutability, it may be thought appropriate to seek alternative sources of evidence, not directly based on substitutability, in order to define markets, as a second-best approach to be used when primary sources of substitutability evidence do not exist. We caution against such an approach. When relevant data are missing, they must either be collected (for example through customer surveys), or reliance must be placed on reasoned assumptions that lead to inferences on substitutability and can be subjected to scrutiny by interested parties and/or the courts. The scarcity of relevant evidence cannot justify the use of irrelevant evidence.

Key steps for market definition

- 1.5.7 The report identifies three key steps, which, in our view, must be addressed as part of a robust analysis of market definition in media cases. The primary purpose of these steps is to act as a checklist to help discipline the analysis of market definition in media cases.
- 1.5.8 Our first proposed step is to define with precision the products likely to be relevant to the case, based on an analysis of the stages of production and a clear specification of the nature of the trading relationship implied by each product.
- 1.5.9 Our second proposed step is to assess substitutability between products and to apply the hypothetical monopolist test framework to reach possible definitions of relevant markets, making (and stating) assumptions about customer preferences and other factors as may be necessary.
- 1.5.10 Our third proposed step is to use other evidence, in particular precedents and price evidence, to confirm or refute potential market definitions generated in the second step. The value of this evidence will often be limited in media markets due in particular to rapid change, further emphasising the importance of the second step.
- 1.5.11 Within that framework, many of the apparent methodological problems in market definition for media cases can simply be addressed by a rigorous and careful application of the traditional market definition framework.
- 1.5.12 There will remain some practical issues, and in any event a robust analysis of a complex case inevitably requires significant time and effort. But we do not believe that these facts are a genuine obstacle to conducting valuable market definition analyses in media cases, provided that a robust methodology is followed, that the planning of inquiries takes full account of the inherent complexities of some media cases, and that resources are allocated accordingly.

Developing operational guidance

- 1.5.13 This report does not purport to be an operational guide or “recipe book” for market definition in media cases. Instead, its scope is limited to the identification of the methodological problems and of approaches that might enable them to be addressed. Nevertheless, as an illustration, the report outlines how operational approaches to the problems that it has identified could be developed in some hypothetical examples.
- 1.5.14 As outlined above, we consider that it would be undesirable to specify alternative sources of evidence not based on substitutability concepts to define markets when data on substitutability are not readily available. Instead, we recommend that any guidance for market definition in media should emphasise the key steps for market definition set out above, and should demonstrate ways in which assumptions can be made to analyse substitutability when quantitative data are not available. But what is that is most important in determining substitutability in one media case is likely to be quite different from what is important in another case. Because of this, media cases are unlikely to be suited to the application of generic, off-the-shelf techniques.

2 METHODOLOGICAL ISSUES

2.1 Introduction

Definition of the media sector

- 2.1.1 At the outset it is important to define what we mean by “media”.
- 2.1.2 According to a dictionary definition, media refers to the “means of communication that reach large numbers of people, such as television, newspapers, magazines and radio”.¹ Thus, the media sector is concerned with the production and distribution of information on a one-to-many basis.
- 2.1.3 It seems appropriate to use a broad interpretation of the word “information” in this context. Varian (1998) takes “information goods” to encompass anything that can, in principle, be digitised. We assume that all printed, audio, visual or audiovisual content are considered to be information goods, and therefore potentially part of the media sector.
- 2.1.4 The media industries distinguish themselves from other sectors involved in markets for the transmission or distribution of information goods in that the media sector is characterised by the distribution of the same information to a potential audience that comprises a large number of people. As an example, both radio broadcasting and fixed-line telephony are concerned with transmission of audio information, but fixed-line telephony is a one-to-one or one-to-several exchange and thus outside the media sector, while radio stations make the same information available to a mass audience and fall therefore within our definition of media.
- 2.1.5 Another key boundary is that between media and direct one-to-many communications such as public speeches or theatre performances. By accepting the definition of media as “means of communications”, we require not only that an information good be supplied to many recipients, but also that there should be a medium of some kind to convey this information, be it a book, newspaper, radio, television or the Internet.
- 2.1.6 Thus, it is generally possible to draw a distinction between the information good itself and the method of distribution used. A particular recording of a piece of music can be considered an information good, or media content. The same recording can then be physically distributed as a CD or audio tape, or distributed through the Internet or radio stations: these are different forms of media distribution.

Economic characteristics of media industries that affect market definition

- 2.1.7 The following sub-sections introduce the characteristics of the media sector which we consider to be especially relevant to market definition. These characteristics are not

¹ *Collins Concise Dictionary* (1997) Third Edition.

entirely specific to media, nor have they been selected because they are likely to be associated with anticompetitive practices in the media industry. Rather, and reiterating an earlier point, these are characteristics which entail important implications for the exercise of market definition in the media sector as discussed in Section 3.

Economies of scale and value-based pricing

- 2.1.8 The cost structure of the media industry frequently involves substantial economies of scale. As discussed below, this is due to economies of scale at both the content level (which can be associated with the public good aspects of media content) and at the distribution level. An important implication of this cost structure is that we should expect value-based pricing, an issue which brings significant complexities to market definition and competition analysis more generally.
- 2.1.9 Media content can be described as non-rivalrous because, once created, the information good itself — rather than its distribution — can always be provided to an additional person at zero marginal cost of production. This is the fundamental economic feature of the media sector. Once a song is recorded, a film shot or an article written, the good can be heard, seen or read respectively, by an additional person without the author of the information incurring any further expenditure or effort. In this way, non-rivalry refers to the notion that consumers do not compete for the same unit of a good. The consumption by an individual of a certain piece of information does not prevent another from doing so as well.
- 2.1.10 Consequently, economies of scale in content production are an inherent feature of media markets: as more consumers experience content, the average cost of the content production decreases. This stems directly from the public good attribute of non-rivalry.
- 2.1.11 Thus, whilst marginal costs of supply do arise, they are only encountered in distribution (for example the transfer of a music recording to compact discs or the broadcast of a film via digital satellite television). Because these tend to be small compared to the one-off or fixed cost of content production, the substantial economies of scale realised in content production are enjoyed in the supply of the final product. Furthermore, in many cases, average costs of distribution decrease with audience size, augmenting the economies of scale generated in content production (an example of this is the provision of cable television services within a particular area).
- 2.1.12 Industries that are characterised by very low marginal costs relative to fixed costs are inconsistent with a simple textbook benchmark of perfect competition, irrespective of the actual effectiveness of the competitive process in these industries. Pricing media products at marginal cost is not a sustainable strategy because the sunk costs of content production will not be recovered. Although firms may compete insofar as they act in line with incentives to innovate and make efficient trade-offs between price and quality, such markets may not entail a large number of firms selling homogenous goods at prices equal to marginal cost.

- 2.1.13 Shy (2001) argues that cost-based pricing of information goods makes little sense because of the high fixed and sunk production costs and low marginal costs. Under these circumstances, he argues that value-based pricing is much more appropriate. Value-based pricing can be seen as an attempt to recover greater revenue from those customers who attach a higher value to a particular product than from those who attach a lower value to the same basic product.
- 2.1.14 Value-based pricing can be achieved through price discrimination or bundling, both of which bring significant methodological issues to market definition. We therefore consider that the most important consequence of the cost structure of the media industry for market definition is that price discrimination (discussed in Section 2.2) and bundling (discussed in Section 2.3) are prevalent.

Inter-related markets, advertising and free content

- 2.1.15 Many firms in the media sector operate in several inter-related markets. For example, a newspaper serves both readers and advertisers, and the value of advertising will depend on the ability of the newspaper to attract readers. Thus competition in each of the two markets cannot be considered in isolation.
- 2.1.16 Inter-related markets can also occur between the demand and supply side of an activity. For example, a record company competes both to attract artists and to sell records to fans, and its success in the first market conditions its operations in the second.
- 2.1.17 Indeed, in some cases demand and supply cannot be meaningfully identified, for example in the supply of free newspapers or free-to-air television. In these cases the apparent consumers are not actually paying for the service that they receive — implying that benefits other than direct payment make it worthwhile for publishers and broadcasters to seek audiences. Specifically, firms may compete in supplying free content to consumers in order to compete in related markets for the supply of advertising space.
- 2.1.18 Section 2.4 discusses the complexities of market definition in the context of advertising and the supply of free content.

Stages of production

- 2.1.19 Media industries are often characterised by complex supply chains involving a number of stages of production. For example, the broadcasting of football matches will typically involve filming; packaging of video content (live matches, highlights, etc); sale of rights to these packages to television channels; access to satellite or cable networks for distribution; access to software platforms to control access for subscription and pay-per-view channels; and so on.
- 2.1.20 Given the vertical integration prevalent in many parts of the media sector, these complex chains of production mean that firms will generally supply a variety of services at different levels of the chain to each other and to customers. This may give rise to a range of

competition issues, especially in the presence of “gateways” to which access is necessary in order to provide services.

- 2.1.21 The obvious implication this has when defining markets is that there may be cases where many markets need to be defined at different stages of the supply chain. This does not in itself bring methodological issues; it may of course raise practical problems, some of which are highlighted in Section 3. Instead, significant methodological issues for market definition arise because of the need to consider gateways, in which cases a market may need to be defined for the provision of a certain “access” service to downstream firms (even if no such service is currently provided). This is discussed in Section 2.5.

Rapid change and convergence

- 2.1.22 Many of the markets across the media sector have experienced, and continue to experience, rapid change. The change has taken place in terms of the size of the market, the identity and preferences of the market participants, and most crucially through innovation and the introduction of new products and services.
- 2.1.23 Innovation in the media sector may have taken place to the greatest extent with respect to methods of distributing content rather than in the creation of the content itself. For example, the Internet allows music content to be distributed directly to consumers’ homes as MP3 files, news content can be read on a WAP mobile handset and interactive television services provide movies on (near) demand. As telecommunications capacity increases and communications technology develops, the variety of methods of accessing media content should continue to increase.
- 2.1.24 This aspect of change is also closely related to the phenomenon of convergence, or the coming together of media, telecommunications and information technologies into unified platforms and networks.
- 2.1.25 Both rapid change and convergence are features of the media industry that may result in significant complexities and problems for market definition. These are discussed in Sections 2.6 and 2.7 respectively.

Structure of the section

- 2.1.26 The topics covered in the remainder of Section 2 are organised as follows:

- (a) price discrimination (Section 2.2);
- (b) bundling (Section 2.3);
- (c) advertising and free content (Section 2.4);
- (d) gateways (Section 2.5);
- (e) rapid change (Section 2.6); and

(f) convergence (Section 2.7).

2.1.27 For each topic, the analysis begins with a brief introduction to the economics of the characteristic, drawing on its relevance to the media sector. The section then considers the various implications the characteristic has for market definition in media and, where appropriate, identifies approaches for addressing the associated methodological problems.

2.1.28 Before concluding, each section provides examples, or references to relevant examples elsewhere in the report, which discuss the application of market definition to realistic cases related to the characteristic under consideration.

2.2 Price Discrimination

The role of price discrimination in the media sector

2.2.1 The value-based pricing resulting from high fixed costs and low marginal costs, as seen in many parts of the media industry, often entails price discrimination. In particular, firms will seek to expand output by offering products at low prices to customers with low estimated willingness to pay, but only if this does not endanger their ability to charge higher prices to customers who place a higher value on the product. Such a pricing structure is often necessary in order to justify investment and/or to recover fixed and sunk costs.

2.2.2 For instance, in the context of wholesale pay-television, Cowie and Yarrow (1997, p 642) argue that:

“The wholesale cost of providing existing programme material for an extra cable subscriber is close to zero. The wholesale programme supplier is, therefore faced with the problem of recovering fixed costs and making a profit. The efficient solution to this problem will, one way or another, involve some form of price discrimination.”

2.2.3 The prevalence of price discrimination in media markets is further reinforced by the fact that price discrimination can be more practicable in media markets than in many other sectors as the nature of the product is such that it cannot be traded between consumers in different segments.

2.2.4 A key reason why price discrimination may not occur in some markets is arbitrage. If a supplier of apples attempts to charge children less than adults, it is likely that an enterprising child will set up store buying apples cheaply to sell on to adults, undercutting the original supplier.

2.2.5 However, in many media markets, arbitrage is not possible because of the nature of the good being provided. Arbitrage cannot occur for cinema attendance or radio listening because one person cannot sell their experiencing of the good to someone else. In other cases, arbitrage may be prevented by intellectual property rights. For example, it would typically be illegal without a copyright licence to buy the reels of a film licensed for cinema exhibition and transfer the content for sale on the DVD format. Such prevention of

arbitrage means that suppliers can charge different consumers different prices for the same good, or significantly different prices for different versions of the good.

Market definition issues

- 2.2.6 Market definition involves grouping products into relevant markets, within which competition constrains the terms offered for these products. The first step of any market definition exercise is therefore to identify the goods and services that are, or might be, relevant.
- 2.2.7 The existence, or even the possibility, of price discrimination effectively adds a dimension to the definition of the relevant products or services. For example, entry to a cinema performance must be described by type of customers (adult or child) as well as by its time, place and film shown. Thus, price discrimination can lead to greater complexity in the description of products, and therefore in the analysis of substitutability.
- 2.2.8 Nevertheless, price discrimination does not change the principles on which market definition is based, i.e. the assessment of competitive constraints. Thus, when suppliers can charge different prices for essentially the same product, the extent to which the prices charged to one group of customers constrain the prices that can be charged to another group is key to defining markets.
- 2.2.9 In order to structure the discussion, it is helpful to distinguish between two broad forms of price discrimination:
- (a) charging different prices to different customers, or groups of customers, for the same service;
 - (b) charging significantly different prices for different versions of the same basic product or service (“versioning”).
- 2.2.10 Although in some cases the observation of price discrimination will lead to the delineation of separate markets along the lines of the discrimination — be it by customer group or by product version — this is by no means always the case, as discussed below.

The case of price discrimination by customer group

- 2.2.11 At the extreme a firm can set an individual price for each customer that is not constrained by prices set to other customers. In this case, markets are segmented by individual customers and market definition should in principle be determined for each customer by reference to the suppliers able to offer that specific customer substitutable products.
- 2.2.12 In many cases it will not be possible to effect price discrimination between individual customers, but it will be possible to price discriminate between different groups of consumers, where customer groups can be segmented according to specific characteristics. Possible characteristics include age (e.g. a cinema charging a different

entrance fee to children) and status (e.g. a video library giving student a discount on production of a university membership card).

- 2.2.13 Market definition analysis in the presence of discrimination by customer group is similar to the case where a firm can set prices for each individual customer. For instance, if a cinema charges different prices to children and adults, then the supply of cinema services to adults is likely to be in a different market to the supply of cinema services to children. In other words, so long as the market segmentation is undertaken on enforceable grounds and arbitrage can be prevented, each segment may constitute a separate relevant market for the purpose of competition law.
- 2.2.14 A possible analytical approach to the problem of market definition in the presence of price discrimination by customer group may be to consider the fact that the price is conditional on membership of a particular customer group as a dimension of the product. This would correspond to the fact that the offer is specified by both its price and on a restriction on the people to whom it can be supplied. Within that framework, market definition in the presence of price-discrimination can be conducted in the same way as for any other form of differentiated product.
- 2.2.15 A potential complexity arises if the groupings used for the discrimination overlap. For example, if a cinema discounts entry prices for both students and young people, then it is possible that the prices charged in each of these two categories may be constrained by the availability of the other price to a substantial proportion of the qualifying population. If so, markets may be defined to encompass several discrimination groups. Whether this is the case will depend on a detailed analysis of the effectiveness of competitive constraints, as in any other market definition analysis.
- 2.2.16 A further complication is the case where a product that is priced differently between different verifiable groups competes with a product for which no price discrimination is attempted. A simple example comes again from cinemas. Suppose a cinema can effectively price discriminate between children and adults but that competitive constraints exist between cinema services and video rental services (for which no discrimination is attempted). In this case, there may be a single relevant market comprising the supply of video rental services and the supply of cinema entry to both adults and children, where the video rental services provide a link in a chain of substitution. Nevertheless it is also possible that there is a relevant market for video rental services and adult cinema entry that is separate from a market for video rental services and children's cinema entry, in which case video rental services feature in two relevant markets. The question must be addressed by considering a hypothetical monopolist for each permutation.
- 2.2.17 On a point of terminology, if relevant markets are defined by customer type (e.g. adults and children) then there is little merit in terming these "market segments". They are markets. Talking about the "children segment" of the cinema market leaves ambiguity as to whether this is a relevant market in itself or merely a subset of the relevant market. If the price charged to children is not constrained by competition from similar products sold

to adults then the corresponding services should be defined and labelled as a relevant market in itself.

The case of price discrimination through versioning

- 2.2.18 Even when lack of information or the possibility of arbitrage rules out setting either individual prices or prices by customer segment, suppliers can still use various techniques to discriminate between consumers with different willingness to pay.
- 2.2.19 Versioning describes the case where a firm offers slightly different versions of the same broad product at different prices, leaving it to consumers to self-select the product (or quantity of products) they wish to buy.
- 2.2.20 Versioning can extract consumer surplus provided the menu of choices offered to consumers creates incentives for high-valuation consumers to opt for high-price versions, whilst low-valuation consumers still have an opportunity to purchase the cheaper products. The arbitrage problem is circumvented as the strategy involves offering the same options to all consumers but priced in such a way that consumers with different levels of willingness to pay for the same basic product choose different options, self-selected according to the product variation. The information problems associated with price discrimination by customer group may also be alleviated, if a correlation between consumer preferences and the value of product to them can be identified and used to design a suitable menu of products.
- 2.2.21 Some of the menu of strategies through which information products can be versioned are shown in the following table (in many cases these dimensions will be used in combination).

Product Dimensions Susceptible to Versioning and their Likely Users/Uses

Product dimension	Likely users
Delay	Patient/impatient users
User interface	Casual/experienced users
Convenience	Business/home users
Image resolution	Newsletter/glossy users
Speed of operation	Student/professional users
Format	On-screen/printed uses
Capability	General/specific uses
Features	Occasional/frequent users
Comprehensiveness	Lay/professional users
Annoyance	High-time-value/low-time-value users
Support	Casual/intensive users

Source: Shapiro and Varian (1999, p 62).

- 2.2.22 In cases where one version of a product encompasses all the features of another version, but is improved in some way, then the analysis of market definition needs to take account

of one-way substitutability. For example, if two computer software programmes differ only insofar as the more expensive one has some additional features, it may be that those users whose needs could be fully met by the restricted version will switch to the more comprehensive version in response to a change in relative prices, but users requiring features only included in the comprehensive version will not switch to the restricted version in response to a small price increase of the former. It may therefore be the case that two relevant markets have to be defined: one for the supply of the comprehensive version and one for the supply of the comprehensive or the restricted version. (There are some similarities in analysis between this case and the discussion of bundled versus unbundled supply in Section 2.3.)

2.2.23 It should be noted that it is not always clear how to distinguish between the practice of versioning and that of product differentiation. The former involves the supplying firm making slight alterations to product characteristics to encourage self-selection by “high-valuation” and “low-valuation” consumers. The latter refers to the practice of providing different products to satisfy the heterogeneous preferences of consumers.

Examples

2.2.24 We discuss below four brief examples relating to market definition in the presence of price discrimination. In each case the analysis relates to issues of market definition when some form of price discrimination is being applied and considerations of the possible anticompetitive effects of price discrimination are not discussed.

2.2.25 The first example concerns the implications for market definition of geographic price discrimination by cable and satellite television operators.

2.2.26 The remaining three examples relate broadly to versioning. The second example discusses market definition in the context of the supply of hardbacks and paperbacks, the third considers versioning of movie releases and the fourth considers temporal price discrimination for other durable content.

Geographic price discrimination by cable franchise area

2.2.27 The following example illustrates the interplay between geographic market definition and the ability of different firms to price discriminate geographically, in the context of the supply of television services through cable networks.

2.2.28 The supply of cable television to house number 101 is not typically a demand-side substitute for the supply of cable television to house number 102. Thus, if there are no good substitutes for the supply of cable television, separate markets could be defined for the supply of cable television to each household. While perhaps theoretically correct from the perspective of the hypothetical monopolist framework (provided that supply-side substitution is only to be included in market definition in terms of capacity to supply), this approach is not well suited for competition analysis because of the large number of markets it entails.

- 2.2.29 The analysis can be made more tractable by considering geographic areas over which none of the suppliers in the area would reasonably be expected to price discriminate between households. The relevant market can be defined in terms of the supply of cable television services within such an area.
- 2.2.30 For example, if cable operators are granted exclusive franchises over geographic areas (i.e. different operators' areas of supply do not overlap) and a firm adopts a strict uniform pricing policy for all customers in its area, it is not appropriate to define the market as the supply of cable television service to this area rather than as separate markets for supply to each individual house.
- 2.2.31 Conversely, if a cable operator is able to price discriminate (either in list price or through geographically targeted discounts) between households within its area of operations, it would not be appropriate to define a single geographic market. The error of doing so would be most pronounced if a new entrant could appear in part of the incumbent's area because this would likely produce a targeted response in prices from the incumbent.
- 2.2.32 Nonetheless if there are identifiable barriers to entry (analysis which pre-empts assessment of dominance) then it may be reasonable to assume that within a certain timeframe it is appropriate to aggregate an area of households into one geographic market on the basis that price discrimination between them is not expected.
- 2.2.33 Similarly, this issue of price discrimination is raised if local cable operators also face competition from a nationwide satellite operator. In this case, cable operators in different geographic areas may be constrained through a chain of substitution, leading to a single national market comprising both satellite and cable services. The effectiveness of the constraint would be dependent on the nationwide operator's inability to price discriminate geographically itself. If it is unreasonable to presume that the satellite operator will offer different prices to customers in different areas, and the service it provides is a good substitute for those provided by cable operators, it will be appropriate to define a national market.
- 2.2.34 If the nationwide operator is able to price discriminate by cable area, then it can compete separately with cable companies on an area-by-area basis. In this case local markets by cable area would be appropriate (or even narrower markets). The nationwide operator's ability to price discriminate geographically breaks any potential chain of substitution between areas served by different cable operators.
- 2.2.35 This example demonstrates the importance of considering firms' abilities to price discriminate between different areas in determining the geographic scope of the market.

Versioning of books as paperbacks and hardbacks

- 2.2.36 An obvious example of versioning as a price discrimination tool is the release of a paperback book several months after the release of the hardback version, at a substantially lower price. The publisher may be trying to segment the market between high-value readers who want the book straight away (and may value higher-quality

binding), and lower-value readers who are prepared to wait for release of a lower-price version. But since the price charged for the hardback may be constrained by the price of the (delayed) paperback, the two could in principle be in the same market.

2.2.37 Garvin (1980) analyses mergers and competition in the US book publishing industry. With reference to trade books, he states that (p 330):

“the existence of both hardcover and paperback books presents a special problem of market definition. At some level, the two types of books clearly compete with one another for a reader’s attention, and so belong in the same market. There are, however, often major differences in the quality (durability) of the products, their prices, and the retail outlets in which they are sold. For some buyers like libraries — who require long-lived and durable books, and therefore seldom purchase paperbacks — these differences are quite important, and mean that hardcover and paperback books will be poor substitutes for one another. For many other buyers, however, this is less of a concern than basic similarities in subject matter.”

2.2.38 But there really is no “special problem”. We have to decide whether hardbacks and paperbacks are in the same market in the same way we have to decide whether apples and bananas are in the same market. Too much attention to product characteristics (content of book, physical form) without corresponding attention to potential for substitutability (at an aggregate rather than individual consumer level) and its effectiveness as a competitive constraint is hazardous. But it always is.

2.2.39 Garvin (1980, p 331) notes that (at the time in the US) long-standing differences in prices (as would be found between hardback and paperback books) had been an important basis for defining product markets (citing a couple of cases unrelated to the publishing sector). He cautions however that:

“[w]hile classifying hardcover and paperback books in separate markets has a certain intuitive appeal, there is no denying that the two are often substitutes for one another. This has become increasingly evident in recent years, for rising hardcover prices have caused many consumers to reduce their hardcover purchases while they simultaneously increased their paperback buying.”

2.2.40 Differences in price per se cannot determine whether two products are in different relevant markets. Where there is significant product differentiation (in this case in quality/durability and also in release date), and where the valuation of a quality difference may be difficult to estimate and/or vary significantly between customers, then relative prices will not be a good guide to market definition. Instead an understanding of consumer behaviour in terms of substitution to alternative products (with possibly quite different prices) is necessary. Whilst significant price differences may sometimes be associated with lack of substitutability (for example between a luxury good aimed at one sector of the population and a basic product aimed at another), there is no systematic link between the two, and it is substitutability rather than price differences that should inform market definition.

- 2.2.41 Thus, the question of whether a hardback version of a particular book is in a different market to the paperback version should be analysed in the same way as any other market definition question: neither the inherent similarity in content nor the inherent dissimilarity in physical form are necessarily good indicators of substitutability. It is quite possible that for some markets delineated in terms of content, the relevant markets in terms of format would be separate for hardback and paperback, whilst for others the two would be in the same market. Furthermore, the time dimension of market definition is also likely to be important. In particular, the supply of a hardback shortly after publication of the content may or may not be constrained by the prospective supply of the same content in paperback form. In other words, there might be one relevant market for the supply of the hardback in the initial period after publication; and another relevant market for the supply of the content in any format after that period.
- 2.2.42 In short, there is no generic answer as to whether paperbacks and hardbacks are in the same market, and a specific analysis of customer preferences relating to the format in which they access the relevant type of content is necessary. If the key difference between a paperback and the corresponding hardback is quality and durability, then it may be reasonable to presume (but not to conclude) that the two are in the same market, with the price differential reflecting the value of quality to marginal customers. By contrast, if paperback and hardback could be shown serve different purposes, with one being better for one type of use (e.g. durable and decorative) whereas the other may be more suited to other tasks (e.g. easily carried), then the possibility of separate markets should be seriously entertained. In any event, additional analysis would be needed to assess the temporal dimension, should that be needed to reach a conclusion in a particular competition inquiry.

Versioning of movie releases

- 2.2.43 Waterman and Lee (2002) study issues surrounding the length of movie “windows” on various formats. They note other motivations for the window pattern of movie releases, such as the building of word-of-mouth recommendation and the signal of average movie quality that initial release at cinemas conveys, but argue that the release system appears to be a price discrimination device. They postulate that the sequence of releases segments high-value from low-value customers by means of the quality of the viewing experience. At first, the movie is released in wide-screen display at cinemas, then on for home video viewing, followed by pay-television, and then free-to-air television. The quality differences between video and pay-television is that consumers have more control of scheduling in the former. Similarly, multiple shows on pay-television allow viewers more scheduling options than on free-to-air television, where there could also be more advertising clutter.
- 2.2.44 Hence, across the release sequence there is both a temporal aspect and a quality aspect (screen size, viewing convenience, advertising interruptions). Waterman and Lee argue that the most compelling argument for the inter-temporal price discrimination hypothesis is the observation of significant periods between the withdrawal of the movie on one format (e.g. cinema) and its release on the next format (e.g. DVD release).

- 2.2.45 There could be separate markets related to each release window. For example, the supply of the rights to show the film at the cinema may be in a different market to the supply of the rights to distribute it as DVD, and both of these may be in different markets than that for the rights to the film on pay-television.
- 2.2.46 But it is important to base the assessment on analysis of substitutability, rather than just the existence of different release formats or windows. In particular, it is important to have an appreciation of the dynamic nature of the markets when conducting the market definition. Amongst the findings of Waterman and Lee's study, which is based on US data, was evidence that VCR diffusion has shortened windows between initial cinema release date and video release date. An explanation for this is that as more people have access to VCR's, the trade-off involved in determining the video release lag – longer windows increase cinema revenue whilst shorter windows increase video revenue – has shifted in favour of earlier video release.
- 2.2.47 As window length reduces, we would imagine that, all else equal, cinema release and video release become closer substitutes. If a key factor affecting the window length is VCR/DVD player diffusion (or, for that matter, pay-television diffusion) there is a tendency for movement towards a single relevant market for cinema and video release. This is not to say that a single market is appropriate, but that there are some grounds for expecting change over time. Moreover, it is helpful to understand why the markets may be converging as additional information gained from such analysis (e.g. information on the rate at which VCR/DVD, pay-televisions or other equipment used to view films is diffused) may suggest what the appropriate timeframes for particular market definitions are.

Temporal discrimination for durable content

- 2.2.48 McKenzie and Lee (2001, p 10) note that digital goods are far from perishable and that there is no reason why they should deteriorate physically. The authors use this idea to argue that past sales of digital goods can act as a constraint on new sales of digital goods, and in particular that Microsoft, in selling its operating systems, is in competition with its previous sales.
- 2.2.49 However, it is important to note that it is not whether a good perishes "physically" that matters. Instead, what perishes is consumer valuation for a good and hence demand. An example is the recording of a football game. The rights to the live relay of this recording are likely to be far more valuable than the rights once the match has finished and also once the result and incidents have been made known. Thus, the value of that digital information good perishes (possibly dramatically) over time.
- 2.2.50 In cases where the economic value of content is genuinely durable, market definition will need to consider whether older or second-hand products are effective substitutes for the original or new product. Thus, in the case of operating system software, empirical analysis would be needed to determine whether the relevant market includes all versions of Windows, or whether the availability of some older versions no longer exerts any effective constraint on the pricing of new versions.

- 2.2.51 For that constraint to be of a competitive nature, it is important, however, that it should result from a choice that customers have between new and old versions offered by suppliers as different products for the same intended use. By contrast, if the constraint on the pricing of new versions was merely due to a reluctance of users of older versions to upgrade, so that the substitution that constrains the pricing of the new version is the non-purchasing of any operating system, then it would not be appropriate to seek to widen the relevant market; instead a dominant position in the relevant market for the supply of the operating system upgrade would have been identified.
- 2.2.52 Thus, the mode of operation of a durable product market depends crucially on whether the original supplier is exposed to effective competition from other undertakings re-selling the goods that it previously supplied; in other words, whether temporal price-discrimination is restricted by inter-temporal arbitrage.
- 2.2.53 The nature of the product offered by the original supplier will also be influenced by considerations of inter-temporal arbitrage. For example, the oft-mooted move of media suppliers towards subscription models, under which users would purchase rights to listen to music or operate software for a limited period, would permit greater temporal discrimination than a traditional model under which a physical support (such as a CD) and/or an indefinite and transferable copyright licence would be sold. In fact, the subscription model also permits other forms of discrimination, for example seeking to obtain higher prices from the most frequent users without undermining affordable access for other users.
- 2.2.54 This example is only one instance of a more general feature of price discrimination, which is that different commercial choices by suppliers on the way in which they provide access to their products may lead to different relevant markets, and to differences in the extent and nature of competition.

Summary of methodological issues

- 2.2.55 Price discrimination, including versioning, often leads to an explosion of candidate markets, but does not create new methodological problems for market definition. Substitutability and the hypothetical monopolist framework remain the key conceptual tools, and the facts of each case have to be analysed to reach a conclusion.
- 2.2.56 In some cases, such as those where customers are discriminated at an individual level, substitutability may be ineffective so that a large number of markets need to be defined, each referring to a single consumer. For the purpose of competition analysis these need to be then considered in groups. In other cases, typically in those related to versioning, competitive constraints may go beyond matters relating to price-discrimination per se and a broader market definition may be appropriate.
- 2.2.57 Market definition in the presence of price discrimination is no different to the analysis required whenever several different but similar products are available. As such, the analysis will often focus on assessing the effectiveness of the price discrimination device

and the extent to which different customer groups overlap, enabling some customers to substitute between different versions of the product.

2.2.58 In some cases, empirical analysis of the effectiveness of substitutability will be required to reach a conclusion, for example in versioning cases where the product characteristics are such that either separate markets or a single relevant market seem plausible. Where analysis is impaired by lack of relevant data about the great variety of products that results from price discrimination, assumptions will need to be developed about the preferences of different types of customers, perhaps based on survey evidence.

2.2.59 Thus, price discrimination may render market definition a time-consuming task in practice, but it does not require wholly new techniques or impair the effectiveness of traditional approaches.

2.3 Bundling

The role of bundling in the media sector

2.3.1 Although not a systematic feature of media, bundling — where distinct products are supplied as a single unit — is frequently observed. This can either be the bundling of different media products (for example a pay-television subscription package comprising a range or “bouquet” of different channels) or the bundling of media products with other types of products (for example a cable network operator bundling pay-television with telecommunications services).

2.3.2 Bundling in media markets may be associated with convergence, since convergence of distribution technologies may introduce new opportunities for firms to supply bundled products or services. Convergence is described more generally in Section 2.7, but the bundling aspects of convergence are discussed in this section.

2.3.3 It is helpful to distinguish between two types of bundling. Pure bundling occurs when items *A* and *B* are only available as a bundle (*A+B*). Mixed bundling entails the supply of the individual products alongside the bundle.

2.3.4 In many cases, bundling is undertaken to take advantage of economies of scope in distribution. Potential examples include the case of different sections of a newspaper sold as a single product, or the bundling of cable television and cable telephony. Thus, to a degree, the extent of bundling is determined by the relative efficiency of firms versus consumers in co-ordinating the constituent parts in order to achieve benefit.

2.3.5 Besides economies of scope, there are two important potential motivations for bundling:

- (a) greater exploitation of heterogeneous consumers' willingness to pay; and
- (b) entry deterrence (at least in imperfectly competitive markets).

The case of bundling to extract consumer surplus

- 2.3.6 A common explanation for bundling is that it is an effective tool for value-based pricing. A firm can obtain benefit from bundling when its customers have heterogeneous (in fact negatively correlated) valuations of the different products the firm produces.
- 2.3.7 Suppose a pay-television platform has two channels, the first of which is a sports channel which 50 per cent of households would pay 15 euros a month to receive and the other 50 per cent would pay 5 euros a month. Suppose the second channel shows movies for which the valuations of the households are reversed (5 euros and 15 euros respectively). In this example, the platform provider generates more revenue from selling a bundle of both channels for 20 euros than it can obtain by setting any combination of linear prices for the individual channels.
- 2.3.8 In such cases, bundling could be an attractive tool when more explicit price discrimination is not viable or appropriate. It is no surprise therefore that bundling is often seen in the media sector, where value-based pricing tends to make more sense than cost-based pricing.
- 2.3.9 Chuang and Sirbu (1999) consider optimal bundling strategies in the context of Internet access to academic journals. Their analysis suggests (leaving any entry deterrence strategies aside) that mixed bundling can increase producer surplus compared to cases of non-bundling or pure bundling. Mixed bundling, especially in an environment when many items are potentially bundled (e.g. 50 separate articles in an annual subscription to an academic journal) offers consumers a menu of options, from which the publisher can extract higher surplus through self-selection.
- 2.3.10 Pierce and Winter (1996) analyse pure and mixed bundling strategies. They examine data on 113 US two-edition newspaper firms, identifying those that practice mixed bundling (posting advertising rates separately for morning and evening editions) and those that practice pure bundling (posting a single advertising rate for both editions). They then estimate a “probit” model in which an explanatory variable is whether advertising space is sold as a pure or mixed bundle. Their results suggest that the probability of being a pure bundler is negatively related to the circulation of the newspaper’s larger (circulation-wise) edition (holding the circulation of the smaller edition constant). This analysis indicates that while we should expect bundling in media industries, the optimal strategy will vary from cases to case.

The case of bundling as a form of entry deterrence

- 2.3.11 Bundling may also act as a means to deter entry. Some have argued that bundling can be used as an anticompetitive tool to leverage market power from monopolistic markets into otherwise potentially competitive markets.
- 2.3.12 The idea is that the incumbent (with market power) who can sell the bundle has an advantage over a competitor that cannot produce the bundle itself, and this is augmented when the products in the bundle are complements or have positively correlated values.

Nalebuff (1999, p 32) argues that although creating a bundle does not prevent competition, it forces competitors to “play the game” against the bundle.

- 2.3.13 Entry deterrence (or raising rivals costs) is generally less effective under a strategy of mixed bundling. This is because any advantage the producer of the bundle may be expected to have over an entrant supplying one component only is mitigated by consumers’ or new entrants’ ability to make up the bundle themselves buying the other necessary part from the incumbent. Hence in these cases we would generally expect to see only pure bundling (or mixed bundling where the component parts are sold at unreasonably high prices).
- 2.3.14 It should be recognised that there is significant overlap between bundling as a form of entry deterrence and the issue of gateways, which is discussed in Section 2.5. If a firm is practising pure bundling, but one component of this bundle is seen as a necessary input such that other firms must include it in their own bundles if they are to compete, then the analysis can be framed in terms of assessing whether the supply of the individual component (at some kind of wholesale level) is a gateway market to supplying a competing bundle. For analysis of market definition issues in this regard, including the concept of defining markets for services which a firm is capable of supplying but refuses to do so (in this case, possibly the supply in unbundled form), see Section 2.5.

Market definition issues

- 2.3.15 Like price discrimination, bundling does not change the principles on which market definition is based. Instead it increases the number of products that need to be considered as potential competitive constraints on each other, as substitutability must be assessed between different bundles as well as between bundles and individual components. Furthermore, it is quite possible that there is a relevant market for the supply of a bundle of products and separate relevant markets for the supply of the individual components.
- 2.3.16 Market definition analysis does not require an assessment of the motivations behind a firm’s decision to supply a bundle of services. Whether a firm is bundling to extract consumer surplus in a way that efficiently recovers sunk costs or bundling to deter entry does not affect the answer to the question of whether bundle *X* is in the same relevant market as bundle *Y* or individual component *Z*.
- 2.3.17 The issues that arise in market definition with regard to bundling can be discussed under two separate headings (although the analysis itself can never be undertaken in isolation):
- (a) analysis of whether bundle *X* is in the same market as bundle *Y*; and
 - (b) analysis of whether bundle *X* is in the same market as single component *Z*.
- 2.3.18 The first case is not discussed here as there is no conceptual difference between asking this question and asking whether a single product *X* is a good substitute for a single product *Y*. The normal market definition techniques and caveats apply.

- 2.3.19 The second issue arises in the case where the supply of a bundle may be constrained by the supply of individual components of the bundle (or demand-side substitutes for the components of the bundle). This is an issue of substitutability between bundled and unbundled supply. The examples provided at the end of Section 2.3 focus on this aspect of market definition in the context of bundling.
- 2.3.20 A further issue related to bundling is that of secondary markets (or aftermarket). In these cases there is no explicit bundling in that suppliers are not offering separate products or services for a single price although consumers will be over “bundles” of different products against each other and therefore affect the degree of substitutability.

Substitutability between bundled and unbundled supply

- 2.3.21 If a bundle of product *A* and product *B* is supplied and these products (or products very similar to them) are also supplied separately, then there are grounds for investigating whether there is a single market for the supply of the bundle, or whether wider markets are appropriate. An example, discussed further below, refers to the supply of pay-television and telephony as a bundle.
- 2.3.22 Consider again the example of the bundle *A+B*. It is possible for there to be a separate relevant market just for the supply of this bundle, or very similar bundles. This may be the case where the price of the bundle is significantly less than the price of buying the individual components *A* and *B* individually. Or it may be the case where consumers attach a premium to the convenience of buying as a bundle, due to lower transaction costs. In either case, the analysis should be grounded in the hypothetical monopolist test: would a monopoly supplier of a bundle *A+B* be constrained from introducing a small but significant permanent price increase by the threat that customers would switch to buying the individual components separately. If the bundle is sold at a significant discount compared to the sum of the component prices, or if there is considerable quality advantages from buying as a bundle, then it is likely that the hypothetical monopolist would not be constrained, and so a separate market for supplying the bundle would be appropriate.
- 2.3.23 Alternatively the market could be wider if the relative prices of unbundled and bundled purchase, adjusted for the convenience (or inconvenience) of buying as bundle, are such that a hypothetical monopolist of the bundle would be constrained from increasing its price by the threat of substitution to the individual components. Such a finding must, however, be interpreted with care.
- 2.3.24 If a hypothetical monopolist of a bundle *A+B* would not be able to increase its price because of substitution to products *A* and *B*, then this does not imply that there exists a single market containing the bundle *A+B*, and the individual components *A* and *B*. It is important to appreciate the sequential nature of the application of the hypothetical monopolist test. If we find that a monopolist of *A+B* is constrained, then we should next consider a hypothetical monopolist supplier of the bundle *A+B* and of one of the individual components, e.g. product *A*. It is quite likely that such a hypothetical monopolist would

not be constrained because those consumers who wish to buy product *A* have no choice but to buy from the hypothetical monopolist (we assume that *A* and *B* are not substitutes). As such, the threat of substitution to product *B* is not particularly credible for either the previous consumers of the bundle, or those who bought *A* alone. Thus a relevant market can be defined for the supply of the bundle *A+B* and the supply of the individual product *A*.

- 2.3.25 However, it may also be appropriate to define a relevant market for the supply of the bundle *A+B* and the supply of *B*, or a wider relevant market for the supply of the bundle *A+B* and the supply of *B* and the supply of *C*, as analysis dictates. Bundling represents a clear case where it is possible to identify multiple relevant markets for the same service (the economics behind the non-uniqueness of relevant markets is discussed in Appendix A1). The appropriate market definition(s) to use will depend on the case being considered. The hypothetical monopolist test may have to be re-applied for each permutation of relevant markets possible.
- 2.3.26 A practical issue arises when a bundle has a higher number of components. If there is a bundle *A+B+C+D*, then there could be four relevant markets featuring the bundle. It might be tempting, for simplification of the analysis, to define a single relevant market for the supply of the bundle and each of the individual components. But this is unsatisfactory for the competitive assessment as a firm that controls supply of just the bundle and a single component could be dominant. Thus, this alternative treatment is not desirable.
- 2.3.27 A final point to emphasise is that the conclusion that there is a relevant market for the supply of the bundle *A+B* and the supply of *A* does not preclude a separate relevant market for the supply of *A*. Suppose that there is a market for the supply of a bundle of pay-television and telephony and the supply of telephony, such that a hypothetical monopolist of just the bundle is constrained by the standalone telephony suppliers, but a hypothetical monopolist of both the bundle and the standalone telephony services would not be constrained by competition. It may still be the case that a hypothetical monopolist of stand-alone telephony services would not be constrained from increasing its price. This would be so if a substantial number of users of the standalone telephony service have no interest in pay-television, such that the bundle is never likely to be a good substitute. Thus, in undertaking market definition in bundling cases, it will be valuable to gather evidence as to how many of the purchasers of the individual components also purchase the other.
- 2.3.28 At the extreme, in the case of a bundle *A+B* and individual components *A* and *B*, the following relevant markets could be found:
- (a) market for the supply of the bundle *A+B* and the supply of *A*;
 - (b) market for the supply of the bundle *A+B* and the supply of *B*;
 - (c) market for the supply of *A*; and
 - (d) market for the supply of *B*.

- 2.3.29 This would reflect the case where competition between the bundle and the components parts constrains the price of the bundle, while the price of each individual component is constrained by other similar standalone products rather than the bundle. The non-uniqueness of relevant markets is discussed in more details in Appendix 1, and failure to appreciate that non-uniqueness may bring serious problems in bundling cases.
- 2.3.30 In summary, the key driver of market definition in the case of bundled versus unbundled supply will be the balance between the difference in price between the two bundles (in other words, the discount or premium, if any, implicit in the pricing of the original bundle compared to the sum of the prices of its components) and any difference in quality or convenience (in whichever direction) between the bundled and unbundled purchases. If the price of the bundle incorporates a significant discount compared to its valuation in the eyes of customers, then there is likely to be a narrowly defined market for the supply of the bundle.
- 2.3.31 By contrast, if there is a benefit to customers of bundled supply (perhaps convenience) and the price of the bundle reflects a reasonable valuation of that benefit then the terms of supply of the bundle are likely to be constrained by competition from the supply of individual components (providing that all the other components are readily available).
- 2.3.32 In cases where the market is wider than just the supply of the bundle, it will be important to define the relevant markets both accurately and fully. There will typically be multiple markets that result from an application of the hypothetical monopolist test in the presence of bundling. Analysis should not stop once one relevant market is found; other candidate relevant markets may also need consideration. Once the market definition exercise has been exhausted, the relevant markets selected for analysis will need to reflect the competition issues under consideration.

Analysis of complements and secondary markets

- 2.3.33 Bundling is related to the existence of complementary products. If a firm could charge a premium for a bundle $A+B$ compared to the sum of the individual prices then this may be seen as complementarity between A and B . It is important to recognise that this is complementarity in purchasing (i.e. the transaction) and not necessarily in use. But there are implications of the bundling analysis for the wider issue of complements.
- 2.3.34 In the presence of complements, it is sometimes appropriate to define secondary markets, which are markets for the supply of a (secondary) product that meets a need that only arises from the prior — or simultaneous — purchase of another (primary) product.
- 2.3.35 For example, subscription to an independent digital pay-television channel might be seen as a secondary product to the primary product of subscription to a pay-television platform and supply of the necessary set-top box. Similarly, the purchase of a blank tape might be seen as a secondary product to the purchase of a compatible tape deck.

- 2.3.36 For the purpose of defining the markets associated with a primary product, it may be relevant to consider whether customers take account of whole-life costs, including the costs of the associated secondary products. However, there is no clear rule as to how the ease or otherwise of whole-life costing (in economic terms, the search costs or inconvenience associated with whole-life costing) affects market definition.
- 2.3.37 Instead, the analysis must start again from the hypothetical monopolist framework. Thus, the unbundled supply of a secondary product will normally be in a separate market from that of the primary product simply because it meets different, albeit complementary, needs.
- 2.3.38 For minor secondary products or where switching costs are high, then secondary markets may be relatively narrowly defined. For example, it is unlikely that a price change for proprietary cleaning tapes used to clean the heads of digital tape drives would induce many customers to switch technologies, and even in the presence of strong primary market competition and prevalent whole-life costing by customers the appropriate market definition would identify narrow secondary markets for each compatibility class of cleaning tapes.
- 2.3.39 Consider the case where the impact of the choice of secondary product on the ability of the combined product to meet the needs of customers (or on the costs of doing so), is sufficiently large compared to the switching costs so that customers would switch both primary and secondary products in response to a small change in the price (or other terms of supply) of the secondary product. Such a case may best be described as one where “bundles” of primary and secondary products compete with each other. These are not true bundles if the component products are not offered for a single price, but are bundles in the sense that consumers have a demand for the bundle and will compare substitutable bundles of products in addition to comparing individual products.
- 2.3.40 For example, customers may switch tape deck technologies in response to a change in the price of blank tapes that they use in large quantities. Even so, it would not be appropriate to define a single broad market encompassing tape decks and blank tapes since these two products plainly do not meet the same needs. The bundling of the two complements, whether explicit (supply of both under the same contract) or implicit (where a manufacturer bundles the supply of tape decks with an effective commitment, perhaps given through its marketing or reputation, about the price of blank tapes) is a key feature.
- 2.3.41 It is crucial to bear the above in mind, as illustrated by the following hypothetical example. Suppose that different companies produce tape decks and blank tapes, and (for simplicity) that there is effective competition in manufacturing blank tapes. If several kinds of tape deck have essentially the same features, then competition between them may take place on the price of primary equipment and/or of effective bundles of primary equipment and blank tapes.
- 2.3.42 This example illustrates the importance of going through an analysis of the products’ intended uses as part of the analysis of market definition (see Appendix 1). If a

hypothetical monopolist in the supply of a type of tape decks were to increase its price, sales of other types of tape decks and of tapes for these decks would probably increase; but only tape decks and bundles of tape decks and tapes should be candidates for inclusion in the relevant market.

- 2.3.43 Now suppose that, because of effective patent protection, there is a single supplier and high barriers to entry for a particular type of tape deck. If the particular type of tape deck has some unique feature preventing substitutability with other technologies, then its supplier should be seen as dominant in a relatively narrowly defined market (comprising the relevant type of tape deck and perhaps the associated bundles of tape deck and tapes). But it does not compete with blank tape suppliers.
- 2.3.44 Nevertheless, in that case, economic analysis of demand elasticities would probably show that the price of blank tapes is a driver of the price of tape decks, such that for example an exogenous change in raw material prices leading to an increase in the price of the type of tapes needed for the monopolist's tape deck would lead that monopolist to reduce its price. Whilst such a link between prices may have a role to play in defining economic markets (in the sense outlined in Appendix 1), it merely reflects the adjustment of a monopoly price to meet changed economic circumstances, is not be an expression of a competitive process, and cannot inform the definition of relevant markets for competition analysis.

Examples

- 2.3.45 We discuss below three worked examples of market definition in the context of bundling. In each case the focus is on applying market definition to services which are supplied as a bundle. The analysis does not consider any aspects relating to whether such bundling practices are anticompetitive. For each example, we assume there are no historical data available which would provide evidence on substitutability.
- 2.3.46 The first example considers the bundling of pay-television and telephony. In this case bundling is likely to occur because of the economies of scope achievable by cable network operators in supplying these two services. The aim of the example is to set out an indicative approach to assessing whether the bundled services of the cable company compete in the same market as other pay-television services offered as standalone products. The example is also illustrative of the dangers of relying excessively on the underlying costs structures of different suppliers and attempting to undertake market definition with reference to a hypothetical competitive price level.
- 2.3.47 The second example considers the bundling of broad-band content. In particular the example discusses the issue of "one-stop" supply, where a separate market is defined for the supply of a bundle of content compared to the supply of comparable individual components. The aim of the example is to show how the general concept of one-stop supply can be analysed such that its applicability to an individual case can be assessed.
- 2.3.48 The third example considers the bundling of academic journals. In this case, different bundles of journals may compete in the same market even if the individual titles are not

seen as substitutes by readers. This is because market definition must focus on the purchasers (or purchasing decision makers) who are libraries in this example. Nonetheless, it may still be appropriate to define a market for the supply of an individual title for certain competition investigations; such a market is not inconsistent with the market in which bundles compete.

Bundling of pay-television and telephony

- 2.3.49 Consider the case of a nationwide cable operator supplying a bundle of pay-television and telephony services, and a nationwide satellite broadcaster supplying pay-television as a standalone product. For brevity we assume that the cable operator adopts a pure bundling strategy and does not sell pay-television as a standalone product.
- 2.3.50 We consider here whether it would be appropriate to define a separate market for supplying the bundle or whether the cable company's bundle competes in a single market against the satellite company's service, i.e. a market comprising the bundle and the pay-television service. (We ignore here the analysis of the relevant market(s) for telephony services and the question of whether there is also a separate market for pay-television as standalone product.) To focus on the bundling issue, we assume in this example low switching costs and that both operators' services are available nationwide.
- 2.3.51 In the absence of past data on consumer substitutability, one approach is to compare relative prices of the services, with account taken of quality differences, in order to make a judgement as to whether the current price of the bundle is likely to be constrained by the price of the standalone television package. In practice, switching costs may limit substitutability between the cable operator's pay-television service and the satellite operator's service. This issue is discussed in Section 3.4.
- 2.3.52 It is the essence of the bundling of services that it is impossible to identify the revenue generated by each service in the bundle, and an allocation of revenue between the two will inevitably be arbitrary. Likewise, it is simply not possible to decompose the price charged for the bundle into a price for telephony and a price for pay-television.
- 2.3.53 Nonetheless, we can compare the "bundled" price of cable operator's service with a "composite" price of the standalone pay-television service and a standalone telephony service (ideally one as good a substitute as possible to that which forms part of the bundle). Large differences in prices would indicate separate markets, once an adjustment for quality has been made. For instance if the cable bundle is substantially more expensive, it would seem that the price charged by the cable operator is not constrained by the composite price of the pay-television package and the telephony package. (Since it is reasonable to assume that almost all pay-television customers will also demand telephony in some form, we do not consider customers who do not want telephony at all.)
- 2.3.54 In order to inform market definition, the main adjustment for quality required is for differences between the pay-television services of the alternative platforms, since the cable telephony service offered is less likely to differ in quality than others offered as

standalone packages. The price of the bundle will need adjusting upward if the pay-television service offered on satellite is generally seen as better quality. Other adjustments may be necessary. For example where television and telephony services are quite differentiated, the bundle may be seen as lower quality if it offers worse choice.

- 2.3.55 Adjustment may also be required to take account of the bundling practice itself. If consumers attach a significant premium to the convenience of buying both services as a single transaction we might expect, other things equal, the bundled price to be higher than a comparable composite price if the two are in the same market. But it seems sensible to assume that this effect will be very low in this case because the incremental transactions costs of getting a standalone telephony service should typically be very low.
- 2.3.56 Thus it should be possible to make reasonable assessment of market definition in this case of bundling without the need for historical data on substitution, by comparing relative prices, adjusted via assumptions on quality differences and for the convenience of buying a bundle. The key issue to address is whether quality-adjusted prices constrain each other.
- 2.3.57 In addition to the analysis of bundling, this example is illustrative that this instance of market definition analysis pays no attention to the underlying cost structure that each operator faces. The reason why we might expect cable companies to offer bundles of television and telephony is that they face economies of scope in doing so because the same network infrastructure can be used for both services. By contrast, satellite networks are not typically efficient for conveying telephony services and so one would not expect a satellite TV operator to realise large economies of scope by providing pay-television and telephony (the latter can be provided by contracting with an existing telephony provider). Thus, the cost structures of the two companies could be very different with respect to the services considered.
- 2.3.58 It is perfectly conceivable that on some accounting-based calculation of costs, the cable operator can supply X million homes with a bundle of pay-television and telephony for a comparable cost that the satellite operator can supply X million homes with pay-television. The cable operator would seem to be more efficient. But this does not preclude these firms competing in the same market, which would be the case if the constraint on the cable operator raising its price is the threat that consumers would switch to buying standalone television and telephony services.
- 2.3.59 Yet if an approach to market definition is adopted which makes assumptions on hypothetical competitive price levels, the accounting costs may be used to argue that the cable operator, in setting its price with reference to what the satellite operator is charging, is in fact exercising market power in being able to price above some postulated cost-based competitive price level and that the relevant market at this price level would be just the cable operator's bundle.
- 2.3.60 We argue that such an approach is not appropriate for market definition (see Appendix 1). This is not only because the calculation of a hypothetical price level is fraught with

difficulty, but more fundamentally because if it were possible to conduct such an exercise, the existence of market power could be inferred directly from the observation of a price above the competitive level without the need for market definition at all. Rather market definition should focus on the competitive constraints that exist in reality — do they come from services of similar characteristics and intended use? This is conceptually a different test to whether a firm can price a service “above cost” (in most cases an argument can be made to relate price back to cost anyway); we should not be surprised if the two approaches give different results.

- 2.3.61 This example illustrates how market definition in the context of bundled versus unbundled supply of pay-television can be tackled through direct substitutability analysis. Consumers often have choice between purchasing services as a bundle and purchasing the component services individually from different suppliers. In such cases the assessment of whether the bundle is in the same market as one of the components depends on whether, having adjusted for quality differences, and the convenience of buying as a bundle, the price of the bundle is likely to be constrained by the threat of customers switching to buying the services individually.
- 2.3.62 As emphasised earlier in Section 2.3, bundling is frequently associated with non-unique relevant markets. Thus, assessing whether the bundle is in the same market as one of the individual components does not necessarily conclude the market definition analysis for the services concerned.

Bundling of broadband content

- 2.3.63 In *AOL/Time Warner*, the Commission considered the market for paid-for content other than music (broadband content). Although the Commission left open the question of whether there is a separate market for the integrated supply of broadband content, it found evidence of an emerging demand for “the one-stop integrated supply of broadband content via the Internet”. In particular (paragraph 35):

“This demand is for bundled audio/video content (such as film plus sporting contests plus pop music concerts) via the Internet and as such appears to be separate from the demand for films and TV programmes supplied through more traditional distribution channels (such as pay-per-view, video on demand or DVD/video rental). The different broadband contents would not be substitutes, but complementary goods. An ISP able to offer such a range of content could be compared to a supermarket offering a wide range of complementary products in a single place.”

- 2.3.64 This analysis touches on quite a complex issue in terms of market definition under bundling, as identified above. When supply is in terms of bundles of complementary products, care needs to be taken in assessing the extent to which these compete not only with other bundles but also against similar unbundled products.
- 2.3.65 In this case it seems that ISPs were expected to offer packages of bundled content. We abstract from the actual case and consider the practice more generally. An ISP may set a monthly fee for such a bundle which provides a subscriber with access to certain

broadband film, sports and music content. It is likely that if other ISPs offered similar packages of content for similar prices these would compete in the same market. Thus these different bundled packages would be substitutes and yet each may still comprise complementary content.

- 2.3.66 Whether the bundles also compete against unbundled content requires deeper analysis. Assuming products are supplied separately, bundled content could be deemed as being in a separate market from the supply of the individual components for two reasons. First, it may be that it is far cheaper to buy the products as a bundle than individually, in which case the individual components would not exert a competitive threat to the supply of the bundle, absent countervailing factors.
- 2.3.67 Second, consumers may attach a premium to buying as a bundle, in which case a separate market for the bundle may be justified under the idea of “one-stop” supply. The argument here would be similar to that used in the contexts of supermarkets in which consumer preferences for a one-stop shop may mean that there is a relevant market for supplying such a service, in which supermarkets may not face competition from individual retailers of fruit, meat or groceries.
- 2.3.68 As suggested in the quote above, a market for one-stop supermarkets may be appropriate due to complementarity between the products offered (specifically complementarity in purchasing). The most obvious source of such complementarity in a supermarket’s products is that, by offering many items in a single place, the transport costs and inconvenience incurred by a consumer visiting the shop are spread over a larger number of purchases. Thus, a typical consumer may favour “one-stop” shopping and have a weekly demand for an approximate set of goods (within which set the exact composition will change regularly depending on relative prices, changes in preferences and the availability of new products). Different consumers will demand different sets or goods, but there will be considerable overlap.
- 2.3.69 Although supermarkets compete through the pricing of the individual products, not through the setting of prices of large bundles of groceries, the relevant market for assessing competition between supermarkets may be a market for supplying (the option of purchasing) these sets of goods. Indeed, the Competition Commission in the UK has defined a relevant market for one-stop grocery shopping in supermarkets over a certain size.²
- 2.3.70 This analysis of one-stop markets for supermarket is very helpful in assessing the grounds for one-stop markets in other areas, such as the supply of broad-band content. To argue for a one-stop market requires more than a reference to supermarkets; it requires analysis of whether the reasons that call for one-stop supermarket markets can be applied to broad-band content markets.

² Competition Commission (2000) *Supermarkets*.

- 2.3.71 An ISP offering bundled broadband content might exhibit some similarities to supermarkets. In particular consumers may value the convenience of obtaining a bundle of broadband content from the same source rather than from separate vendors (either other broadband suppliers or other channels such as interactive television and VHS/DVD rental). However, these bundles could still compete with unbundled content. Thus, the market definition question remains.
- 2.3.72 In the absence of relevant historic data, one approach to tackling the market definition question is to take it in stages, first by focusing on the content substitutability ignoring bundling and then by assessing the effects of the bundling practice.
- 2.3.73 The first stage of this analysis asks whether there is content available in unbundled form that would be a reasonable substitute for parts of the bundles, abstracting from the bundling issue. This can be conceptualised as follows. Suppose a broadband content bundle comprises content *A*, *B* and *C*. In order to consider whether content *Z* (e.g. certain content distributed through pay-per-view television) is a good substitute for *C* in the bundle, we could consider whether the bundle $A+B+Z$ is a potential substitute for $A+B+C$ (assuming they were sold at the same prices). This thought experiment could be repeated to find content substitutes for *A* and *B*, and to look at alternative bundles. Unbundled content that is a reasonable but not a good substitute for part of a bundle should be left in the analysis because substitutability could be increased by considering the relative advantages and disadvantages of buying bundled compared to unbundled goods. But this stage should be able to identify whether there are certain bundles for which there are no potential substitutes from unbundled content, suggesting that the supply of this bundle should be in a separate market from unbundled content.
- 2.3.74 If comparable bundled and unbundled content is available, market definition can proceed to analyse the bundling issue. Besides a potential price difference for similar sets of content — the price of bundled content may be cheaper or more expensive than the total price of buying similar content individually — two factors seem important in deciding whether unbundled products compete with bundled ones.
- 2.3.75 First, some estimate of the value of convenience that consumers place on the “one-stop shopping” concept is needed. What sort of premium do consumers attach to being able to get multiple types of content through one broadband package? This will depend on what the bundle is compared against — e.g. in this example, whether it is unbundled broadband content or content through interactive television. In the supermarkets case, the assumption may be that consumers substantially value the ability to carry out most of their shopping under one roof. But this premium may be much less significant for bundled audio-visual content. Estimation could be based on assumptions of the search time and other “transaction costs” of sourcing content from different providers.
- 2.3.76 The second factor to consider is whether consumers incur a loss from purchasing the bundles insofar as these may entail more limited choice of content than when purchasing separately. This is less relevant in the supermarket case because each tends to stock a large range compared to alternative grocery retailers, and because products are still sold

at individual prices, allowing a large degree of choice. But for bundling of content, if only quite restricted packages are available, this loss could be significant and outweigh any benefits that purchasing as a bundle entails in terms of convenience.

- 2.3.77 To complete the analysis, judgement is required to assess whether, for those bundles for which comparable unbundled content is available, the relative prices (of bundles versus sets of comparable unbundled products) are similar enough to indicate substitutability, having adjusted for the benefits and losses customers incur through buying as a bundle.
- 2.3.78 The analysis may point to a single market for the supply of the bundle, which may be described as one-stop supply. But if this market definition is rejected, we are left with a potentially large number of relevant markets. In particular, for each component of the bundle, there will be a market for the supply of the bundle and the supply of the individual component (and possibly some further products). It would not be appropriate to define a single market for the supply of the bundle and the supply of each individual content component because a hypothetical monopolist of just the bundle and one component would not be constrained by competition.

Bundling of academic journals

- 2.3.79 The supply of academic journals provides an example of bundling which illustrates the concept of substitutes, complements and their impact on market definition. We assume that suppliers of journals offer substantial discounts to libraries on bundles of journals covering all their titles within an area of research (e.g. chemistry). These packages are intended to meet the needs of a specific academic department's library.
- 2.3.80 We assume that different journals are neither substitutes nor complements in the eyes of end users: instead the only type of need that end users (researchers and library users) have is for a copy of a specific article, and there is no effective substitute for that need. If the article cannot be found in the local library, the end user will go to another library, order a copy of the article from a reference library, or give up altogether and forfeit any value to be derived from reading the article. The implication of that assumption is that, if the question were market definition for the supply of access to journals for end users, then separate narrow markets would be defined for access to each journal (and indeed each issue of each journal).
- 2.3.81 However, this market definition does not necessarily transfer to the upstream level of supply of journals to libraries. Instead, the definition of the relevant markets should therefore focus on the extent to which different journals, or bundles of journals, are substitutes from the point of view of the actual customers, that is to say, libraries.
- 2.3.82 Appendix 1 highlights the need to assess the ability of candidate substitutes to meet the customers' need as part of any market definition analysis. Thus, defining markets in this case requires an understanding of the needs of libraries that journal subscriptions meet. We assume that universities operate an annual budget system for their libraries (so that some journals for which there is demand cannot be purchased), and that there is a benefit

for users in obtaining all the articles that they need from the same library (e.g. in terms of convenience). On that basis, from the assumptions made above, the purpose of a library's journal subscription activity can be seen as being to maximise the benefits, including convenience, obtained for the university's researchers given their allocated budget. Thus, subscriptions to two journals or two bundles of journals in the same area of research may be substitutes, as they both contribute to the convenience of the end users in very similar ways, even though they do not provide substitutable content.

- 2.3.83 It is important to distinguish the case of budget-constrained university libraries from that of (hypothetical) commercial, for-profit, libraries that would provide some form of pay-per-view access to journals. Such a commercial library would in all likelihood see different journals in the same area as complements – a comprehensive collection makes the service more valuable (convenient) for users – and not as substitutes – switching from one journal to another similar journal would amount to changing the customer needs that can be served and not to meeting the same need in a different way. If all customers of academic journals were commercial libraries of this kind, then the market definition for supply to them would be narrow, similar to that outlined above for the supply of access to end users. The remainder of this discussion assumes that all customers are university libraries.
- 2.3.84 Given our assumption that suppliers offer substantial bundling discounts, and based on our generic analysis of substitutability between bundled and unbundled supply above, it seems likely that relevant markets will be defined for the supply of bundles, and that the supply of journals on an individual basis will not be a competitive constraint on bundle prices. Markets would be defined for the supply of a bundle of journals in a particular area, and there may be competition between suppliers of such bundles, and/or between bundled and unbundled (or less bundled) forms of supply.
- 2.3.85 Thus, a key question is whether bundles offered by different publishers exert effective constraints on each other's prices. In the absence of reliable time series data to support econometric analysis, the only way of obtaining a robust market definition is to analyse the budgets available to libraries in different fields, and the way in which libraries assess the value to their researchers of different bundles. This would probably have to be based on a detailed assessment of the package of needs of different types of researchers, and could well require the collection of data through surveys of researchers and/or library managers.
- 2.3.86 It may also be appropriate to define markets for the supply of individual journals, even if no or very little supply exists on an unbundled basis. Defining these markets would be necessary, for example, if there was an investigation into the potential use of bundling as an anti-competitive practice with the effect of leveraging dominance in the supply of a particular journal to distort competition in a market for the supply of bundles: for such a case, the market in which dominance was held (and potentially abused through refusal to supply on fair terms) would have to be specified. Defining a (narrow) relevant market for the supply of a specific individual journal is not inconsistent with observing another

(potential quite broad) relevant market for the supply of bundles that comprise that specific journal.

Summary of methodological issues

- 2.3.87 The analysis of market definition in the presence of bundling is complicated to the extent that bundles may compete not only against other bundles but also against unbundled supply. While this does not in itself bring a new problem in assessing a particular candidate market definition, it means that many permutations of markets for bundles and individual products may need to be analysed, and several relevant markets may be identified. In this way, bundling (like price discrimination) may be described as making market definition more onerous, but not necessarily more complex.
- 2.3.88 In the absence of good data on past substitution, analysis of bundled versus unbundled supply will need to pay particular attention to relative prices adjusted for differences in quality between buying as a bundle and buying separately. Where a premium is attached to buying as a bundle, the price of the bundle could still be constrained by the prices of the individual components even when the bundle is priced significantly higher than the sum of the individual component prices. A separate market for the supply of the bundle is more likely when it is significantly cheaper than buying individually, although analysis is required of any inconvenience of buying as a bundle, such as a more restricted choice of components, and where there are no substitutes for the individual components of the bundle.
- 2.3.89 A further important question is to ask which other markets would be relevant to the analysis of the transaction or behaviour at the heart of the case. Markets for the supply of separate products can be defined, and may need to be defined, even if the products are not supplied in unbundled form. For example, it may be necessary to identify dominance in the supply of premium sports channels even when these channels are always supplied as components of a bundle of channels for which there are effective substitutes.
- 2.3.90 An important task in the market definition exercise will be to account for the possibility of there being multiple relevant markets for a particular service, and ensuring that the markets in which competition is assessed are those relevant to the competition question under consideration (i.e. that competition is not assessed in an irrelevant market).

2.4 Advertising and Free Content

The role of advertising and free content in the media sector

- 2.4.1 A particularly salient feature of media markets is that, frequently, a distributor of media content may be serving two quite different sets of customers: advertisers and viewers/readers/listeners. More interestingly, one set of “customers” (e.g. viewers) may not pay the supplier in exchange for consumption. This feature applies to the supply of media content in print (newspapers, magazines), as well as to television and radio broadcasting, and the Internet.

- 2.4.2 Consider the case of a local newspaper. The newspaper publisher may face demand both from consumers wishing to read news content and from advertisers wishing that the newspaper's readers see their advertisement. By publishing news and advertising content in the same newspaper product, the publisher faces demand from two directions. Depending on relative valuations in the supply chain this may result in the publisher selling the newspaper for a fee, or arranging free delivery of the newspaper to homes in the local area. The publisher benefits from distributing separable information goods (the newspaper content and the advertisements) as one final product.
- 2.4.3 Therefore, it is necessary to think of a newspaper publisher as supplying (at least) two types of markets: consumer/reader markets and advertising markets. Many firms in other sectors also supply more than one market. The distinguishing feature here is the high degree of interdependency in demand between the consumer markets and the advertiser markets. The better quality content a newspaper has, or the lower price copies are sold for, the more readers it is likely to attract and hence the greater demand it will face from potential advertisers. Conversely as the newspaper increases the quantity of advertising it takes, readers may perceive the newspaper's quality to fall and, accordingly, lower their demand for the newspaper.

Market definition issues

- 2.4.4 Much of the market definition discussion in the following sub-sections is made with reference to the example of newspaper publishing identified above. This example provides a far simpler, and more familiar base on which the analysis can be framed than the cases of television broadcasting or supplying content on the Internet. Nonetheless, the arguments can also be carried over to cases in other sectors. (The more complex case of market definition for free-to-air broadcasting is discussed at length in the examples section below.)
- 2.4.5 Market definition for advertising is a different exercise to market definition for the supply of newspapers to readers. For example, evidence readers' price demand elasticity would not be directly relevant to market definition for advertising. Market definition for newspaper advertising — for which the conceptual issues surround how advertisers would react to a hypothetical increase in the price of advertising — constitutes a separable stage in the analysis.
- 2.4.6 Thus, the relevant markets for advertising may be very different from those for the supply of content. Accordingly, it is not useful to refer to the market for particular types of newspapers or broadcasting without specifying the products or services on which competition is analysed.
- 2.4.7 The two issues of market definition for advertising and market definition for supplying free content are discussed in turn below.

Treating advertising space as access to an audience

2.4.8 There are different ways to consider advertising markets which, in many cases, such as radio broadcasting, may be the only means through which content distributors generate revenue. Owen and Wildman (1992, p 3) emphasise the importance of advertising as the principal output in broadcasting:

“The first and most serious mistake that an analyst of the television industry can make is to assume that advertising-supported television broadcasters are in business to broadcast programs. They are not. Broadcasters are in the business of producing audiences. These audiences, or means of access to them, are sold to advertisers. The product of a television station is measured in dimensions of people and time.”

2.4.9 Essentially there is a joint production/consumption that takes place when people watch advertising-funded television, listen to commercial radio or read newspapers and magazines. Often, by consuming the main content, the reader, listener or viewer will be somewhat coerced into viewing or hearing the advertising content. This is illustrated in Häckner and Nyberg (2000, p 1) by a comment from James Collins, an advertising executive, who declared in 1907 that a magazine is “simply a device to induce people to read advertising”. However, in many cases consumers may wish to read advertising content, for example if it has an information value as well as a promotional value; furthermore they will often be willing to pay for the magazine’s overall content.

2.4.10 An expectation that consumers will see or hear advertising content can be seen as an essential input which is needed by media firms in order to offer a viable service to advertisers. In this way the consumption of content is joint with the production of an input and so a listener, reader or viewer is simultaneously a consumer and a producer. He consumes a bundle (access to different types of newspaper content including advertising) and produces an input (attention to the advertiser) that is a necessary ingredient for the newspaper to supply advertising space.

2.4.11 We can certainly think of the service that a newspaper supplies to advertisers as simply advertising space. But it may be helpful for market definition to be more precise as to the nature of the service. What the advertiser is paying for is access to a particular audience, broadly comprising the readership of the newspaper. When termed in this way, it is perhaps easier to see which advertising space products are substitutes: they will generally be those that provide access to the same audience. Conversely, when two advertising space products provide access to non-overlapping audiences it is very difficult to see why they would be considered substitutes from the perspective of advertisers. Although a potential advertiser with limited capital to invest in marketing may have to select the part of the potential customer-base that it will seek to sell its product to, it would not be able to treat advertising to different audiences as alternative ways of meeting the same business requirement: instead they are ways of meeting different possible business requirements. Since these different requirements can be met concurrently (the firm can seek to sell to several audiences), advertising to distinct audiences should not be treated as substitutes.

2.4.12 When considering competition between advertising services across different media (e.g. television versus radio advertising) it may still make sense to consider as a first step the services as providing access to a particular audience. But this has to be qualified to take account of the effectiveness of advertising on the alternative formats. Thus, a second stage of analysis is whether access to the particular group of customers on, for instance television, is a good substitute from the perspective of particular advertiser for access to the same group on radio.

Treating advertising as content

2.4.13 Advertisers typically pay newspapers and broadcasters to distribute advertising content. But this need not always be the case. Advertising content can also be similar to other media content, in that consumers may attach significant positive value to consuming it.

2.4.14 An illustrative example might be a television programme devoted to previewing movies about to be released at the cinema. Viewers (and hence broadcasters) may value the programme positively because it informs them of the movies that will be on offer and perhaps provides a useful guide to whether they will enjoy a particular film. At the same time, movie producers may value the effective advertising of their new release that the programme brings. It is conceivable that either the broadcaster pays the movie producers for movie clips, which are inputs to the television programme, or that movie producers pay the broadcaster for the programme to review their new releases.

2.4.15 Thus, there is no absolute barrier to competition between advertisers and content producers; it is simply a matter of relative consumer valuations for products with different characteristics in terms of quality and promotional effectiveness. While many cases will be clear cut — advertising content not being substitutable for other content — the possibility remains that what may be seen as advertising content offers a competitive threat to non-advertising content.

Markets for the supply of free content

2.4.16 Analysis of competition in markets characterised by free provision of content needs to be grounded on an economic understanding of the rationale for such a pricing structure. A feature of newspaper publishing and broadcasting is that it is not possible for market participants to separate the price the viewer “receives” for providing what is essentially his attention to advertisers from the price that he pays for consuming the content. Since the advertising and other content is part of a bundled information good, whereby the nature of the product depends on the joint consumption of the bundle, newspapers and broadcasters are restricted to offering viewers a bundled price.

2.4.17 Two critical factors will influence the pricing to consumers of that bundle. First, it is not always possible to charge consumers for access to the content. In radio and television broadcasting it has historically not been possible for channels to charge for consumption. In the absence of encryption technology (or a licensing scheme based on content

consumption rather than equipment ownership) broadcasters cannot distinguish in supply between those who have paid and those that have not.

- 2.4.18 Second, it may not be optimal to charge consumers for content. This follows from the interdependency in demand between the content supply market and the advertising market. The lower the cover price of a newspaper, the higher its circulation will be (other things equal), and, consequently, the more valuable its advertising space will become. Hence, the firm faces a trade-off between price to readers and price it can charge for advertising space. It may well be that the newspapers' optimal cover price is negative. In this case the price the newspaper is willing to pay readers for their input (reading the newspaper) outweighs the price the newspaper would charge them for newspaper copies if there were no adverts (taking the effect of price on circulation into account). In this example, it may be worthwhile for the newspaper supplier to pay for free delivery to consumers' homes.
- 2.4.19 Thus we can expect variations in pricing policy — whether the content is supplied for free or for a positive price — between different types of content and content supplied across different formats (television, radio, print, Internet) as well as variations over time.
- 2.4.20 Instead, where appropriate, markets should be defined for the supply of free content (completely separate from the related advertising markets) and market definition should be based on analysis of substitutability between different products at their prevailing prices, be they zero or otherwise. There is no fundamental difference to the analysis compared to when products all have positive prices; it is simply a matter of assessing competitive constraints. If a product offered for free constrains the price of another product the two should be considered to be in the same market.
- 2.4.21 Nevertheless, in cases where potentially competing products are offered for free, it may be more appropriate to apply the hypothetical monopolist thought experiment to competition in terms of quality rather than price. At a conceptual level, when a product is supplied for free we cannot conceive of a 5 to 10 per cent increase in price, but it may be possible to conceive of a small decrease in quality. Furthermore, the differences in transaction costs between supplying for free and selling for a very small price may mean that a small nominal price increase from 0 to 0.05 euros entails a substantial increase in the economic cost for buyers and sellers; this would invalidate the “small but significant” condition of the hypothetical monopolist test. As such, analysis of markets for the supply of free content should at least consider attempting to apply the hypothetical monopolist test to quality rather than price changes. This is discussed in more detail in Section 3.4.

Examples

- 2.4.22 The examples below examine the role of market definition with respect to free-to-air broadcasting. Although the discussions are specific to broadcasting, in principle the implications of free content and audience markets extend to newspapers and the Internet.
- 2.4.23 The first example addresses the issue of whether it is appropriate to define viewers' markets in which different broadcasters, possibly funded in different ways, supply content

to viewers for free. The conclusion is that although there is no pecuniary exchange between broadcaster and viewer in free-to-air television there is an economic exchange. As such, there are grounds for defining relevant markets; specifically viewer acquisition markets in which different free-to-air broadcasters compete to attract an audience by supplying attractive content.

- 2.4.24 The second example builds on the first, and considers whether a pay-television operator might compete in the same market as free-to-air broadcasters. The analysis rejects the idea that pay-television is necessarily in a separate market simply because viewers pay the broadcaster, and suggests that there may be cases in which the supply of a pay-television package should be defined within the same market as the supply of free-to-air content. While the analysis is presented for broadcasting, there are obvious implications for market definition assessment in Internet cases where similar content may be provided for free and on a pay-subscription basis.

Competition between free-to-air broadcasters

- 2.4.25 In the *MSG* case, the European Commission argued that (paragraph 32):

“Pay-TV constitutes a relevant product market that is separate from commercial advertising-financed television and from public television financed through fees and partly through advertising. While in the case of advertising-financed television, there is a trade relationship only between the programme supplier and the advertising industry, in the case of pay-TV there is a trade relationship only between the programme supplier and the viewer as subscriber. The conditions of competition are accordingly different for the two types of commercial television. Whereas in the case of advertising-financed television the audience share and the advertising rates are the key parameters, in the case of pay-TV the key factors are the shaping of programmes to meet the interests of the target groups and the level of subscriber prices (see also the Commission Decision of 5 August 1994-IV/M.410 *Kirch/Richmont/Telepü*). There is, however, some relationship between pay-TV and free-access TV in that the growth of the pay-TV market is slower where the programmes provided by free-access TV broadcasters are relatively varied. Thus, the development of the figures of Premiere subscribers was different in Germany as compared to the development of subscribers in France or the United Kingdom (see point 48). But this does not change anything about the original character of the pay-TV market. The distinction between the two markets could, however, become blurred in the case of pay-TV programmes that are financed from a mixture of sources. Such programmes can be expected in various countries in future. On the German market, however, there is as yet no evidence of pay-TV having such mixed-financing sources, particularly since Premiere is financed solely from subscriptions and payments by viewers. According to various market participants, the absence of programme breaks for advertising will, on the contrary, be an important argument in winning customers over to digital pay-TV.”

- 2.4.26 Thus separate markets are defined for pay-television and advertising-funded free-access television precisely because in the former the supplier has a trade relationship with the viewer (who pays subscription fees) while in the latter, the supplier has a trade relationship with advertisers.

- 2.4.27 Whilst there can be no doubt that the supply of content to viewers and the supply of advertising space are fundamentally different products, meeting different needs and therefore belonging in separate relevant markets, the argument quoted above does not complete the analysis of the scope of competition between free-to-air and pay-television. In particular, the two types of broadcasting could conceivably compete for viewers' attention.
- 2.4.28 In *MSG*, the Commission observed that pay-television and free-access, advertising-funded programmes differ in content, the former leaning more towards specialist, and that pay-television channels would not generally show advertising "since there are limits to the further growth in the volume of television advertising and since the market for advertising-financed television therefore appears essentially to be a mature one" (paragraph 33). It is not clear how these arguments constitute an analysis of substitutability between pay-television and free-to-air television.
- 2.4.29 We now consider how the general market definition framework based on the hypothetical monopolist test could be applied to this question.
- 2.4.30 The defining feature of free-to-air broadcasting is that viewers (or listeners) do not engage in a commercial transaction in order to view the broadcasters' content. License fees in a number of countries are levied on the ownership or use of a television set, not on the reception of any particular television channels. As such the argument of the UK Competition Commission (1999) in the case of British Sky Broadcasting Group Plc and Manchester United Plc that the "direct price of viewing free-to-air television is the price of the licence fee" (paragraph 4.60) may not be relevant to the delineation of markets for free-to-air television. The license fee in the UK is a tax on a household which uses or installs television-receiving equipment in order to receive or record television programme services. Thus no "direct price" should be attributed to free-to-air television compared to pay-television.
- 2.4.31 In economic terms, viewers do incur some cost in viewing a free-to-air broadcaster's content, namely the opportunity cost of the time spent in front of the screen, as well as various other related costs such as the cost of electricity required to keep the television set on. But these costs are not payment in any way for the consumption of content; rather they are incidental to its consumption.
- 2.4.32 Instead it may make sense to see viewers as an input that a free-to-air broadcaster uses in the production of its products, the selection of which depend on the nature of free-to-air broadcaster being considered. There are two main types: broadcasters whose revenue comes largely from advertising and broadcasters whose revenue comes largely from government funding.
- 2.4.33 In the case of an advertising-funded free-to-air broadcaster, the firm's output is advertising space. Generally, we can expect advertising space to become more valuable the more viewers are expected to see it, although value will be determined by audience

composition as well as size. In essence, the broadcaster's output is access to viewers' attention, the input to which is viewers watching the broadcaster's content.

- 2.4.34 The case of publicly-funded broadcasting is somewhat less clear. However, one can argue that the principal output of a publicly-funded broadcaster (such as the BBC in the UK) is some form of political goodwill. Any service financed by the government is only viable so long as the political benefits (e.g. popularity for government broadcasting policy) outweigh the political costs (e.g. taxes, or more generally the opportunity cost of not funding other services). If a publicly-funded broadcaster had no viewers, the policy option of abandoning the licence fee would look very attractive to political parties. Conversely, if a publicly-funded broadcaster generates sufficient goodwill with policymakers, increases in funding may be attained. In this sense, we can think of a publicly-funded broadcaster's main output being political goodwill, an important ingredient of which is likely to be viewing figures (alongside other factors such as public perceptions of programming quality). And if this goodwill product is heavily dependent on viewing figures, then a key input for a publicly-funded broadcaster will be viewers. Therefore, as in the case of advertising-funded broadcasting, viewers can be seen as an input.
- 2.4.35 The argument above establishes the case that viewers are an input to both advertising-funded and government-funded broadcasting, even though the two types may produce quite different products to earn their income. Thus, both forms of broadcasting may well compete in acquiring their "viewer" input, irrespective of whether and of how they interact in other markets. Nevertheless, the way in which this input is obtained is basically the same: broadcasters offer attractive content to potential viewers in the hope that they will become actual viewers of the content.
- 2.4.36 There is clearly a limit to the number of potential viewers in a given area. At the extreme it is the number of people with access to a television set. But at any point in time, only a subset of these will have the time or desire to watch television, no matter how good the content is. There will generally be competition between all broadcasters, via content provision, for audiences.
- 2.4.37 Accepting the proposition that, along with consuming content, viewers produce an input for free-to-air broadcasters, the question that follows is whether there is sense in defining a relevant market for this input, and in particular whether there is trade in that input.
- 2.4.38 Trade can be seen as exchange of value. In many cases, parties exchange money for goods and services. However, if there is trade between a viewer and the broadcaster of free-to-air television, it does not involve any monetary exchange (by definition viewers do not pay for free-to-air broadcasting, and broadcasters do not pay viewers to consume content). But there does seem to be an exchange whereby on the one hand the broadcaster supplies bundled content to the viewer (which the viewer values), and on the other hand the viewer gives access to himself — i.e. his attention — to the broadcaster (which the broadcaster values). Whilst the viewer provides the input to the broadcaster simply by consuming content, and is not bound to devote attention to advertising (i.e.

there is no exchange of promises), there is nevertheless exchange of value, which can properly be termed trade.

- 2.4.39 Clearly as there is no exchange of money there is no price. But the concept that firms compete in more dimensions than price is a nominal one. Often the term “quality” is used to capture many of the non-price dimensions through which firms differentiate their offerings and compete. We can think of the concept of price representing both pecuniary value and some notion of perceived quality (which will of course vary by viewer). In this case, the “price” of content can be thought of as the quality of the content, whereby purchasers of inputs (broadcasters) seek to offer a higher “price” to input suppliers (viewers) by offering higher quality content. Viewed in this light, the exchange of content for attention can be reconciled with other forms of economic trade.
- 2.4.40 It seems a fundamental proposition that if there is trade, there is a market. But is there a concept of competition that would justify defining relevant markets? The answer is clearly yes. All broadcasters can be expected to compete for audiences by offering attractive content, because each viewer has a limited amount of attention to allocate between broadcasters. In other words, access to audiences is a rivalrous good, which is allocated between broadcasters through competition.
- 2.4.41 The argument above does not settle issues about which firms compete in which relevant markets. But a case is made that relevant markets should be defined for supplying content to viewers, and that in principle publicly-funded and advertising-funded free-to-air broadcasters (and those broadcasters with mixed funding from the state and advertising) could compete in the same relevant markets, depending on the strength of competitive constraints between them.
- 2.4.42 A potential criticism of the idea that there is a relevant market for attracting viewers is that it is inconsequential and merely a manufacturing stage. In the context of radio, Ekelund et al. (1999, p 241) note that although radio stations compete for listeners, the competition for listeners is simply “manufacturing” an input that in itself generates no revenue for the broadcaster. This may be true, but as far as the input is necessary for the generation of advertising revenues, any competition that takes place for this input, on account of it being a scarce resource, is a pivotal part of a broadcaster’s activity.

Competition between a pay-television operator and free-to-air broadcasters

- 2.4.43 Pay-television is clearly different from free-to-air television insofar as there is a direct pecuniary exchange between a pay-television operator and the viewer (subscriber). Nonetheless, this does not constitute grounds for placing the two in separate markets. Instead analysis is required to assess the extent to which the content available on free-to-air television exerts a competitive constraint on the price of pay-television subscription fees.
- 2.4.44 Whether the supply of pay-television subscription can meaningfully be considered to be constrained by free-to-air television turns on whether the viewing options available to a

pay-television subscriber are substitutable for those available to a non-subscriber. We should not expect a pay-television subscriber to limit himself to pay-television content just because a subscription fee has already been paid out (this is a sunk cost during any subscription period). Nor should we expect a pay-television subscriber not to substitute between pay-television content and free-to-air content. It is incorrect to argue that pay-television cannot be a substitute for free-to-air television because every subscriber of pay-television already has access to free-to-air television.

- 2.4.45 In fact, the market definition question can be assessed in terms of substitution between alternative viewing patterns: is the expected viewing pattern of a consumer with access to pay-television *and* access to free-to-air television a good substitute for the expected viewing pattern of the same consumer when he only has access to free-to-air television? Although in one case the viewing pattern has a zero price and in the other it has a positive price, there is no conceptual difference to the case of a free newspaper that is delivered to all households competing with a paid-for newspaper.
- 2.4.46 The hypothetical monopolist test can be framed in terms of whether the price of a pay-television subscription is constrained by the threat that a price increase will cause customers to cease taking their subscription but still watch a broadly equivalent amount of television by increasing their viewing of free-to-air content. If such a constraint is found, then it is the alternative programmes on free-to-air television that are constraining the price of the pay-television subscription, and there are grounds for defining the provision of free-to-air content in the same market as the supply of pay-television subscriptions.
- 2.4.47 This situation may apply to the supply of a “basic” or general entertainment pay-television package. Some consumers may be willing to pay a positive price for such a service, in addition to receiving free-to-air television, because they view the content as higher quality or because they value the additional choice. But the package could be in the same market as the supply of free-to-air content if consumers who would terminate their subscription as a result of a price increase would be expected to watch broadly the same volume of television overall.
- 2.4.48 Moreover, from the perspective of free-to-air broadcasters, such a pay-television operator would constitute a competitive threat. An advertising-funded broadcaster would seek to supply attractive content because it faces the threat that when consumers purchase the basic pay-television subscription, their overall television viewing remains at a broadly similar level, but their viewing of the free-to-air operator’s content decreases as subscribers substitute to the pay-television content, thus decreasing the value of the advertising space services it supplies. More generally, for those consumers who already have access to pay-television content, the advertising-funded broadcaster must compete in quality to attract a scarce audience (Section 3.4 considers how to assess substitutability in the context of quality competition).
- 2.4.49 It is therefore quite plausible that the relevant market for certain pay-television packages could include the supply of free-to-air content. A complication to this is that what exerts the competitive constraints on a pay-television package may be a “bundle” of available

content from different free-to-air broadcasters rather than the content of any one supplier. In such cases, multiple relevant markets may need to be defined for the pay-television service to account for competition between a bundled pay-television package and “unbundled” free-to-air channels. (See Section 2.3 for a specific discussion of market definition in the context of bundling.)

- 2.4.50 By contrast, if the price of a pay-television subscription is constrained simply by the threat that a price increase will cause customers to terminate their subscriptions but not lead them to increase their viewing of free-to-air content, then this pay-television package should be defined in a separate market to the supply of free-to-air content. Essentially, a separate market is appropriate for the supply of a pay-television package when marginal consumers’ (i.e. those indifferent to subscribing and not subscribing at the current price level) viewing of free-to-air television is not significantly affected by whether or not they actually do gain access to the package. In practice, judgement will be required, within the context of a hypothetical monopolist test, to ascertain how “significantly affected” should be interpreted.
- 2.4.51 This second case may be better suited to the supply of pay-television packages centred on premium sport. There may well be a specific demand for premium sport (e.g. live football games) such that when a customer loses access to this content, his total television viewing decreases because the content offered on free-to-air television is not a good substitute for the content foregone. In this case there would be grounds for defining the supply of the premium pay-television package in a separate market from free-to-air television.
- 2.4.52 In summary, there is no reason in principle why the supply of a pay-television subscription should not be constrained by free-to-air television. Analysis is required to assess whether the viewing patterns available to a consumer with access to both the pay-television package and free-to-air television are good substitutes for the viewing patterns available to a consumer with access to free-to-air television alone. A key indicator of this would be evidence (e.g. from consumer surveys) that seeks to identify the extent to which consumers’ viewing of free-to-air television reduces when they subscribe to a particular pay-television package. Wider market definitions are likely to be appropriate for “basic” pay-television packages compared to pay-television packages that contain exclusive rights to premium sports or films.

Summary of methodological issues

- 2.4.53 The above discussion can be summarised as follows.
- 2.4.54 First, markets may be defined whenever exchange of valuable products occurs, whether or not the exchange is given a full contractual form. It is meaningful to consider competition between free-to-air television channels for the attention of viewers. In such cases, the choice of which side is called supply and which demand is purely one of terminology, and does not affect the analysis.

- 2.4.55 Second, market definition is assisted by a careful definition of the services under consideration. It may be helpful to analyse advertising markets by thinking in terms of services that supply "access" to a certain group of readers or viewers.
- 2.4.56 Furthermore, although there are complex links between markets for advertising and markets for the supply of content to customers, this should not lead to broad, loosely-defined market such as "broadcasting". Markets always need to be defined by reference to specific, well-defined products if they are to be useful in assessing competition. Since the scope of the market for viewers could be completely different from the scope of the market for supplying advertising space on free-to-air television, defining a single "broadcasting" market (which in itself specifies no services) is inappropriate.
- 2.4.57 Finally, competition can take place along a number of dimensions, price being the easiest to measure in most cases. When competition cannot be adequately thought of as price competition, for example competition between "free" products, then the hypothetical monopolist framework needs to be adapted by using another reference dimension, such as quality, as the parameter over which the effectiveness of competitive constraints is to be assessed.

2.5 Gateways

The role of gateways in the media sector

- 2.5.1 A significant determinant of the structure of the media industry is the extent of economies of scale and scope in distribution. In many media markets there remain activities which involve significant marginal costs. For example, there are costs in physically producing and selling books and CDs. But in areas such as broadcasting, the marginal cost of distribution (in the sense of the cost of an additional listener or viewer) can be zero. This cost structure, coupled with network externalities, may result in very few distribution firms.

The case of gateways in distribution

- 2.5.2 At the extreme, distribution may be controlled by a single firm. In such cases the distribution firm may control a "gateway", access to which is essential in order for upstream producers to be able to supply their content in downstream markets. Besides economies of scale, explanations for the development of gateways often centre on customer switching costs and lock-in, possibly related to proprietary technology.
- 2.5.3 However, substitutability still needs to be assessed, even in the presence of these factors, so as to assess whether different gateways are substitutable, or whether the behaviour of a gateway provider may be subject to some other competitive constraint. A particular task may be identifying where in the vertical chain the gateway is and understanding whether it truly corresponds to a gateway. It may be that what is perceived as a bottleneck at one level may just be the result of the realisation of monopoly power from a gateway further upstream.

- 2.5.4 In many cases, a gateway provider will be vertically integrated with a potentially competitive activity. For example, a television platform provider might be dominant in the market for providing television channels with access to consumers. However, that platform provider may not be offering access to independent channels, and may instead act as a wholesaler of television programmes, purchasing programme rights and offering consumers a choice of packages together with the basic platform infrastructure.
- 2.5.5 Even though no transactions currently take place in the market for providing access to channels, defining that market will be an important exercise if competition law is to enable competition authorities to draw a tight boundary around the gateway and enable competition through third-party access in markets where it is appropriate.

The case of gateways resulting from network effects

- 2.5.6 Besides economies of scale and scope in production or distribution, distribution gateways may arise from, or be reinforced by, economies of scale in consumption, namely network externalities. Shy (2001, p17) defines network externalities as follows:

“Consumer preferences are said to exhibit network externalities if the utility of each consumer increases with an increase in the total number of consumers purchasing the same or a compatible brand.”

- 2.5.7 Network externalities can be divided into two types, direct and indirect.
- 2.5.8 Direct network externalities refer to the case where the value of the service to any one consumer grows as the number of network subscribers grows precisely because each consumer values the presence of other consumers in the network (rather than what their presence brings). For instance, if there are network externalities in a telephone network this is because each subscriber values the presence of additional subscribers who can then be contacted. Such effects do not appear to be common in media markets.
- 2.5.9 Indirect network externalities refer to the case where the value of the service to any one consumer grows as the number of network subscribers grows because each consumer values the indirect benefits that are brought by the presence of other consumers in the network (rather than valuing the presence of other consumers per se). Shy (2001) cites the example of computer software. As the number of users of a software platform increase, we might expect a greater variety/quality of software to be written that is compatible with the platform. Thus more users of the platform will tend to increase the value of the platform to current users, not because they directly value other users, but because more users will tend to bring greater choice of software. A similar argument can be made for the DVD standard and consumers’ decision on whether to invest in a DVD player (join the DVD “network”).
- 2.5.10 Pay-television channels would seem to exhibit indirect network externalities. One example of the potential for network effects in pay-television is related to the sunk costs a consumer incurs in investing in equipment to receive digital television services. Where standards are closed, such that particular equipment may only receive the digital services

of one platform operator, consumers will be especially keen that their chosen platform operator stays in business for the economic life of the equipment they have invested in. Otherwise they will be left with assets that have little or no economic value. And since a prime indicator of whether a platform operator will be viable is the number of other subscribers it claims, network effects may be created that pull potential subscribers to the most popular platform.

- 2.5.11 Arguably there are other aspects of indirect network effects in pay-television. The more subscribers a channel has the higher quality content it can afford to purchase (exclusively) which will tend to increase each consumer's valuation of the channel. However, this may be seen as economies of scale a channel obtains from spreading content costs over a large viewer base.

The case of content gateways

- 2.5.12 Due to the cost structure of the media industry, in particular the non-rivalry inherent in content, intellectual property rights and/or the granting of licences to exploit these rights often play an important role. For instance, copyright protection is a way of protecting earnings to cover the costs involved in writing a novel. This is because once the text has been laid down once, the low marginal cost of distribution means that, in the absence of copyright law, other parties could sell or use the book without contributing to the costs of content production.
- 2.5.13 Copyright provisionally provides for a content originator to grant an exclusive right to exploit the content. While essential facilities in media industries such as broadcasting are generally thought of as existing at the distribution level, there is also the possibility that they may be found at the content level.
- 2.5.14 A question is whether, if there is some kind of essential facility or gateway issue to investigate, this should be addressed at the content level, or at some packaging stage. Sports rights are perhaps the clearest example of content access to which might be considered necessary for different pay-television platforms to compete effectively in offering services to consumers. It may be necessary to consider different definitions of relevant markets at the original content stage (e.g. particular football games) at the channel stage (e.g. a channel dedicated to showing premium sports), or at the channel package stage (e.g. a package of sports channels). If the status quo is that no access is granted to third parties, there may be no transactions in the potential markets that contain licensing of the content rights and "wholesaling" of the channel that exploits those rights. This should not prevent consideration of a relevant market for these services as part of a competition investigation.
- 2.5.15 A content market can also be relevant to instances where the same content can be distributed across different media. Again, sports rights, which can be exploited for broadcasting or for streaming on the Internet (perhaps in connection with an online betting service), provide a potential example of a content gateway that can cut across many delivery mechanisms. Whether these different forms of delivery are themselves in the

same relevant market is a different question, requiring consideration of substitutability from the perspective of final consumers.

Market definition issues

2.5.16 The following two sub-sections consider issues on market definition in the context of gateways. The first provides a brief discussion of issues in market definition for gateway services. The second argues that it may be necessary to define markets in which there is currently no trade, for example where an alleged gateway firm refuses to provide a certain access service to potential downstream competitors.

Markets for gateway services

2.5.17 Some areas of media are characterised by such economies of scale and/or network effects that competition in these markets tends to be a winner-takes-all race. Thus, once a system, platform or technology has won that race, there may be a monopoly in providing services relating to that system, which can be seen as a secondary market to the primary market in which systems, platforms or technologies compete. Whilst it can be the case that competition in the primary market is effective, leading to claims that the industry “as a whole” is competitive, competition law enforcement needs to take account of the possible existence of dominant positions in secondary markets.

2.5.18 The considerations in Appendix 1 relating to the application of the hypothetical monopolist test framework to cases of actual monopoly will naturally play a key role in defining markets for gateways. In short, the question is not whether the hypothetical monopolist would profit from a hypothetical price increase (it never would in the case of an actual monopolist, at least a profit-maximising one), but whether the constraint on prices arise from the threat of substitution to products that meet the same customer needs as the hypothetical monopolist's.

2.5.19 Turning to content markets and copyright protection, it should be appreciated that whether or not a good is protected by intellectual property rights does not affect the appropriate methodology for analysing market definition. Intellectual property rights may of course affect the market definition itself, and, in particular, are likely to limit the scope for substitutability in many cases. But the existence of copyright or other forms of intellectual property rights does not lead to special methodological problems in market definition.

2.5.20 It is established law that dominance can occur on the demand side as well as on the supply side. Thus, markets for the purchase of certain content may need to be defined in order to identify content gateways. Doing so is no different from defining markets in other sectors, except that the terminology needs to be reversed: the products forming part of the relevant market are identified by reference to supply-side substitutability, and competition and market shares need to be assessed by reference to the available of capacity to purchase, i.e. demand-side substitutability.

Defining markets in which there is no trade

- 2.5.21 A potential gateway service may be identified even though there is no history of supply of this service. This raises a problem for market definition: whether it is appropriate to define markets for services in which there is no trade.
- 2.5.22 If a firm offers a service for which a market price can be identified then market definition proceeds, based on an assessment of the substitutability of different ways of meeting the same need, irrespective of whether anyone perceives the market price to be too high or too low. As always, it is necessary to understand whether the substitutability is to products with similar characteristics and intended as this safeguards against incorrect conclusions when the hypothetical monopolist is in fact an actual monopolist (see Appendix 1).
- 2.5.23 However, there is a conceptual difference between the case where a product is sold at a high price, but for which there is still some demand at this price such that trade is observed, and the case where no supply is observed — i.e. where there is no demand for the product at a price equal to the lowest reservation price of the potential sellers. In this case, the analysis of market definition cannot typically proceed as normal as there are no reference terms of supply to base the hypothetical monopolist test on.
- 2.5.24 Nonetheless, there may be a need to define a market for the supply of a service in which there is no current trade, on the grounds that a refusal to supply it may, in certain circumstances, amount to abuse of a dominant position in the market for this (potential) service. This may be especially important in cases where such refusal to supply an upstream access service distorts or hinders competition in a downstream market (even if it does not give rise to dominance of that market).
- 2.5.25 If there is unsatisfied demand for a service and only a single firm is identified as capable of meeting the needs associated with this demand (because it alone has the assets in place to do so), then we can conclude that there is a narrow market for the supply of the category of service in question, with that firm as the only supplier. Whether it is dominant would depend on the existence of barriers to entry, and whether non-supply is an abuse requires yet further analysis.
- 2.5.26 The analysis is more complex if several firms would be capable of meeting the need but none of them does, as it would require understanding the costs involved in meeting the need. If one firm would be capable of meeting the need at a much lower cost (including opportunity cost) than the others, then it is appropriate to see it as the sole supplier in the relevant market, since competition would have no influence on its choice of whether to offer the service, and if so on what terms. If there are several suppliers who would be able to meet the need at approximately the same cost, then they would be expected to be able to constrain each other, and therefore to be found in the same market if the question were to arise.

Examples

- 2.5.27 The first example below considers the case of digital television platforms providing access services to independent suppliers of content or digital interactive services. In particular it sets out circumstances where it would be appropriate to define operator-specific markets (potential gateways) for the supply of such access services, even if multiple operators compete in a market for supplying pay-television subscriptions to households.
- 2.5.28 In some cases a firm may hold a potential gateway position but refuse any supply of the corresponding upstream service to third parties. The second example, in the context of refusal to supply content to an Internet portal, suggests that market definition may be required at an upstream level, even though there is no trade in this service.

Digital television platforms

- 2.5.29 Even where pay-television operators compete in a single market for supplying subscriptions to households, they may be found to be monopolies with respect to firms seeking access to their respective subscriber-bases.
- 2.5.30 Suppose that within a country there are two pay-television operators which have the platform technology in place for their subscribers to make use of interactive television services such as home shopping and home banking. Independent firms wishing to offer such services to these subscribers require access to the interactive services of the digital television platform. We assume that each operator's set-top box uses proprietary technology such that it can be seen as "closed" insofar as a subscriber can only be reached through an access service purchased from the subscriber's operator. Although multiple services may form part of what these firms require as part of "access", for simplicity we consider the case where there is a single access service which allows a service or content provider to offer its service across the television platform.
- 2.5.31 An interesting market definition question is whether the two platforms compete in the same market(s) for offering this access to potential service providers, or whether it is appropriate to define operator-specific markets for the provision of access.
- 2.5.32 In the UK (and in a regulatory context) Oftel has examined market definition for digital television "access control services" (Oftel, 1999, paragraph 2.16) and considered the case for operator-specific markets (although it was ultimately able to leave the question open):

"A key issue is whether Access Control Services supplied on all types of broadcasting platform should be regarded as being in the same market. There are switching costs for service providers because each platform operator uses a different, proprietary technology for providing digital interactive TV services. To switch platforms involves "re-authoring" of content. If they are sufficiently large, switching costs might mean that Access Control Services delivered over each platform should be regarded as being in a separate economic market."

- 2.5.33 The argument put forward by Oftel considers operator-specific markets on the basis that service providers substituting between the access services of different platforms may face switching costs in terms of re-authoring content. Although this may be the case, there is potentially a more fundamental reason why operator-specific markets are appropriate.
- 2.5.34 In short, it is that the relevant underlying service that platform operators offer is access to a certain group of households, made up of their respective subscriber-bases. If subscriber-bases are exogenous to whether a particular service or channel is provided across a platform, then from the perspective of a provider of such a service, access to the subscriber-base on one platform will not be a substitute for access to the subscriber-base on another platform simply because each provides access to a completely different set of potential customers. In the same way, from the perspective of a multinational soft drinks company, advertising space in a local newspaper distributed in Sicily is unlikely to be a substitute for advertising space in a local newspaper distributed in Rome, because each provides access to a completely different set of potential customers. This argument is quite subtle and is elaborated in the following paragraphs.
- 2.5.35 Consider a retailer wishing to sell books through interactive television. In demanding an access service from a digital television platform, the retailer is essentially demanding access to a potential customer-base made up of the subscribers to that platform. A reasonable assumption to make is that the size and composition of this subscriber-base does not depend on whether or not the book retailer supplies its service on the interactive television platform.³ From this retailer's perspective we would not expect the access services of each platform to be substitutes because there will be little overlap in the customer-bases they provide access to (assuming that most households choose just one pay-television platform operator and also that they do not choose separate operators for digital interactive services and pay-television). Without evidence to the contrary there is no reason to presume that a service offering access to households A, B and C would be a substitute for a service offering access to households X, Y and Z.
- 2.5.36 Indeed, an analogy from advertising is pertinent here: advertising to persons A, B and C would not typically be seen as a substitute for advertising to persons X, Y and Z. As the Commission states in *Newspaper Publishing* in relation to advertising in tabloid and "quality" newspapers:

"[...] from the viewpoint of an advertising agency wishing to purchase newspaper "space", there will be very limited substitutability between the tabloid and quality segments, which will provide different "channels" through which to reach different socio-economic groupings of readers."

³ This assumption is consistent with the platform operators competing for subscribers in the pay-television packages they offer, e.g. premium sports and movies channels and perhaps the breadth of other channels.

- 2.5.37 This argument regarding substitutability in newspaper advertising makes sense not only because some firms may wish to reach exclusively tabloid readers while others may wish to reach exclusively “quality” newspaper readers. This is also true even for a firm which would like to sell its products to all members of society, advertising to one distinct socio-economic group will not usually be a substitute for advertising to another distinct socio-economic group.
- 2.5.38 Thus, if the assumptions set out above are met, the platform operators would be in separate markets for the supply of interactive television access services to such retailers. We have argued in Sections 3.4 - 3.5 that although these retailers may compete in broad retail markets that include Internet and high-street suppliers, it would not be appropriate to include, for instance, the leasing of shop-space as a substitute for interactive television access services because they do not share similar characteristics and intended use. Therefore, in the absence of potential entry and buyer power, each pay-television operator could be dominant in particular access markets, and seen as holding a gateway position, despite no finding of dominance in the relevant market for the supply of subscriptions to customers.
- 2.5.39 The concept of operator-specific markets for these access services seems at first sight inconsistent with Armstrong (2000), who argues in the context of digital channel access that:
- “[...] if one gateway operator in a moderately competitive market threatens to charge the BBC a lot for carrying its digital channels the operator is in a very weak negotiating position, as the broadcaster can get its content shown on another platform, which will then disadvantage the operator with the higher access charges”
- 2.5.40 An implication of this argument is that a platform operator offering access to the BBC would be constrained in its price setting by the threat that the BBC would switch to obtaining access from another platform; thus the two platforms would compete in the same market for supplying the access service to the BBC.
- 2.5.41 This reasoning is in apparent contradiction to our analysis above. In fact this is because one of the assumptions made above is violated. We had assumed that the size and composition of a platform’s subscriber-base is almost identical whether or not the service provider supplies its service on the platform. In this BBC example, the competitive constraint arises precisely because it is assumed that when the BBC switches from one platform to another (or from supplying through both to supplying through one), a substantial number of subscribers switch platforms too. Why this competitive constraint arises requires going back to what the relevant service being sought is.
- 2.5.42 The underlying service the BBC would be seeking is access to households. Access to one household would not be a good substitute for access to another. But access to sufficiently overlapping sets of households might be. If a very large number of households would switch between platforms depending on whether each platform supplies the BBC, then both platforms are able to switch “cheaply” to supplying access to sets of households which include these “marginal” customers. The switch is “cheap”

insofar as all it requires is that the platform grants access to the BBC. In effect, there is supply-side substitutability between the platforms in offering the service of access to substitutable sets of households. If we take supply-side substitutability to widen markets, then a single market may be appropriate in this case (which is arguably extreme because the assumption that a large number of customers would switch seems dubious).

- 2.5.43 It follows that a critical factor in market definition for pay-television platform access markets is an understanding of the extent to which the provision of particular upstream content or services affects the resultant downstream subscriber-bases. Where certain content is a very important driver of subscriber numbers, a platform operator may face competition from other platforms when providing access services. This may lead to arguments for a single market for the provision of this access. Arguably as digital services develop over time, they may become increasingly important in subscribers' choice of platforms, undermining the argument for operator-specific markets.
- 2.5.44 But for some services, the assumption that a platform's subscriber-base is largely independent of whether or not that service is provided across it is likely to hold. Consumers subscribing to a digital pay-television package purchase a large bundle of services and the exclusion of many of these would not be expected, *on their own*, to affect subscription choice. Thus, there are strong grounds for arguing that many access markets will be operator-specific.
- 2.5.45 One crucial caveat is that attention should be paid to the regulatory constraints firms face. An obligation of platform operators to offer non-discriminatory access charges could alter market definitions. Under very strict non-discrimination rules, the relevant service might be the provision of access services in general (rather than the provision of access services to individual firms or types of firms) — different platforms may compete in supplying this service, even if there are some individual services for which separate markets would be appropriate in the absence of non-discrimination obligations.
- 2.5.46 Besides drawing attention to the likelihood of operator-specific markets, the analysis of market definition for platform-specific access markets helps demonstrate several important points for market definition in media, which are drawn out further in Section 3.
- 2.5.47 First, it is important to consider carefully what the relevant services are. By appreciating that the underlying service being offered is “access to a *certain group* of households”, rather than merely digital interactive television services, access to customers or access to certain technology, the limitations of substitutability are more immediate. In practice, analysis of substitutability may be helped by consideration of what each platform's subscriber-base might be under different permutations of service provision (e.g. (i) the service is offered on platform *A* and not on platform *B*; (ii) the service is offered on both platforms,... etc).
- 2.5.48 Second, the danger of focusing merely on product similarity is demonstrated. The digital interactive television access services of two platforms may appear very similar, especially

in terms of technology, but this does not in itself mean that they compete in a single market.

- 2.5.49 Third, and following on from the previous point, the value of the hypothetical monopolist framework as a thought experiment in the absence of data is emphasised. From the perspective of minor service providers seeking access to a platform, it becomes apparent more readily that these are unlikely to switch between platforms following a change in relative access prices. (In most cases if it is worth procuring access from the alternative platform after the change in relative prices it would have also been profitable to have done so before).
- 2.5.50 Fourth, although hypothetical, this example suggests a realistic case of where a firm may compete in one market yet potentially hold gateway positions in separate, but inherently related, markets.

Refusal to supply content to an Internet portal

- 2.5.51 A firm may refuse to supply a potential gateway service to third parties,. The example below suggests that market definition may be required at an upstream level, even though there is no trade in this service.
- 2.5.52 Suppose there is a vertically integrated media firm (*Firm A*) that owns a large library of music content and, amongst other activities, offers an Internet portal which provides users with access to such content, but supplies no corresponding wholesaling of its music content to rival portals.⁴ Assume a *Firm B* offers a similar portal and complains that *Firm A* is behaving in an anticompetitive manner in refusing to grant it with a license to distribute *Firm A*'s music content through its portals.
- 2.5.53 There are two broad services that are relevant to the analysis. First, there is the supply of Internet portals (or the supply of certain services via Internet portals). Second, there is a potential wholesale service of *Firm A* supplying its content to *Firm B*. No trade is observed for this second service, but we suggest below that a relevant market can be defined for it.
- 2.5.54 We would argue that as far as market definition goes, *Firm A* would be dominant in a potential firm-specific market for the wholesale supply of its content to other Internet portals, if it were considered the only firm capable of meeting these needs. By contrast, if two firms are identified that could reasonably be expected to meet the needs of *Firm B* in demanding the wholesale service, then no such market can be identified. Thus, analysis is required to ensure that the characteristics and intended use of the potential wholesale service being considered are such that only *Firm A* is capable of supplying it.

⁴ This hypothetical and heavily simplified example is related in some ways to the *Vivendi/Canal+/Seagram* case.

- 2.5.55 This assessment would not in itself complete the analysis of the complaint. Having established that firm A is dominant in a market for supplying the potential wholesale product the assessment would need to consider how significant an impact such refusal to supply has on competition in the downstream portal market(s). This impact could either be through distorting competition in a market in which the portals of *Firm A* and *Firm B* compete, or in a market for the supply of portals containing the content of *Firm A*, in which *Firm A* would be dominant. Thus both market definition and assessment of effects of the refusal to supply on competition in the relevant(s) market is required.
- 2.5.56 In summary, it may be appropriate to define a relevant market if there is demand for a product that is not being met and a single potential supplier capable of meeting the needs associated with the demand can be identified.
- 2.5.57 Such a market definition may be necessary in cases where the refusal to supply a potential service does not have a significant enough impact to render the firm concerned dominant in any market. In these cases, abuse of dominance allegations — if a significant distortion of competition is nonetheless considered to result from the refusal to supply — may need to be investigated with reference to dominance in an upstream market that is not currently supplied.

Summary of methodological issues

- 2.5.58 Defining markets for gateways is generally an exercise in defining potential monopoly markets. As such, careful analysis of the source of constraints on prices within the framework of the hypothetical monopolist test — rather than the mere existence of constraints — is essential to avoid falling into the so-called cellophane fallacy (see Appendix 1).
- 2.5.59 A qualitative approach based on a rigorous analysis of product characteristics and purpose (rather than any attempt at quantitative analysis of price and volume data) will often be the most important part of the analysis. This analysis must be framed in terms of assessing substitutability rather than assessing similarity for its own sake and pay attention to the definition of the relevant services.
- 2.5.60 There is scope for many kinds of gateways within the complex chains of production typical of media industries, including in particular distribution and content gateways. Whilst the latter type often depends on intellectual property protection, the theory and practice of market definition analysis are not fundamentally affected by intellectual property, which is merely one of many potential restrictions on substitutability.
- 2.5.61 Finally, it may be necessary in some instances to establish that a firm is dominant in a relevant potential market for the supply of a service it refuses to supply. Whether this is appropriate will depend, on the one hand, on whether there is unsatisfied demand for such a service that only a single firm is capable of meeting and, on the other hand, whether such a market is relevant to assessing an alleged distortion of competition.

2.6 Rapid Change

The role of rapid change in the media sector

2.6.1 It is a clear characteristic of the media industry that it has exhibited rapid innovation and change. While it is inherent that there is innovation and change at the content level — new music, films and text are continually being produced — rapid change has also occurred at the distribution level.

Market definition issues

2.6.2 Some commentators have argued strongly that in industries characterised by rapid change, in particular “new economy” industries, traditional approaches to market definition, based on the hypothetical monopolist framework, are not appropriate for the purposes of applying competition law. We discuss these arguments in detail in Appendix 2. Our main conclusion then is that the traditional framework is still appropriate for “new economy” industries, including media. Although rapid change in media markets may make market definition analysis more difficult to undertake, compared to the case of a stagnant industry which has exhibited little innovation and few changes in customer preferences, the logic and value of this approach is as valid in new economy cases as in other sectors. As such, the discussion of market definition issues below remains within the context of the hypothetical monopolist framework.

2.6.3 The difficulties of defining markets in the media sector due to rapid change arise for the most part in markets related to the distribution of content. Is the supply of an artist’s albums in CD format in the same market as their supply as downloadable MP3 files? Is news content delivered on WAP handsets in the same market as news delivered on the Internet (and what is the scope of the corresponding markets for access services to news content producers)? Is the supply of movies for rental as VHS cassettes in the same market as the provision of movies on demand through pay television? Furthermore, how is the geographical dimension of the relevant market affected in these cases? As the number of distribution possibilities increases, so do the questions to be addressed in defining markets.

2.6.4 Yet there is no conceptual difference between the question of whether the supply of a book at bookshops and the supply of the book via mail order is in the same market and the question of whether the supply of a book at bookshops and the supply of the book via an online retailer are in the same market. The existence of different distribution methods for the same media content is not a new issue. The problems that do arise, refer to the more limited range of techniques available for market definition. In particular the lack of past price data (e.g. for the quantitative methods to inform the hypothetical monopolist test), and, more generally, the novelty of the transactions, make assessment more difficult than for mature and stable markets.

2.6.5 First, there will be no past history of substitution involving a product that has only recently been introduced into the market. It is not possible to analyse the patterns of substitution over the last ten years between, say, football pay-per-view and boxing pay-per-view to

establish whether the two services should be in the same relevant market because such services have only been available in the very recent past. The problem is likely to be particularly acute if a quantitative estimate of the substitutability is desired. The lack of a sufficiently long run of data on relative prices and of demand responses to changes in the relative prices will make it difficult, if not impossible, to obtain robust estimates of demand elasticities.

- 2.6.6 Second, the views of both consumers and of suppliers may not yet be well established in a market which is characterised by an influx of new products. Accordingly, not all customers may be aware of the menu of available products or of their uses. To the extent that this represents an actual confusion in the mind of market participants, this will not influence the definition of a market — if consumers do not know, and cannot be expected to find out, that two products that are technically substitutable can in fact be substitutable, then they are not economic substitutes and therefore they do not belong in the same market.
- 2.6.7 However, the process of learning which follows the introduction of new products or technologies will often lead to a process of adjustment as consumers re-allocate their time and budget between different kinds of activities. Such substitution will not, in general, be evidence of substitutability, in the competition sense of that term, since the different products in question may address quite different needs of the consumers. In short, rapid change may affect the nature of the needs and requirements of consumers as much as the competition between suppliers in meeting these needs, and analysis of past data may not enable a distinction to be drawn between these influences.
- 2.6.8 Third, and an implicit consequence of the above, competition authorities may not be able to rely on past cases to establish the current boundaries of a market. Indeed, as the Commission acknowledges in the *Notice on the application of the competition rules to access agreements in the telecommunications sector*, precedent offers limited assistance since the pace of technological change means that any attempt to define particular product markets would run the risk of rapidly becoming irrelevant and inaccurate.
- 2.6.9 Finally, the high pace of innovation makes the task of assessing supply-side substitutability and the potential availability of substitutes that are not currently offered on the market (as well as the scope for new entry) more speculative than in more stable industries. Consequently there may be greater need for technical (e.g. engineering) knowledge in competition analysis in media than in many other sectors.

Examples

- 2.6.10 The immediate impact of rapid change on an analysis of market definition is in its rendering of historical data on substitutability unreliable. Since rapid change is such a prevalent feature of the media industry, and since it is likely to contribute to many of the market definition problems found in practice, the examples provided throughout this report are analysed under the assumption that no historical data are available. As such, no

specific examples of market definition in the context of rapid change are given in this section.

- 2.6.11 Besides the various examples of market definition provided earlier in Section 2, several hypothetical illustrations of the assessment substitutability in the absence of historical data are provided in Section 3.4. In particular:
- (a) an example that demonstrates that the hypothetical monopolist framework still has considerable value as a conceptual tool in the complete absence of data on substitutability;
 - (b) an example of assessing relevant markets in the context of new distribution channels for the same goods, specifically the distribution of CDs through the Internet and interactive television compared to the high-street; and
 - (c) an example of how substitutability between different pay-television platforms can be informed by building a simple model of switching costs based on assumptions of the prices and economic lives of reception equipment.

Summary of methodological issues

- 2.6.12 Rapid change in the nature of the products and services offered implies that consumers and firms do not experience a sufficiently lengthy stable environment for their historical behaviour to provide valuable evidence of substitutability between products. Thus, less weight can be placed on evidence of past behaviour in the media sector than might be appropriate in other industries.
- 2.6.13 In particular, quantitative or econometric techniques will not be appropriate in many parts of the media sector; a record of past substitution may not be a good guide to market definition; and evidence from precedents should be interpreted with particular caution.
- 2.6.14 Nonetheless, market definition in the context of rapid change is not a hopeless task. Indeed, in many cases it will not be necessary to define the market precisely; the hypothetical monopolist thought experiment can be used to arrive at a limited number of plausible market definitions — the choice between these may not affect the competitive assessment.
- 2.6.15 Moreover, provided the analysis is conducted in the right way and the right questions are considered, it is possible to make assumptions (possibly based on research of technical properties of the services as well as on interviews with industry participants) that can be used to form a reasoned assessment of the potential for substitutability. In addition, consumer surveys have the potential to provide forward-looking evidence on substitutability in cases where historical data are neither available nor appropriate.

2.7 Convergence

The role of convergence in the media sector

2.7.1 The word “convergence” is as ubiquitous as it is elusive. The Commission’s Green Paper (1997, p 2) acknowledges as much and, though it does not offer a precise definition for it, suggests that the term is most commonly expressed as:

“The ability of different network platforms to carry essentially similar kinds of services, or the coming together of consumer devices such as the telephone, television and personal computer.”

2.7.2 Examples of what would typically be seen as convergence include the ability of consumers to email or play video games on television, or the ability to hear radio and to see videos on the Internet. A slightly older incidence is cable television, which allows what is essentially a telecommunications network to supply television content.

2.7.3 Temple Lang (1998, p 1325) describes convergence as meaning two things:

“First, facilities initially intended for transmission of one kind of content can also be used for transmitting other kinds. Second, companies so far involved in either television, whether broadcasting or cable, or telecommunications are beginning to involve themselves in the other sector.”

2.7.4 Similarly, Wildman (1998, p 3) highlights the de-specialisation of transmission technologies and delivery by a single medium of different types of content. This is the technological side to convergence. But also on the business side, the same firms are offering retail products in previously distinct fields of operation.

Market definition issues

2.7.5 Convergence, as described above, seems to entail three potential implications for market definition:

- (a) the technological phenomenon, whereby “information good” distribution networks are able to distribute multiple types of information goods (voice telephony, Internet-style content, pay-television, digital radio);
- (b) due to this technological change, firms previously involved in supplying one type of information good are able to supply multiple types of information good; and
- (c) firms supplying multiple types of information goods are able to offer these to customers as a bundled package.

2.7.6 It should be recognised first that since relevant markets on the demand-side are defined in terms of the supply of services, the technological change identified under (a) cannot in itself lead to changes in demand-side market definition. It must be changes in the supply of services (b) which affects demand-side substitutability. There is nothing particularly

different about the assessment of this in the context of new services resulting from convergence, other than the practical problems stemming from rapid innovation and change more generally (discussed in Section 2.6).

- 2.7.7 The more interesting point for market definition is the implication of the technological aspect of convergence for supply-side substitutability. Convergence in terms of the de-specialisation of distribution infrastructure means that there may be grounds for expanding previous market definitions to take account of the new competitive threat exerted by a firm that could start using its distribution infrastructure to supply a new service.
- 2.7.8 As discussed in more detail in Appendix 1, supply-side substitutability can be used to expand a market definition based on demand-side substitutability in cases where a firm currently supplying services which are not demand-side substitutes has the production capacity in place to quickly shift to supplying services that compete in the relevant market.
- 2.7.9 However, it would be wrong to presume that convergence necessarily leads to the widening of markets. Supply-side substitutability needs to be treated with caution. It is generally wrong to define one large market for the supply of *A* and *B* just because some suppliers of *A* can switch to supplying *B* (and vice versa) in cases where *A* and *B* are not demand-side substitutes.⁵
- 2.7.10 Furthermore, if it is possible in the light of convergence for a firm to start supplying a particular service, we may wonder why it is not supplying this service already. While such a firm may switch to doing so in response to a small price increase by a hypothetical monopolist of the service, the fact that it does not currently supply it may alternatively indicate that the supply requires more than just the technological assets. For instance, where a brand presence is considered important to compete with incumbent suppliers, having the infrastructure in place to supply the service may on its own be insufficient to enter the relevant market.
- 2.7.11 With reference to the third point above, that convergence is associated with bundling, the implications for market definition are discussed in Section 2.3.
- 2.7.12 Thus the methodological problems of defining markets associated with bundling and rapid change, discussed elsewhere in this report, are relevant to convergence. In addition, there are grounds for thinking that convergence leads to the widening of market definitions because of increases in supply-side substitutes. Nonetheless care needs to be taken and a thorough assessment is required in each case.

⁵ This argument is echoed in a recent paper on supply-side sustainability produced for DG Enterprise (NERA, 2001, p23).

Examples

2.7.13 Market definition for the cases of the bundling of pay-television and telephony by a cable network operator and the bundling of broad-band content by an ISP, which are both related to the concept of convergence, are discussed as examples in Section 2.3.

Summary of methodological issues

2.7.14 The convergence of technologies does not in itself entail new or unique problems for market definition: convergence by itself is not a methodological problem for market definition.

2.7.15 The problems that may be found in the context of convergence actually result from bundling and/or rapid change associated with convergence. These two issues are discussed in Sections 2.3 and 2.6 of this report.

2.7.16 One important implication of convergence for media market definition is in terms of supply-side substitutability. In principle, the de-specialisation of distribution infrastructure may lead to an increase in the potential for supply-side substitutability. But, as always with supply-side substitutability, caution is required to ensure that all aspects required to enter a market and introduce a competitive constraint are considered, rather than stopping with the observation that, due to convergence, the switch in production is technologically feasible.

3 PRACTICAL ISSUES

3.1 Introduction

- 3.1.1 Section 2 has provided an analysis of the methodological issues surrounding media market definition from the perspective of the economic characteristics of the sector. This section provides complementary analysis by considering economic aspects of market definition from the perspective of the problems that have arisen in past media cases. It draws out the practical implications of the issues identified in Section 2, and provides a framework for market definition analysis in the media sector.
- 3.1.2 This section does not purport to provide a comprehensive review of precedents for market definition in the media sector, or to comment on the outcome of individual cases (which would not be possible in any event given the limited information about the facts of the case disclosed in decisions). Instead, it uses examples from published decisions by competition authorities to highlight some of the difficulties and dangers associated with market definition in media.
- 3.1.3 The published decisions cited have been chosen to demonstrate an important practical problem for market definition in media cases. Thus the selection of cases is clearly biased towards those where the published analysis underpinning a market definition appear less robust (even if the actual market definition seems reasonable).
- 3.1.4 The analysis begins with the design of a proposed high-level framework for market definition in media cases, based on the European Commission Notice on Market Definition. This framework is used to structure our analysis of the practical issues that may arise in each of the steps that it stipulates.

3.2 Key Steps for Market Definition in Media

The need for a structured approach

- 3.2.1 The discussion of market definition problems that have arisen, or are likely to arise, in practice is decomposed into problems and issues associated with each of the three market definition steps which we consider to be of particular importance for media cases.
- 3.2.2 The methodology for market definition in media needs to be based on the general framework for market definition, grounded in the Notice on Market Definition and relevant case law, as discussed in Appendix 1. This analysis rests on the hypothetical monopolist test, a thought experiment which can be used to combine evidence on product characteristics and intended use and on demand- and supply- substitutability into an assessment of the effectiveness of competitive constraints.
- 3.2.3 Section 2 has highlighted some of the key issues and difficulties likely to be faced when defining markets in the media sector. In particular, it identified the importance of distinguishing between different services that may be jointly produced by a single activity, and of defining markets along a number of dimensions, including time and customer type

as well as product and geography. Furthermore, it identified the problems that are likely to arise in practice due to a lack of empirical evidence to inform on past substitution, which may render statistical analysis of substitutability unfeasible or unsuitable.

- 3.2.4 Thus, while the principles for market definition are not specific to media, the complications often found in market definition in media cases call for a more systematic approach to be used in media markets, with greater emphasis being placed on considerations which may well be seen as obvious in simpler industries.

Proposed key steps for market definition analysis

- 3.2.5 We therefore suggest that the following three steps need to form part of a disciplined and robust analysis of market definition in media cases.

- 3.2.6 **Step 1:** The services relevant to the case must be defined in terms of the trade that they entail (whether for monetary consideration or not), rather than in terms of production and consumption activities. While this step may seem obvious or trivial, we argue below that some of the problems found in media market definition would have been mitigated had market definition started with a clear specification of the relevant services.

- 3.2.7 **Step 2:** Thought experiments based on the framework of the hypothetical monopolist test are employed in order to try and delineate the relevant services into relevant markets. In principle, a relevant market is the smallest group of services such that other services of similar characteristics and intended use would not exert a competitive constraint on the behaviour of a hypothetical monopolist within the candidate relevant market. This can be informed by a variety of qualitative and quantitative evidence about substitutability and demand functions. The limitations of that evidence will sometimes mean that use of the hypothetical monopolist test cannot give unambiguous results for market definition. Nonetheless, this does not call for the use of irrelevant evidence that does not inform on substitutability in the eyes of consumers or producers. Instead, analysis of substitutability may need to be based on reasoned assumptions concerning factors such as consumer preferences and switching costs.

- 3.2.8 **Step 3:** Secondary evidence such as relevant precedents, price data or perceptions of market participants can be used to confirm or refute potential market definitions obtained from the second step, and to refine credible market definitions for the case.

- 3.2.9 Our view is not that media market definition is unlikely to be robust unless the analysis implicit in these three steps are substantially, if not explicitly, followed. These steps are not relevant only to media markets; but the economic characteristics and practical problems found in market definition in the media sector are such that there is significant advantage in the analysis being undertaken with reference to these steps.

3.3 Definition of the Relevant Products

Overview of issues

3.3.1 It may seem naïve to state that markets definition should start by identifying the relevant products (which are often services in media cases). However, there have been instances where markets have been defined not at the product or service level but at the firm, business or activity level. Furthermore, there are cases where the analysis could have been assisted by defining markets for relevant services at a different level of the supply chain, or defining markets for less obvious forms of trade. The following discussion considers how these issues arise in practice.

The case of joint production

3.3.2 Where firms supply multiple services, it is necessary to first identify the services being supplied. This applies even if, ultimately, competitive constraints are considered sufficient for all the services supplied by a firm to belong to the same market; such a result should come from analysis rather than from assumption.

3.3.3 The need to think at the product rather than firm level is acute in cases where the same “item” is associated with multiple services. Consider the case of a newspaper publisher. The basic activity the publisher is engaged in is the production of newspapers, but there is little sense in setting out to analyse the extent of the “market for newspapers”. Instead a stage is needed to consider the services supplied by the publisher. Amongst others, there is a service of supplying copies of the newspaper to readers (generally through retailers) and a service of supplying advertising space. Although the relevant markets associated with these two services are inter-related, there is no reason to presuppose that the scope of the relevant market will be the same for both. As such, initial identification of the services (supply of copies, supply of advertising space) rather than (or as well as) the business activities (newspapers) is required.

3.3.4 The *MSG* case illustrates the relevance of this point. The third market defined in the Commission decision is a separate market for “cable television networks”. It is not clear as to what services are covered by this definition. In principle, cable networks supply several quite different services. Does the market definition apply to the supply of television services to viewers through a cable network? And/or does the market definition apply to the supply of access services to programme suppliers wishing their content to reach viewers connected to the network? Since there is no reason why the extent of the market for these two services should be the same, a failure to start by considering the nature of services is potentially damaging to the assessment. The problem is compounded in this case because the decision seems to use evidence from the perspective of programme suppliers to inform the discussion which is largely focused on substitution by viewers.

3.3.5 Furthermore, it should be recognised that there is no inconsistency between a firm competing vigorously in one market and yet holding a monopoly position in another

closely related market. This emphasises the need to define markets in terms of services rather than activities.

- 3.3.6 An example comes from pay-television. If customer switching costs are sufficiently low, two pay-television platform operators could compete in the same market for the supply of subscriptions (this issue is considered in detail in Section 3.4). This does not preclude the possibility that each is in a monopoly position with respect to the supply of platform access services to some independent channel providers or digital interactive service providers, as discussed in Section 2.5. In such a case, firms may face strong incentives to compete heavily in attracting an audience precisely because they then operate alone in a market for supplying independent content or service suppliers with access to this audience.

The case of groups of similar products

- 3.3.7 As far as is practical, similar services should not be grouped until, and unless, the market definition analysis suggests this should be done.
- 3.3.8 Even if service *A* and service *B* are similar, the question of whether or not they belong to the same relevant market remains open at this stage of the analysis. This question needs to be determined as part of an assessment of the effectiveness of competitive constraints, and cannot be resolved on grounds of similarity alone.
- 3.3.9 In the *BSkyB/Kirch Pay TV* case, one aspect of market definition considered is that for digital interactive television services. As far as can be understood from the published decision, the question analysed is whether there is a market for digital interactive television services that is separate from high-street retailing. There seems to be an assumption that the issue to address is whether digital interactive television services *in general* are in the same market as their high-street counterparts. But there is no reason why the analysis should be at such a general level. It may be that home banking is in a separate market from high-street banking, but that at the same time there is a single market for CD retailing through interactive television and at the high street.⁶
- 3.3.10 This example shows how an analysis that starts with a precise specification of services (e.g. specific home banking services, retailing of a particular CD via digital television) rather than with a broad group (e.g. digital interactive television services) can help mitigate the potential problem of unjustified generalisation in market definition.
- 3.3.11 A similar example comes from the *AOL/Time Warner* case, where the Commission concluded that there is an emergent market for downloadable music that is separate from the physical distribution of music (paragraph 21). The reasoning given for the separation

⁶ The supply of access to a bundle of digital interactive services to consumers may be a relevant product in some cases. However, it is likely to be bundled with a digital pay-television subscription, and it is hard to see how this subscription service could ever be considered in the same market as any form of high-street retailing.

from physical distribution is discussed in more detail in Section 3.4. Our critique here focuses on the implicit assumptions regarding the extent of relevant markets for different artists and titles.

- 3.3.12 As is clear from the assessment of dominance later in the decision, no consideration is made of whether it is appropriate to divide the market by artist or genre in this on-line music market. Market shares are given as percentages of “music publishing rights for both mechanical and performance rights” although it is not clear what these refer to exactly. The analysis appears to be based on the implicit assumption that, from a content perspective, there can be a single relevant market for the supply of all music.
- 3.3.13 We do not consider that a market for the supply of music in general through on-line channels can be defined without providing evidence of substitutability between music from different artists. If no such evidence can be obtained, then it is necessary to consider several possible market definitions ranging from narrow markets by individual tracks or artists through to a broad market for the supply of all music, and perhaps cover intermediate options such as segmentation by genre.
- 3.3.14 These different market definitions could well lead to very different conclusions in the analysis of the impact of a transaction or conduct on competition. In particular, there is no reason in principle why there should not be a single market for the supply of a particular album or type of music through all distribution channels, but separate markets for the supply of another album or type through shops or on-line. This could be the consequence of differences in listener groups for different types of music (e.g. elderly people may be much less likely to purchase on-line and may constitute the bulk of the listener groups for certain types of music). If music publishers have different profiles of supply in this respect, then the outcome of competitive assessment will differ depending on whether or not sub-division by artist, title, etc is taken into account.
- 3.3.15 Market definition analysis in this example would probably have been improved had services been defined specifically. There are benefits in defining, for example, a relevant service of the supply of a particular CD on-line rather than assuming away different competitive conditions for CDs X and Y by defining the service broadly as the supply of CDs on-line.
- 3.3.16 Ideally, the services should be defined at the broadest level which does not entail potential problems due to unjustified generalisation. It would be unrealistic (and not a good use of resources) for the decision to list all artists and albums and analyse competition separately for each of them. But this is not necessary, because the analysis of competition can be done at a generic level by identifying the reasons why, for example, there is a single market for on-line and high-street supply of CD X but not for CD Y. Once these reasons are understood, markets can be categorised by reference to whether they have the characteristics that enable or inhibit particular forms of substitutability.
- 3.3.17 To take a hypothetical example, if substitutability analysis were to indicate that, at least in general terms, content markets for heavy metal music are narrowly-defined by album, but

that on-line and shop distribution of this content are effective substitutes, then thousands of relevant markets would have been defined at once. In a second step of the analysis, there would be a need to understand whether market shares in these markets vary from album to album, and if so in what way, so that a further breakdown of market types can be identified. For example, newer or more popular albums may be mostly sold in large record stores or supermarkets, whereas older or more obscure albums may only be available from one specialist mail-order company. If these steps are not followed then there is a risk of reaching incorrect conclusions on competition on the basis of meaningless (in this hypothetical example) average market shares across the heavy metal category.

- 3.3.18 For example, in the opinion given by the Conseil de la Concurrence (1997) on the application of predatory pricing law to CD and tape retailing, broad product markets encompassing all CDs on the one hand, and all tapes on the other, are defined on the ground that professionals consider that consumers made impulse purchases driven primarily by price and location of retail points. This is hardly strong evidence, and seems a little difficult to reconcile with the existence of fan clubs and music magazines specialising on particular artists and genres, which indicate that consumers may often visit record shops to buy a specific recording or at least a recording by a specific artist or in a specific genre. This broad market definition is then used to justify the view that low prices on a single record cannot constitute predatory pricing because it would not exclude any competitors from the broadly-defined market. In fact, the same answer could have been reached without reliance on a poorly justified broad market definition: the reason why offering a very low price on one record is unlikely to be predatory is that it would not endanger the viability of other record shops, and would not therefore have the effect of excluding them from any market, even if narrow product markets need to be defined for individual recordings or for small groups of recordings.

The case of potential products

- 3.3.19 Besides cases where firms sell multiple products, services may also need to be defined for “potential services”, for which there is currently no trade. This may be particularly important in order to define upstream markets in cases of refusal to provide access, or to define markets for supply in unbundled form when all current supply is in bundled form.
- 3.3.20 It seems that in at least a couple of decisions in the media sector the Commission has been reluctant to define upstream markets for the supply of access to content, and focused instead on the downstream retail markets.⁷
- 3.3.21 For example, in *Vivendi/Canal+/Seagram*, the Commission did not explicitly define a gateway market (which would have been an upstream market for the supply of access to content) and focused instead on the downstream retail markets. In particular, it defined

⁷ The discussions of Internet markets for online music in *AOL/Time Warner* and *Vivendi/Canal +/Seagram* apply here.

an emerging market for horizontal Internet portals (those with a broad focus), while leaving open the question of whether this market should be defined according to access mechanism (e.g. set-top box, PC or mobile telephone handset). The service that would correspond to this market is the supply of certain content to consumers/businesses through media such as the Internet or WAP; this seems to be a retail service.

3.3.22 However, in the competitive assessment of the decision, the Commission seems to concentrate on potential competition problems due to abuse in the provision of potential upstream services. Paragraph 63 of the decision expresses concern over the effect of combining Universal's music content with Vizzavi's portal:

“In order for competing portals to be comprehensive from a customers' and portals' point of view, a portal would have to be able to offer access to must-stock products, that is to say to the major music libraries. Otherwise customers will turn themselves to the complete music catalogue of Vizzavi.”

3.3.23 A footnote within this extract defines must-stock products as referring to the “idea that ownership of a must-stock brand that can affect negatively competition”.

3.3.24 The implication of the quotation above is that Universal is dominant in a market (or multiple markets) for supplying music content to portals, and that the competition concern is that, through the concentration, it could leverage this dominance from the content supply market to the portal market. Indeed, the undertakings finally accepted by the Commission concerned access to Universal's content on a non-discriminatory basis, underlining the notion that the access service is where the competitive assessment lay.

3.3.25 We have argued in Section 2.5 that where a firm faces demand for a service that only it could reasonably supply, but chooses not to do so, then it can be considered dominant in a market for its supply of this service. But this requires assessment of whether only this firm is capable of meeting the needs associated with the unmet demand. This would involve a test of the must-stock assertion in the market definition stage to explore whether it is ever conceivable that the other portals would satisfy their demand or “need” for Universal content by procuring similar content from other suppliers. Only if this is not conceivable would it be appropriate to define a relevant market for the potential service of supplying this content.

3.3.26 As such, there is merit at the definition of services stage of also defining this potential upstream service in addition to the downstream services. Although the remaining market definition analysis must necessarily be different for a product with no history of supply, there is benefit in analysing this explicitly, rather than relying on claims of must-stock attributes (these may better be considered as a market definition issue).

The case of in-house production

3.3.27 If market definition focuses on the supply of a particular service, rather than on the economic activity a firm is engaged in, it is arguably simpler to analyse “captive use”

instances which arise where some firms undertake an activity in-house while others source a comparable activity from outside suppliers.

3.3.28 For example, in *Kirch/Mediaset* the Commission states that (paragraph 14):

“With respect to TV productions, a distinction has to be made between in-house productions produced by broadcasters and used for captive use and productions commissioned by a broadcaster to a producer. Only the latter are offered on a market and the relevant product market has, therefore, to be limited to TV productions, which are not used for captive use.”

3.3.29 An alternative but equivalent way of expressing this is to focus on the service of supplying television productions. The appropriate market for such a service will exclude in-house television productions simply because these, by their nature, are not offered for supply. (In-house producers may later enter the analysis from the perspective of supply-side substitutability or new entry.) In more complex cases, such a description may provide a clearer basis for the analysis.

The case of price discrimination

3.3.30 As discussed in Section 2.2, one way to approach market definition in the context of price discrimination by customer group is to specify the services with reference to the constraints associated with supply. In the cinema example, this would entail the specification of the service of supplying entry tickets to children and the service of supplying entry tickets to adults. Starting the analysis in this way is potentially beneficial insofar as it involves neither a prejudice that the services are in the same market nor that they are in different markets. Instead market definition is then assessed with reference to a hypothetical monopolist in one of the services, and the extent of competitive constraints can be assessed just as in any other case.

The case of non-contractual trade

3.3.31 Services may need to be identified in instances where there is no monetary transaction. So long as some economic exchange can be identified (e.g. supplying content to readers so that advertisers can then be sold a product of advertising space amongst the content) then it may be appropriate to define a relevant market for this service.

3.3.32 An obvious example is an advertising-funded free-to-air television as discussed in Section 2.4. Such a broadcaster may only receive financial payment from advertisers, but this does not mean that relevant markets can only be defined for this aspect of its activity. A service of supply of content to viewers can be identified. This service may be important because competition can take place for the supply of free content, this being separable from competition for related services (e.g. advertising).

The case of access to an audience

3.3.33 One of the outcomes of the analysis presented in Section 2.4 is that there is benefit in the media sector from defining markets for the service of providing access to an audience.

This is most clearly relevant in the case of advertising where magazines or newspapers, for example, offer advertising space which allows the advertiser access to the attention of the publication's readers.

- 3.3.34 One way to define the market would be in terms of the supply of advertising space on a certain (type of) publication. But it may assist the analysis to consider the service more carefully. If a magazine is principally read by a particular socio-economic group, the relevant service can be defined in terms of the supply of access to this audience group, through the medium of a magazine. Such a specification may allow substitute products to be more easily identified (e.g. those which also give access to this group) and also for products which are not substitutes to be more easily recognised as such (e.g. advertising space on a magazine catering to a different set of readers).
- 3.3.35 Defining the services in this way may be especially useful when dealing with access markets for television platform operators. For example in the case of digital interactive services, one option is to define the market simply as access services for digital interactive services providers. However, this does not help differentiate technologically similar access services offered by different platforms. The underlying service that is being demanded is access to an audience, in this case a set of potential customers. By thinking in terms of access to *a certain group* of potential customers (i.e. subscribers to the television platform) it may be easier to assess when the access services of alternative platforms are substitutes.

Treatment of geographic and other dimensions of market definition

- 3.3.36 Place of supply can be considered as one of the various product characteristics, as can the time of supply. In markets in the media sector where there is rarely an unambiguous concept of place of supply (e.g. for radio, is the relevant location that of the company's head office, that of the studio, that of transmitter or that of the listener?) it is often necessary to specify these characteristics with precision and apply the hypothetical monopolist test framework to all product characteristics in a consistent way, rather than seeking to apply the techniques used in markets for physical goods or personal services which rely on concept such as transport costs which do not apply in most media cases.

Summary of practical issues

- 3.3.37 Basing media market definition on a clear specification of the relevant services has several advantages, in particular the following.
- 3.3.38 First, firms compete in the provision of services rather than in the undertaking of business activities. While there may be strong interdependency between different services (e.g. advertising and reader/viewer acquisition) this does not call for markets to be defined at the firm or activity level. Markets should be defined with reference to the services relevant to the competitive assessment required — this requires identification of the relevant services.

- 3.3.39 Second, analysis of market definition must take care not to make unnecessary generalisations. The risk can be reduced by defining specific services from the outset. Even if products *A* and *B* seem very similar, it is preferable to start by defining the relevant services of the supply of *A* and the supply of *B* and then combine these to a single market if substitutability analysis dictates, rather than just considering the extent of the relevant market for *A* and *B*, which implicitly assumes away differences in competitive conditions between *A* and *B*.
- 3.3.40 Third, media markets often involve complex supply chains. If competition analysis is to be based on competitive conditions and behaviour at a certain level of the supply chain, then it is important that a relevant market is defined at this level. Otherwise competitive assessment may be undertaken with reference to an implicit market definition that is subject to less scrutiny. A clear specification of the relevant services should avoid this pitfall by identifying for market definition all the relevant services in the supply chain. This may involve the specification of an access service which is not currently provided.
- 3.3.41 Fourth, competition can take place in the supply of free content and other services. Since it may be appropriate to define markets in order to assess such competition, it is necessary to begin market definition with reference to the services a firm supplies, regardless of whether this concerns monetary exchange, rather than according to business activities that can be associated with revenue streams.

3.4 Assessing Substitutability

Overview of issues

- 3.4.1 Analysis of competitive constraints should be made with reference to the hypothetical monopolist framework, in which substitutability is the determining factor. This conceptual approach is as valid for the media industry as it is for other sectors of the economy, as discussed in Appendix 2.
- 3.4.2 However, a clear analysis of substitutability has not always been used in media cases, and several problems in this respect have arisen, both conceptual and practical. The following examples illustrate some specific issues related to assessing substitutability in the context of the hypothetical monopolist test in media cases, and suggest how an analysis of substitutability may be conducted in practice in the absence of price and volume data series.
- 3.4.3 The first sub-section argues that in some past cases undue reliance appears to have been placed on product similarity or dissimilarity in defining markets. The point is not that product similarity is not important, but that it is only important to the extent that it affects substitutability. In particular, it argues that technological differences in how two services are produced does not mean that they must be in different markets.
- 3.4.4 The remaining sub-sections discuss the application of the hypothetical monopolist framework in the absence of historical data on substitutability. The first example seeks to

demonstrate the value of this framework as a conceptual tool, through reference to an issue in mobile telephony market definition.

- 3.4.5 The second example considers substitutability between different distribution channels in the case of market definition for the supply of CDs through the Internet or digital television. The innovative nature of these services may mean that no past substitution data are available. Faced with this, one should not resort to irrelevant pieces of evidence. Instead market definition can be framed in terms of substitutability by making reasonable assumptions on consumer preferences to inform on likely competitive constraints. This example further illustrates the potential value of consumer surveys in certain media market definition cases.
- 3.4.6 The third example considers switching costs in the supply of pay-television services. When consumers must have access to operator-specific reception equipment, they may face considerable switching costs in substituting between the pay-television packages of alternative operators. Thus, separate relevant markets might be appropriate for supply to “locked-in” customers. If good evidence on substitution patterns is lacking, a market definition exercise may be informed by constructing a simple economic model which seeks to ascertain whether the magnitude of the switching costs is such that they would prevent consumers from substituting to an alternative operator in the face of a small price increase.
- 3.4.7 The final example discusses the application of the hypothetical monopolist framework to competition in quality rather than competition in price. This is likely to be valuable for markets concerned with the supply of free content, such as in free-to-air television or the Internet.

Use of product and production similarity

- 3.4.8 There are several instances where it appears that product similarity (or dissimilarity) in a particular dimension has overshadowed the analysis of substitutability.
- 3.4.9 For example, in *MSG* the Commission seems to define a single market encompassing pay-per-channel, pay-per-view and near-video-on-demand services in Germany. The single reason given for this in the published decision is that in these cases the programmer determines scheduling (what is on and when) and so the viewer has only limited choice of what and when to watch (compared to video-on-demand proper). The products of pay-per-channel and pay-per-view appear to be put into the same relevant market on the basis of some similarity in scheduling operations, whilst video-on-demand proper is considered potentially outside this market because of dissimilarity in scheduling. Regardless of the appropriateness of this market definition, the reasons given are insufficient to justify it. Consideration of substitutability is essential in this context. On one hand the price of near-video-on-demand could constrain the price of video-on-demand proper while on the other hand, a boxing pay-per-view product is perhaps unlikely to be in the same market as pay-television channels showing movies. Whether or not the programmer determines scheduling for two services is not the determinant of market

definition because it does not directly, and in itself, provide reliable information on competitive constraints.

- 3.4.10 What matters is not whether two items are similar in some way, but whether they act as effective substitutes both in constraining each others' prices and in meeting the same needs of consumers. If two similar products are to be placed in the same market, this is because they are substitutes (perhaps due to their similarity), not merely because they are similar. Conversely, just because a product is unique in some way, does not imply that it constitutes a relevant market in itself. For this to be the case its uniqueness must be such that there are no effective substitutes meeting the same purpose, so that a hypothetical monopolist would not be constrained by competition.
- 3.4.11 For example, technological dissimilarities between two services should not in themselves be used to define separate markets. This is especially important in media markets where the same content can be distributed in quite different ways but may nevertheless involve a single relevant market for consumption (e.g. in the light of convergence).
- 3.4.12 This trap applies to all sectors of the economy though it seems to pose a greater risk in media markets. Whilst the frequent lack of reliable evidence on substitutability may bring greater temptation for resort to technological similarity or dissimilarity in this way, it would not justify it.
- 3.4.13 An example where undue emphasis seems to have been placed on technological dissimilarities is found in the *AOL/Time Warner* case. In the discussion of the relevant markets for the supply of on-line music, the Commission defined separate product markets for on-line downloads and physical CDs.
- 3.4.14 First, demand-side substitutability is discussed, in particular that downloading allows for more immediate content consumption than physical CD purchase, and downloading allows for individual tracks to be obtained. Whilst these are relevant issues to be analysed, the decision proceeds to support the distinction for separate markets as follows (paragraph 21):
- “From the supply side, the structure of on-line distribution of downloadable music is completely different from the physical distribution of music (both in bricks and mortar shops and in e-commerce). Music downloading does not involve manufacturing, warehousing, physical sales and distribution.”
- 3.4.15 But this argument is not relevant to defining separate product markets for downloads and physical CD purchase which are both retail services. If downloads and physical purchase are considered effective substitutes in the eyes of consumers (i.e. on the demand side) then the market should be defined to encompass both, irrespective of any technological dissimilarity between e-commerce and “bricks and mortar” in terms of distribution mechanism. Conversely, if demand conditions are such that downloading and physical CD purchase are insufficiently substitutable to be in the same relevant market, the technological dissimilarity is irrelevant in supporting this decision. (An example later in this section discusses ways of conducting market definition in the context of new

distribution channels.) In short, it is incorrect to use evidence of technological dissimilarity alone, or more generally supply-side conditions, to narrow — or to provide or support arguments for narrowing — the market definition that would be determined from consideration of the demand side alone.

The hypothetical monopolist test in the absence of data

- 3.4.16 A pertinent example of the value of the hypothetical monopolist framework as a thought experiment, in the complete absence of data, comes from the mobile telephony industry.
- 3.4.17 In past competition cases,⁸ the Commission has not found the need to decide whether the market for services provided by a mobile networks should be sub-divided into markets for services such as call origination (the service of providing subscribers to the network with outgoing calls) or wholesale call termination (the service of a mobile network operator providing interconnection in order for other networks to connect their customers to a customer of the mobile network).
- 3.4.18 On the other hand, in a regulatory context, this issue has attracted much attention. A recent working document by the Commission seeks to tackle the issue of market definition for wholesale call termination on mobile networks, under an approach consistent with the principles of competition law.⁹ The conclusion put forward in the document is that, at the current time, the relevant market is defined as the call termination on each mobile network. Thus, even though there may be four mobile network operators in a country, the relevant markets for the wholesale termination services on these networks should be separate for each network operator.
- 3.4.19 This result is counter-intuitive from the perspective of technological similarity. The network infrastructure used by different operators to provide the service may be almost identical. Moreover, the basic characteristics of the product — delivering a telephone call for termination on a mobile handset — are the same.
- 3.4.20 However, the conclusion reached by the Commission fits neatly with a conceptual approach to the hypothetical monopolist test. It can be confirmed by considering the service of supplying wholesale call termination on a particular network. The ultimate question we need to ask is whether the price the operator charges for the termination service is constrained (a) by services of similar characteristics and intended use, in which case a wider market is appropriate, or (b) by goods and services in the wider economy, in which case the narrow market is appropriate.
- 3.4.21 Demand for termination comes from (fixed or mobile) telephone callers wishing to speak to someone on a mobile phone. If the price of the termination service increases, we would expect demand to fall. The most relevant question is whether it falls because

⁸ See, for example, *Vodafone Airtouch/Mannesmann*.

callers switch their consumption to other mobile operators' termination services. Since the majority of users have a single mobile phone, they can only be reached through one mobile network's termination service. Callers cannot therefore reach the mobile phone of someone they wish to speak to by switching to the mobile termination services of a different operator. This forms the basis of the argument that wholesale mobile termination services on different networks are not good substitutes and thus that a hypothetical monopolist of termination to one network would not be constrained by pricing of termination to other networks. (Another issue is whether markets should be defined by network or for termination to individual subscriber lines: although there is no substitutability as such, it may be appropriate to group all termination on a network into a single market if there is no possibility of price discrimination.)

3.4.22 Thus, an arguably counter-intuitive result can be robustly obtained by asking the right questions, without requiring quantitative data.

Analysis of substitutability with new distribution channels

3.4.23 In the *BiB/Open* decision, the market for digital interactive television services was defined as separate from the supply of similar services over the Internet, and separate from high-street retailing. Some problems with the analysis presented in the decision document are highlighted below, and an example of an alternative approach is then worked through.

3.4.24 Since the reasoning in the decision is that retail substitutability is the determinant of “the upstream market of the supply of digital interactive television services by service providers [...] to content providers” (paragraph 14) we focus here on how to define the retail market. (The relationship between upstream and downstream markets is addressed in Section 3.5.)

3.4.25 Starting with the retail level, the Commission at the time placed digital interactive services in a different market from high-street retailing on the following grounds:

- (a) There are economies of scope in the provision of the package of services which BiB would offer (e.g. e-mail, downloading computer games, retailing and information services) because the infrastructure required for each individual service is the same.
- (b) BiB would engage in promotion of the digital interactive services brand (i.e. the platform). This would be distinct from the promotion undertaken by individual content providers. This “strongly suggests that BiB regards its own services as distinct from those of high-street retailing” (paragraph 18).

⁹ European Commission (2002b).

- (c) The characteristics of the retailing services to be offered by BiB are “markedly different” from high-street retailing. For example, a much more limited range of goods and services would be offered through interactive television.
 - (d) “There will be a price difference between goods and services purchased in the high street and those obtained via a package of digital interactive television services, if only on account of the delivery charge. In terms of price, it seems that consumers would be willing to pay a premium for the convenience of home shopping” (paragraph 19).
- 3.4.26 There are serious problems with each of these arguments. For example, the economies of scope may be relevant at the upstream access level, but it does not inform on whether a particular retailer through interactive television, say a bookseller, faces competition from the high-street too. A similar objection applies to the second bullet point (b) above.
- 3.4.27 On the third point, even if a very limited range of products is offered it is hard to see how this would narrow the market from the perspective of a retailer. A bookseller selling a limited range of products (perhaps just the top 20 bestsellers) through interactive television would not be free from high-street competition just because high-street booksellers stock more titles — yet this is the implication of the argument.
- 3.4.28 The fourth point is of most concern if taken as a generalisation. When historical data are absent, the most obvious “economic” evidence available will often seem to be current prices — but these need to be interpreted carefully. Relative prices are critical to market definition: two products that are in the same market at current prices will be in different markets if their relative price changes substantially. However, what matters is the substitutability between the products given their relative price, not their relative price per se. If a high-price version of a product is in a separate market from a low-price version, this is likely to be because consumers will not substitute between the two in response to a small change in relative price; it is not simply because one is more expensive than the other. Therefore there is danger in attaching too much significance to relative prices when this is not linked to analysis of substitutability.
- 3.4.29 The *AOL/Time Warner* decision appears to propose that high-street retailing constitutes a separate market from supply through digital interactive television because the price in the latter will have to include a delivery charge, and because consumers may be willing to pay a premium for the convenience of home shopping. In fact these two issues are closely related. An economic cost to the consumer takes into account not only the retail price but also the search and transaction costs involved, which will include an allowance for transport costs of travelling to retail outlets and some valuation of the time spent in finding the products sought. Without further evidence it is difficult to say whether, in general, a higher nominal retail price for CDs purchased through digital television is indicative of a higher total economic price (or quality-adjusted price). It will of course vary from case to case, and a generalisation is not justified.
- 3.4.30 As to the distinction between digital interactive television and Internet retailing, the argument put forward by the Commission appears to centre on switching costs, and on

the penetration (at the time) of modem-equipped PCs compared to television. In particular, the Commission argues (paragraph 21) that:

- (a) while television sets are ubiquitous only 25 per cent of households in the UK had personal computers and less than half of these had a modem; and
- (b) the relatively high cost of personal computers means that the switching costs of end-users would be high.

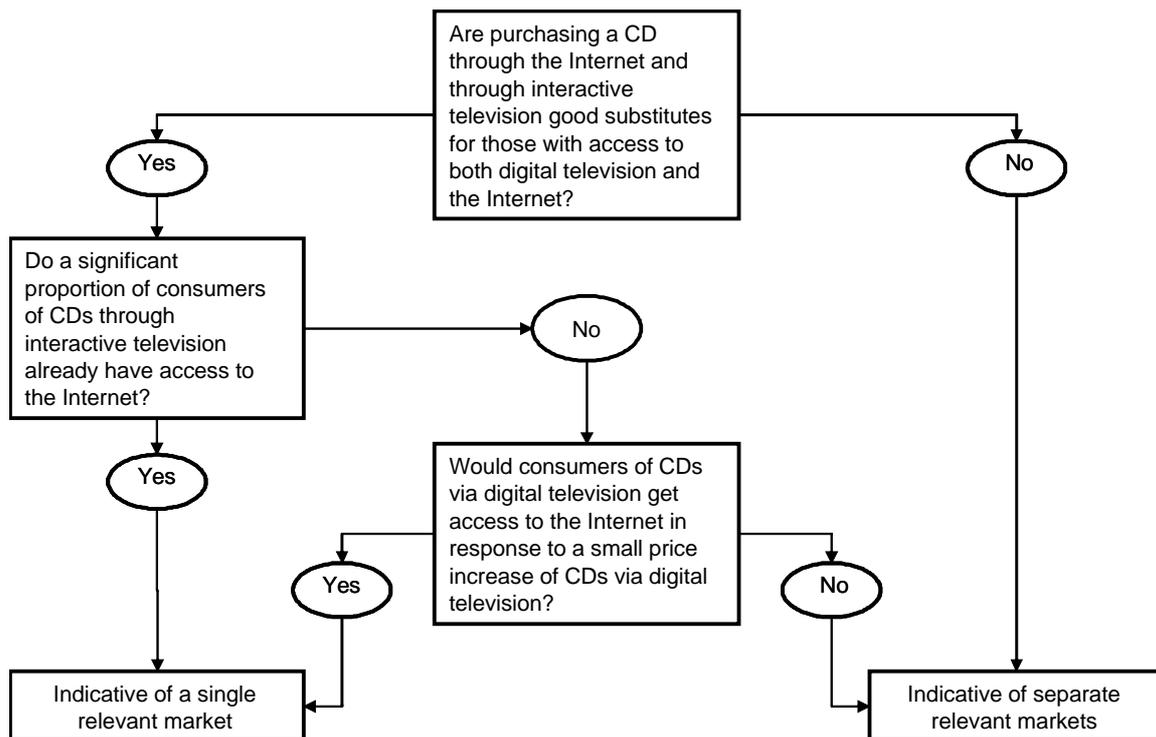
- 3.4.31 Again we have difficulties with this reasoning. In particular, the statement that television sets are ubiquitous while Internet compatible PCs are not is largely irrelevant in this context because the fact does not relate to digital interactive television sets, but rather to digital and analogue television sets. More importantly, the observation on switching costs is weak — the two sources of supply could still be in the same market because there could be a sufficient volume of users of the services who already have access to both interactive television and the Internet. (This assumes that there is no possibility of price discrimination in pricing one service according to whether the user has access to the other.)
- 3.4.32 In the light of the above critique, we now work through a hypothetical market definition for digital interactive television services, suggesting how progress can be made where there is an extreme lack of data (e.g. because of the novelty of the service).
- 3.4.33 Rather than discussing whether interactive services *in general* are in the same market as online and high-street retailing *in general* (which we argue in Section 3.3 is a flawed approach), we discuss the particular case of the retail supply of CDs within a particular CD market (which might be defined, for example, by artist, by album or by genre) through these alternative sources. An initial caveat is that it would be wrong to generalise the results from CD retailing to other digital interactive services, or indeed between different CD markets (if applicable). However, aspects of the approach are likely to be helpful more generally.
- 3.4.34 The analysis starts from consideration of the service of supplying CDs through interactive television, and thus the market definition question is whether the price of a hypothetical monopolist of this service is constrained by services of similar characteristics and intended use — we focus here on potential constraints from the services of high-street CD supply and the supply of CDs through the Internet.
- 3.4.35 From the outset it is necessary to analyse the switching costs issue which is raised by the Commission but not fully developed in the published decision of the *BiB/Open* case. For a consumer to purchase CDs through an interactive television retailer, it is necessary that he has access to interactive television. Similarly, an Internet-equipped PC is required to purchase CDs through an online retailer.
- 3.4.36 We can think of the digital interactive television platform or an Internet-equipped PC as different “access technologies”. The underlying question of substitutability between the different retail sources can then be decomposed into two components:

- (a) For those consumers who already have access to the alternative access technologies, are the corresponding services available through each good substitutes?
- (b) For those consumers who do not have access to the two technologies, will they invest in alternative access technologies in response to small changes in the relative prices of the services under consideration?

3.4.37 Starting by considering whether consumers would switch between alternative sources if they already have access to them reduces the potential for confusion about switching costs (the observation of large switching costs may lead one to wrongly conclude there are inappropriately narrow markets). Even if nobody would “switch” to buying an Internet-enabled PC in response to changes in relative prices between CDs online and CDs through interactive television, the two could be in the same market if a sufficient number of consumers already have both a PC and an interactive digital television.

3.4.38 The thought process necessary to apply the hypothetical monopolist test in such a case is illustrated by the following diagram.

**Application of the hypothetical monopolist test
in the presence of new distribution channels**



3.4.39 In the absence of relevant quantitative evidence or survey evidence, investigation into whether these sources of supply are good substitutes for those consumers who do have

access to both the Internet and interactive television, must rely on assumptions. This does not preclude obtaining reasonable results.

- 3.4.40 Although there are differences in presentation and user-friendliness between online purchase and purchase through interactive television, it seems reasonable to assume that these are small and will vary from customer to customer. Some benefits of Internet purchase such as the presentation of album reviews and downloadable music samples are unlikely to bring barriers to substitution, simply because users could obtain these services from the Internet before making a purchase through interactive television. Other factors that consumers may take into account, such as delivery time and the impersonal nature of the transaction, will be very similar between the Internet and interactive television.
- 3.4.41 As such, it is difficult to conceive of anything substantial enough to create a barrier to switching from the point of view of a customer of digital television services who also has access to the Internet. In the absence of data to the contrary, the presumption must be that, for these consumers, supply through digital television and supply through the Internet are economic substitutes.
- 3.4.42 In terms of the high street retailing, starting from the perspective of consumers of CDs through digital interactive television, we seek to assess whether, for consumers of CDs through interactive television, the differences between this source of supply and supply through the high street may bring barriers to substitution. In the absence of data, all that can be made are assumptions that can be tested for their reasonableness.
- 3.4.43 The physical product itself, the CD, is the same in both cases. All that can differ, besides price, are factors relating to how it is obtained by the consumer.
- 3.4.44 The main difference between the channels of supply is the convenience factor of buying from home compared to buying from the high street. One would imagine that this is the key draw to purchase via interactive television (and one which outweighs the possible inconvenience in terms of the time lag between completing the transaction and receiving the product). Nonetheless, simple assumptions would suggest that, in general, convenience is unlikely to represent a significant barrier to switching. For the majority of purchases (especially for albums which have a longer economic life than singles) immediacy in purchasing is probably not essential. Assuming that most people will visit a "high-street" at least every two or three weeks, either for work or for other shopping, they will have the opportunity to purchase a CD at little incremental (economic) cost. There will be exceptions. But it seems reasonable to presume that even where consumers do attach some premium to the convenience of home-shopping, buying at the high street will still be seen as a good substitute as it is likely that the disutility associated with high-street shopping is small compared to that of foregoing the product altogether.
- 3.4.45 There are other measures which may inform on substitutability. If all the consumers of CDs via digital interactive television services are thought to also buy some CDs from the high-street (i.e. that they mix consumption between the two sources) this would suggest

that they see high-street supply as a substitute. Conversely, evidence indicating that hardly any consumers mix between the two sources of supply would suggest (but not prove) that each is serving different demands.

- 3.4.46 We now turn to the question of whether customers will be able to gain access to new delivery channels in order to substitute between channels in their purchase of CDs. We assume that everyone has “access” to high-street retailers (to the extent that it is more convenient for some to go than others, this would be examined in the type of analysis described above). The critical “access” issue is between the Internet and digital television.
- 3.4.47 In this case, it does not seem plausible that there will be many marginal consumers who will acquire Internet access due to the relatively lower prices of CDs that can be purchased online. Most of those consumers without access would presumably require significant investment in a PC, and it seems wholly unlikely that many customers would undertake such investment following an increase in prices of CDs via interactive digital television.
- 3.4.48 Thus, we can assume that for those consumers of CDs through interactive television who do not have access to the Internet, the supply of CDs online would not be a good substitute. Given this assumption, the only competitive constraint that could be exerted by online CD suppliers on suppliers of CDs via digital television services would be exerted through potential supply to those who already have access to the Internet, as discussed above (or through a chain of substitution involving high-street retailing).
- 3.4.49 These analyses and assumptions would suggest that a single market for CD supply through the high street and through interactive television is appropriate.
- 3.4.50 Whether this market should also include supply through the Internet depends on whether there is a sufficient proportion of consumers of CDs through interactive television who also have access to the Internet. This is because we have argued that only those with access to both will substitute between purchasing online and via interactive television.
- 3.4.51 Ideally, a consumer survey of purchasers of CDs through digital television would inform on the proportion of purchasers of CDs through interactive television who also have easy access to the Internet. There may also be some industry research available to base an assumption on.
- 3.4.52 Only if this proportion is deemed to be low — i.e. too low for these potentially marginal consumers to exert a competitive constraint — should separate markets be defined. It is *impossible* to put a number on this level without further assumptions. However, it might be considered to be “low” because of the arguable lack of difference, for those who can obtain through both sources, between purchasing through digital television compared to online, which may mean that a small increase in price by the digital television vendor causes a relatively large shift to online purchase.

3.4.53 It is difficult, if not impossible, for a supplier of CDs through digital television to price discriminate between those customers who readily have access to the Internet and those “captive” customers who do not. Thus any competitive constraint that exists between Internet and digital television retailers in supplying the former group is transferred to a competitive constraint in supplying the captive customers.

3.4.54 For cases where suppliers can successfully price discriminate between those customers who do have access to multiple retail channels and those who do not, separate markets may be appropriate. In most retail examples, such as CDs, this will not be so, because suppliers will tend to lack the information necessary to segment customers according to whether they have access to the Internet and/or access to interactive television.

Use of consumer survey evidence

3.4.55 The above analysis demonstrates the potential role of survey evidence in defining markets in the absence of evidence on past prices or substitution patterns. Many of the assumptions made could be confirmed or varied on the basis of survey data such as:

- (a) The proportion of consumers with Internet access who also have access to interactive digital television
- (b) The proportion of consumers with access to both the Internet and interactive digital television who buy (i) no CDs; (ii) almost all of their CDs through the Internet; (iii) almost all their CDs through interactive television; (iv) almost all of their CDs through high-street shops; (v) different combinations of the above.

Illustrative methodology for the analysis of switching costs

3.4.56 The following sub-section provides an illustrative methodology for the analysis of the impact of switching costs on subscriber markets for pay-television. In particular, the example focuses on the case where no historic data are available to examine past substitution, but market definition can be informed by constructing a simple economic model of the switching costs.

3.4.57 Suppose for simplicity that there are two alternative digital pay-television platform operators each offering a single pay-television package to potential viewers, through a one-year subscription. In addition to purchasing subscription, assume customers are required to have access to an operator-specific set-top box (STB), i.e. each STB only has value when used in conjunction with a subscription to the same operator. (We use STB here to refer broadly to all necessary reception equipment and software, including the installation service).

3.4.58 Each pay-television operator offers two different services:

- (a) a bundle comprising a new STB and one-year subscription to pay-television services (termed here “new subscriptions”); and

(b) a one-year subscription for those already with the STB for that operator (“renewal subscriptions”).

3.4.59 The important issue for market definition in this example is the effect of switching costs. Identifiable switching costs arise because current subscribers to pay-television via one platform must incur the costs of a new STB if they switch to subscribing to the services of the other platform — these are costs that they do not incur if staying with the same supplier (i.e. not switching). If switching costs are very high, it may be appropriate to define separate markets for supply to “locked-in” customers on each platform.

3.4.60 We can start by considering the supply of subscriptions to customers who currently take no pay-television service. These customers face no “lock-in” insofar as they have not invested in an STB yet. The first question to ask is whether the alternative pay-television packages are substitutable in the eyes of potential new customers, taking into account relative subscription prices and STB costs. If, in the eyes of new customers, these packages are not thought sufficiently similar to exert a competitive constraint, separate markets should be defined for supply on each platform, regardless of analysis of switching costs.

3.4.61 Consider now the case where the two services are very good substitutes in the eyes of new customers (those who do not face the switching costs). In such a case, we would expect competition to ensure that quality-adjusted prices for new subscriptions to be broadly the same.

3.4.62 For simplicity of exposition, we assume symmetry between the two platforms.¹⁰ Thus, there are two main candidates for the definition of relevant markets:

(a) A single market for the supply of pay-television subscriptions (new and renewal) on both platforms.

(b) Three different markets: a market for the supply of new subscriptions on either platform and two separate operator-specific markets for supply of renewal subscriptions on each platform.

3.4.63 In order to assess which of these is appropriate, it is necessary to examine the size of the relevant switching costs. If the switching costs really are high enough to mean that the price charged for renewal subscriptions by one platform operator is not constrained by the threat that its existing customers will switch to the other platform — purchasing the new subscription package which includes a new STB — it would be appropriate to consider three separate markets.

¹⁰ That is, we assume a high enough degree of symmetry between the two operators to rule out the possibility that customers for one platform are locked-in while customers for the other are not.

3.4.64 Analysis of the importance of switching costs can be made by comparing estimates of the cost of switching suppliers with the expected benefits of switching in response to a small change in relative prices. In particular, it would entail investigation of whether current customers to one platform are “locked-in” to their current supplier because the loss from a small price increase would not outweigh the switching cost under consideration (which arises from the need to acquire a new STB in order to change suppliers).

3.4.65 The analysis below is for a representative customer. In theory, it is straightforward to estimate the expected loss a customer incurs due to a small permanent increase in price. It is the net present value of the price increase (in real terms), discounted over the period for which the customer would be expected to continue buying the service in the absence of the price change — which can be thought of as the economic life of the service from the perspective of the customer. (In certain instances it may be more appropriate to consider a price increase over a finite period of service, justified in some pay, in which case the calculations required would change from those discussed below although the basis of the analysis would not change.)

3.4.66 For a permanent price increase of ΔP , assuming an economic life of the service of n periods, and a per-period discount rate of r , the loss can be estimated as follows.

$$\text{Loss from staying} = \Delta P + \frac{\Delta P}{(1+r)} + \frac{\Delta P}{(1+r)^2} + \dots + \frac{\Delta P}{(1+r)^{n-1}}$$

3.4.67 In the context of a customer of a pay-television operator who already owns a STB, we might consider a five per cent change in the annual subscription charge. The economic life of the box would need to take account of the risk that the customer would wish to change provider anyway at some stage, even in the absence of changes in relative prices.

3.4.68 Assuming a discount rate of 7 per cent per annum, an economic life of 5 years and an annual subscription charge of 300 euros (25 euros per month), a five per cent increase in price would bring an estimated loss of around 66 euros in present value.

3.4.69 Now consider the loss from switching supplier. This will primarily be in terms of the price of the STB of the new supplier (effectively the difference between new subscriptions and renewal subscriptions). A small upward revision could be made to the pure cost to account for the inconvenience costs of users familiarising themselves with new equipment. If the current STB has any residual value (e.g. on a second-hand market) then this would offset the cost of switching.

3.4.70 Costs that would not be included here are those due to different preferences of different users (e.g. some may view the alternative supplier’s programmes of lower quality while some view it as higher quality). These issues should have been dealt with when considering whether the two services are good substitutes in the eyes of new customers (i.e. those who do not face the switching costs imposed by a sunk investment in an STB). We have assumed above that they are good substitutes.

- 3.4.71 A final adjustment may need to be made in order to take account of differences in expected economic lives between the current STB and that of the alternative supplier. No adjustment is needed if, after the switch, the economic life of the new STB is the same as the remaining economic life of the old STB. But this is unlikely to be a good assumption.
- 3.4.72 When buying new equipment, the expectation will be the new STB will have a longer economic life than that remaining for the old STB (this would likely be the case if each box had a technical lifespan of a similar duration). Thus, a benefit of switching (besides avoiding the price increase) is that the replacement profile of STB equipment is delayed. The costs of switching would therefore be offset by this benefit.
- 3.4.73 It is possible to take this benefit into account by comparing estimates of net present value of the costs of STB renewal profiles under the alternative options (stay or switch). For example we could assume a discount rate of 7 per cent, a STB price for each operator of 100 euros (including adjustment for factors such as inconvenience of a different box), that the economic life of each STB is 5 years and that the current STB is 3 years old (and has no resale value). One approach is to calculate the profile over an infinite time horizon (i.e. we assume the customer would replace his STB with a new model every 5 years) and estimate the difference in cost profiles over time. (An alternative is to estimate a likely end date, and then take the average of the cumulative costs for the five years around this date; this may reduce problems of the figures being highly sensitive to the end date due to lumpiness in the profiles.)
- 3.4.74 These assumptions give the results shown in the following table.

Computing switching costs: an illustration

Year	Stay with current supplier		Switch supplier	
	Action	Cumulative cost (present value)	Action	Cumulative cost (present value)
1	-	0	Buy STB of alternative supplier	100
2	-	0	-	100
3	Replace STB	87.3	-	100
4	-	87.3	-	100
5	-	87.3	-	100
6	-	87.3	Replace STB	171.3
7	-	87.3	-	171.3
8	Replace STB	149.6	-	171.3
9		149.6	-	171.3
10		149.6	-	171.3
...
∞		304.3		348.4

3.4.75 In this case, although the price of a new STB is 100 euros the present value of the cost of switching is around 44 euros (348.4 – 304.3). The difference reflects the price of the new STB offset by the benefit due to replacing a STB that would need replacing anyway itself in 2 years. The formula for estimating the life cost of renewing an STB of price $P(\text{STB})$ which has economic life of n and for which the current STB has d years remaining before reaching the end of its economic life is:

$$\text{Life cost of renewing} = \frac{P(\text{STB})/(1+r)^d}{1-(1+r)^{-n}}$$

3.4.76 By calculating this for the current STB and then for the new STB (for which $d = n$), the extent to which the immediate switching costs should be offset by a lower-cost renewal profile can be calculated as the difference between these two.

3.4.77 To put together the analysis, we would compare the adjusted switching cost of 44 euros against the loss from staying with the current supplier and taking the price increase (66 euros). Although these simple calculations have no great claim to accuracy, they do indicate that a representative consumer may well switch when faced with a 5 per cent price increase, based on the assumptions above. If the assumptions seem reasonable for the bulk of consumers, the calculations could be used to support an argument that a 5 per cent price increase by the platform operator would be rendered unprofitable by the expectation that this would induce the majority of customers to switch to the other platform.

3.4.78 Conversely, if we had made the same assumptions except that a new STB has a price of 200 euros and the current annual subscription charge is 180 euros (15 euros per month) then the calculated switching cost of 88 euros would not outweigh the loss from staying of 39 euros. It is much more likely, if these assumptions are reasonable, that the price of subscriptions to current consumers is not constrained by the threat that they would switch to the alternative provider.

3.4.79 Key factors that would limit switching costs — besides pricing policies of operators that involve heavy subsidisation of STBs — would be changes in technology (such as a move to digital broadcasting) which mean that current subscribers to either platform need to update their STB anyway. In the analysis above, this would reduce the economic life of the current STB. For instance, if in the first example the current STB is only expected to have an economic life of one more year instead of two, the adjusted switching cost decreases from 44 to 23 euros. But this may just be a one-off effect after which switching costs are high.

3.4.80 The analysis above is intended to demonstrate how it is possible to set up calculations, based on assumptions and basic data, which can be expected to inform on market definition in the presence of this type of switching costs. No conclusion on market definition should be based solely on such analysis, but at the least it should be useful in identifying cases where the switching costs are very low or very high compared to the benefits of avoiding a five per cent price increase. In turn, this would be beneficial in

deciding between the options of separate operator-specific markets (and a market for new customers) or a single market comprising sales of both operators.

Analysis of substitutability induced by characteristics other than price

- 3.4.81 Free-to-air television provides a prime example of the supply of goods for “free”. We have proposed in Section 2.4 that relevant markets can be defined for services which are provided to customers without pecuniary exchange. Examples in media are free-to-air television and free newspapers, as well as free content and applications on the Internet. In such circumstances it may be helpful to use a form of the hypothetical monopolist framework that is based on changes in relative quality rather than price.
- 3.4.82 The hypothetical monopolist test is framed in terms of the likely response of customers (and suppliers) to a small permanent increase in price of the products being considered, holding other factors constant. These other factors include the price of other products (i.e. those not assumed to be supplied by the hypothetical monopolist) as well as the qualities of all products. Quality in this sense is taken loosely to represent the characteristics of a product besides its price, without prejudice to “good” or “bad” quality.
- 3.4.83 It is possible to reformulate the hypothetical monopolist thought experiment in terms of quality rather than price. In this case, the test is in terms of the likely response of customers and suppliers to a small permanent increase in quality of the products being considered, holding other factors constant. These other factors include the quality of other products (i.e. those not assumed to be supplied by the hypothetical monopolist) as well as the prices of all products.
- 3.4.84 The difficulty with basing the test on quality rather than price is that the former is a subjective rather than an objective variable, and the test has to be tailored to each particular case. Whereas all consumers will, to varying degrees, be adversely affected by a price increase, the same generalisation does not apply to quality. Specifically, a slight change in a product’s attributes could be perceived by some customers as an increase and by others as a decrease in quality. Application of the thought experiment above using such a quality change as this would not be useful — it would be analogous to asking what would be the effect of increasing the price of the goods of the hypothetical monopolist to some consumers whilst, at the same time, decreasing the price of the same goods to other consumers.
- 3.4.85 A useful approach is therefore to attempt to find a change to a dimension of quality that would be seen to be a negative change as universally as possible. For instance, in the context of newspapers, it is probably better to consider a slight reduction in quantity of all types of content, rather than the reduction in one type of content or an increase in advertisements (which may be valued by some readers).
- 3.4.86 Suppose there is need to define markets for the services that an advertising-funded free-to-air broadcaster and a publicly-funded free-to-air broadcaster (such as the BBC) could compete in. The relevant markets are likely to be markets for attracting viewers to watch television content. Although no monetary exchanges occur, we can think of these

markets as comprising exchange whereby broadcasters supply viewers with attractive content in return for which the viewers watch the broadcasts.

- 3.4.87 In contrast to newspapers, where advertising is less intrusive (arguably the disutility from turning a page is less than that from the programme interruption due to advertising breaks) we might reasonably be able to think of advertising on television as a sensible quality indicator. For the advertising-funded broadcaster, we could consider the expected effects of a small but significant increase in the number of advertising minutes per hour (holding other broadcasters' content constant). If expectation is that this change would cause viewers to watch more of the other available channels then it would indicate that the advertising-funded broadcaster competes in a wider viewer market containing these other channels. If, on the contrary, an increase in advertising minutes is expected to cause the broadcaster's viewers to decrease their television viewing, as they switch to other uses of their leisure time, then this would indicate that the broadcaster has some monopoly power in attracting viewers to its content (perhaps the content is generally seen as much higher quality than that of the other broadcasters, or because the audience composition reflects specialist viewing that other channels do not offer).
- 3.4.88 Although somewhat less satisfactory, if the broadcaster of interest is a publicly-funded broadcaster showing no advertising, we could consider the effects of the introduction of a small number of adverts per hour on the channel. Because of the likely heterogeneity in consumer preferences it is difficult to devise alternative measures that would be seen universally as a negative effect on quality.
- 3.4.89 It should be noted that it may be appropriate to define these viewer markets at a less aggregated level, perhaps by type of programme and by time of day. There may be a separate market for the supply of television content comprising football highlights to be shown on a match-day evening, as a distinct market from other television markets. The implication of such a finding would be that if quality of the relevant highlights programme(s) decreased (e.g. the number of minutes advertising during the programme increased) viewers would tend to decrease their television consumption in light of this, rather than switching to alternative programmes, possibly at alternative times.
- 3.4.90 Once the right question has been formulated, progress on market definition can be made by making assumptions about consumer behaviour, employing survey evidence wherever possible.

Summary of practical issues

- 3.4.91 Market definition in media, as in other sectors, should be determined by analysis of product substitutability. The hypothetical monopolist test, as a conceptual framework, is a valuable tool for structuring the analysis and focussing assessment on competitive constraints.
- 3.4.92 The pace of change in the media sector is such that empirical data on past substitution may not be available or appropriate for market definition. Nonetheless, a thought experiment based on the hypothetical monopolist test may be able to rule out certain

candidate market definitions and possibly even lead to a definition that seems reasonable in the complete absence of supporting data.

- 3.4.93 Moreover, a lack of historical data on substitution can be mitigated by using other measures of substitutability. Reasonable assumptions of customer preferences can be combined with other measures, such as economic models of switching costs (either from the perspective of customers and producers), to produce an argument for a particular market definition that is grounded on substitutability. These arguments can then be subjected to scrutiny. And if resources permit, there is merit in feeding into the analysis of substitutability with results from customer surveys.
- 3.4.94 In cases where services are supplied for free, the hypothetical monopolist test needs to be adapted to take account of competition on some (ideally) objective quality criterion rather than price. How this is best done will likely vary from case to case. But the conceptual question is the same: is the quality of the hypothetical monopolist constrained by the threat that consumers of the free content will switch to products of similar characteristics and intended use, be they supplied for free or for a price.
- 3.4.95 The emergent conclusion from this section, and in particular from the examples considered in this section and other parts of the report, is that lack of historical data does not constitute a barrier to market definition in media cases. Nor does it justify the use of irrelevant data. Instead substitutability can still be assessed, but it is likely that the appropriate techniques and evidence to use will vary greatly from case to case.

3.5 Cross-checking with Other Evidence

Overview of issues

- 3.5.1 Once potential market definitions have been identified via the hypothetical monopolist framework (in many cases using a thought experiment drawing on available evidence of substitutability, rather than any direct empirical application of the SSNIP test based on econometric data) further evidence can be used as a cross-check.
- 3.5.2 Such evidence is not directly associated with substitutability itself, but rather provides indicators of the likely validity of candidate relevant markets. Key sources of relevant evidence include the analysis of market outcomes, in particular the level of prices, and any precedents for market definition.
- 3.5.3 The fundamental methodological issues identified in Section 2 have a significant impact on this step of the analysis. Rapid change often means that precedents lose their relevance relatively quickly. Furthermore, any change identified in the markets (in particular changes in market prices) may be due primarily to technological change, and would not therefore provide any reliable evidence for market definition.
- 3.5.4 The following discussion outlines how these problems can manifest themselves in the media sector.

- 3.5.5 The first sub-section considers the use of price differences to define markets. It argues that a justification for separate product markets for two services should not be based on their relative prices per se, since this is insufficient to prove the lack of a competitive constraint. Instead, analysis should be based on substitutability at the current price (step 2 above).
- 3.5.6 The second sub-section discusses the merit of supporting a particular market definition at one level of the supply chain by reference to the scope of the market at another level. While such cross-referencing is clearly valuable there is some danger because the relationship is not always straightforward.
- 3.5.7 The final sub-section notes the difficulty that rapid change causes to the use of recent substitution patterns and market definition precedents to inform on market definition.

Use of price differences to define markets

- 3.5.8 In *BSkyB/Kirch Pay TV*, the Commission states that (paragraph 25):

“[t]he fact that subscribers are prepared to pay considerable sums for pay-TV indicates that the latter is a distinguishable product with specific extra utility”.

- 3.5.9 This seems to lead to a conclusion of separate markets. However, whether something is a “distinguishable” product does not settle market definition. More importantly, the existence of “specific extra utility” is not conclusive either. For example, high-quality products at high prices can be in the same market as lower quality products at lower prices.
- 3.5.10 There is no reason in principle why the supply of a free newspaper in an area (of perhaps lower quality/more advertising) could not be in the same market as the supply of a (perhaps higher quality/less advertising) newspaper sold for a positive price. Similarly, the question here is whether the price of pay-television is constrained by the quality of the zero-price television (and/or other services capable of meeting the same need), and it is not addressed by the argument quoted.
- 3.5.11 In *BiB/Open*, films and sports were highlighted as key drivers for demand for pay-television, and this is reflected in consumers’ willingness to pay for these channels. The Commission determined that the wholesale supply of channels for films and sport is in a different market(s) to the wholesale supply of other channels (paragraph 29):

“The wholesale price of acquiring film and sports channels is [...] far higher than that of other channels: small permanent increases in relative prices have been profitable. [...] [T]he cost to a cable operator of acquiring a single film or sport channel is at least seven times as much as the most expensive Sky basic channel. This demonstrates that the wholesale supply of film and sports channels forms a separate market.”

- 3.5.12 Despite the reference to small permanent increases in relative prices, this argument is not founded on the hypothetical monopolist or SSNIP test. Use of the SSNIP test would have required the Commission to consider whether a *hypothetical* price increase would be

profitable, and if not to identify whether the constraint on the price of the hypothetical monopolist was of a competitive nature (competing products capable of meeting the same customer need).

- 3.5.13 Instead in the decision quoted above the Commission appeared to consider that the fact that the non-stationarity of relative prices was a demonstration that products were in separate markets. This argument is never entirely robust, and is particularly vulnerable in markets in the media sector due to the danger that rapid change in technologies and circumstances might well have led to non-stationarity of relative extra utility (e.g. quality) of different services. Take a simple non-media counter-example: sustainable increases in the relative prices of traditional computer screens against flat LCD screens have been achieved in recent years since LCD screens have become commonplace, yet this does not prove that there are, or were, separate markets for these two types of screens. Relative costs of production have changed, and that customers have changed their purchasing patterns accordingly: this is entirely consistent with the existence of a single relevant market for both types of screens over the past few years.

Use of market definitions from different stages of supply

- 3.5.14 As noted earlier it is crucial that the analysis of market definition be carried out with reference to the appropriate stage of the supply chain.
- 3.5.15 Comprehensive though it might appear, there is very limited benefit in carrying out the analysis at different stages of supply in order to confirm or invalidate the scope of the market at one level. What benefit there might be stems exclusively from the added insights into the industry that might be gained by looking at the industry from a different angle. But all such insights would, in principle, already have been gained if the analysis of the relevant market at the appropriate stage of production is properly carried out in the first place. And the word of caution remains that finding a single market at one level may not be a good indicator of a single market at a related level of supply.
- 3.5.16 In *BiB/Open*, much is made of the link between the end-consumer market and the upstream market for supply of access services to content providers. Paragraph 14 of the decision states that retail-demand substitutability for digital interactive television services is “determinant” in defining the upstream market of the supply of digital interactive television services by service providers to content providers. This reliance placed on the downstream market is not justified.
- 3.5.17 We have argued in Section 3.4 that, in the absence of relevant data, basic assumptions suggest that the supply of CDs via digital interactive television are likely to be constrained by the price of CDs on the high-street. Does this imply that the upstream access market must be defined broadly (market encompassing digital television and high-street equivalent) rather than narrowly (digital interactive service access only)?
- 3.5.18 Starting with the assumption that the retail market should be defined broadly, any retailer of CDs via digital interactive television is constrained in pricing by other such retailers, and by CD retailers at the high-street. A retailer via interactive digital television will need to

obtain access to the digital platform from the platform provider. The price at which this access is supplied will be a very important influence as to whether the retailer is successful in competing against high-street retailers.

- 3.5.19 From the perspective of a high-street retailer, the nearest equivalent to this access service is the service of shop-space rental. One could debate whether a prospective retailer of CDs would substitute between buying an access service from a digital television platform or renting shop space. But such a debate would, in our view, be irrelevant for the question of market definition. We have stressed the importance of the restriction that relevant markets should only be expanded to include products of similar characteristics and intended use. The differences in characteristics and intended use between the service of providing content providers with access to a digital television platform and the service of providing shop space for rental seem sufficiently clear to call for separate markets.
- 3.5.20 Thus, even though there may be a single market for the supply of (the relevant group of) CDs through digital interactive television services and via high-street stores, the scope of the upstream market for the supply of interactive television platform access services should not be broadened to include provision for high-street retail. This is a case where a narrow upstream market is associated with a broader downstream market.
- 3.5.21 The opposite case, one where markets are defined broadly upstream but narrowly downstream, is that of pay-television. Because of constraints at the distribution level (national allocation of spectrum and cable licences), markets for the supply of pay television are usually defined at the national level, since viewers in one country typically cannot substitute to channels broadcast in another.
- 3.5.22 However, at the upstream level of programme production, the barrier to substitutability will not be where suppliers are based but what language the output is in, and how well it matches national tastes. This may be thought of as a product rather than as a geographic aspect. Given the low costs of upstream transmission of content, the demand of a pay-television operator is likely to be for a channel produced in a given language, not a channel supplied in a given place. Therefore the geographic dimension of this market could be worldwide, even if in practice there may be some degree of correlation between where a content supplier trades from and the language of its output.

Impact of rapid change on use of recent substitution evidence and precedents

- 3.5.23 The prevalence of rapid change in media markets means that little reliance can be placed on past evidence of substitution between products for market definition. Substitution may be the result of dramatic changes in availability and/or cost structures, and may not therefore provide any indication of substitutability in the eyes of either customers or suppliers, and even less of the existence of any competitive constraints.
- 3.5.24 For example, the fact that some consumers may have switched from purchasing CDs to purchasing music tracks online in recent years does not indicate that these two means of distribution should be seen as part of the same market. Instead it could just be the case

that online supply has totally displaced CDs for certain types of consumers and/or certain types of music, and that relative price changes would not affect either their decision or that of users who prefer CDs. No progress can therefore be made without a direct assessment of substitutability.

- 3.5.25 In a similar way, rapid change means that precedents of market definition in related cases have little value as such, since supply and demand conditions may have changed so much as to invalidate the conclusions of an earlier case. Clearly, in order to deviate from a precedent, the case at hand must still be distinguished from the previous case; but in most media cases such distinction is all too easily established because of rapid change.
- 3.5.26 A related (but conceptually different) danger is that of drawing inferences from precedents that appear at first sight similar but are in fact different, perhaps because different stages in the supply chain are being considered (as noted above), or simply because superficially similar products have in fact quite different economic characteristics. Again, the wide variety of circumstances, levels in the supply chain, price discrimination and bundling behaviour in media sectors tends to mean that it is often easy to distinguish the case at hand from any of the handful of precedents in the sector.
- 3.5.27 None of these issues invalidates the use of previous cases to provide precedents of methodologies and techniques that might be capable of being adapted to the case at hand, and it should be noted that such indirectly relevant precedents may be drawn from outside the media sector as well as from within.

Summary of practical issues

- 3.5.28 We started with a general framework for market definition that comprised three steps:
- (a) step 1: defining the products;
 - (b) step 2: assessing substitutability; and
 - (c) step 3: cross-checking with other evidence.
- 3.5.29 Markets in the media sector raise important issues for each of these steps, and a first analysis might have led to the conclusion that these difficulties require use to be made of as many different sources of evidence as possible to cross-check the necessarily imperfect conclusions that can be drawn from traditional techniques.
- 3.5.30 In fact, the conclusion of our analysis is almost the exact opposite. The complexity of media sectors require special attention to be paid to details in the first step, and therefore makes this relatively more important than in other, less complex, sectors where it is often little more than a formality. Despite the appearances, the specific features of media industries do not make the assessment of substitutability intractable, as demonstrated by the examples given under Step 2 above. However, these features can highlight the shortcomings of approaches that may appear to be analyses of substitutability but in fact are not, for example implications drawn from product similarities or differences in

production technologies. Thus, step 2 can still be done, but in some cases the analysis will be complex and a robust conclusion cannot be obtained without a comprehensive analysis supported by clearly-stated assumptions and survey data.

- 3.5.31 Where the specific features of media appear to have most impact is in step 3, which focuses on approaches to market definition that do not rely on a direct assessment of substitutability or the hypothetical monopolist test framework. Many of the techniques that provide useful guidance in many other sectors are invalidated by rapid change. Furthermore, almost by construction, cross-checking techniques based on the analysis of market behaviour are of very little use when it comes to defining markets in which no or very little trade occurs.
- 3.5.32 In summary, in steady and simple industries Step 1 seems to be a formality, Step 2 is (or appears to be) difficult, and Step 3 often provides sufficient evidence to settle many market definition issues. In the media sector, by contrast, it is more typical for Step 1 to be an essential component of the analysis, where chains of production are analysed and trade (or potential trade) is identified, and for Step 2 to be at the heart of the delineation of markets, with Step 3 being often limited to a formality because indirect evidence cannot be used to disentangle the effects of rapid change from those of substitutability and competition.

4 CONCLUSIONS

4.1 Why Define Media Markets?

- 4.1.1 The role of market definition in competition investigations was outlined in the judgment of the Court of First Instance in the *Volkswagen AG* case (paragraph 230):

“For the purposes of Article 86, the proper definition of the relevant market is a necessary precondition for any judgment as to allegedly anti-competitive behaviour, since, before an abuse of a dominant position is ascertained, it is necessary to establish the existence of a dominant position in a given market, which presupposes that such a market has already been defined. On the other hand, for the purposes of applying Article 85, the reason for defining the relevant market, if at all, is to determine whether the agreement, the decision by an association of undertakings or the concerted practice at issue is liable to affect trade between Member States and has as its object or effect the prevention, restriction or distortion of competition within the common market.”

- 4.1.2 Nonetheless, some authors have argued that an explicit stage of market definition, framed in terms of the hypothetical monopolist test, is inappropriate in new economy or media cases. We have reviewed these claims in Appendix 2. Our conclusion is that, from an economic perspective, an explicit stage of market definition is and remains a valuable tool even in complex or fast-changing media markets.
- 4.1.3 A key benefit of market definition as part of an economic analysis of competition is that it helps structure the analysis and identify the right questions to consider when assessing the competitive constraints an undertaking faces. Furthermore, if a dominant position is found, market definition allows for the exact scope of the dominance to be set out. Where a firm (or a group of firms) supplies multiple services it is insufficient to simply label it as dominant. Instead it needs to be shown to hold a dominant position in the supply of particular products or services — i.e. within a relevant market.

4.2 The Structure of Media Markets

- 4.2.1 The analysis in this report shows how economic features of the media sector affect the definition of markets within that sector. The complex nature of media industries often leads to rich and intricate structures for relevant markets which may appear to make the market definition a complicated task. We hope that the examples outlined above show that this is not necessarily so, and that complex markets can be defined through a simple application of the hypothetical monopolist test, properly and carefully conducted.

- 4.2.2 Key features associated with relevant markets in the media sector are summarised below.

Markets must be defined in terms of trade, not undertakings

- 4.2.3 A direct implication of the emphasis in the report that competition takes place in the supply of product and services, rather than in the undertaking of business activities, is that relevant markets must be defined with reference to trade and not undertakings. Section 3.3 demonstrates that this is more than semantics.

4.2.4 Nevertheless, supply-side substitutability sometimes plays an important part in market definition. But it is important to realise that supply-side substitutability does not widen the definition of the market in terms of the products traded within in. Instead, it extends the capacity that is potentially available to supply these markets. Only in cases where all conceivable suppliers of one product could easily switch to supplying the other and vice versa might it be appropriate to define a single market for products that are not linked by demand-side substitutability (because in such a case the competitive conditions in the supply of both products would be certain to remain the same).

Markets in which there is no trade must sometimes be defined

4.2.5 Despite the above, markets sometimes need to be defined to cover products in which there is no actual trade. This requires an assessment of the way in which competitive constraints could operate if there were to be trade in these products. The case of gateways and bundling demonstrate the importance of defining these markets and recognising any dominant position that might be held in them: refusal to give access to an upstream gateway, or to supply “must-have” goods in unbundled form, may be an anti-competitive abuse, but such abuse is abuse of a market in which there is no actual trade.

The most relevant market may be at a different level in the chain of production

4.2.6 Media industries are characterised by complex chains of production, with trade taking place at a variety of levels. The definition of markets at different levels in these chains may differ markedly, and many potential anti-competitive effects involve leveraging across the chain of production. As a result, if there is a suspected distortion of competition in one market or at one level of the supply chain, the most relevant market to be defined may be at a different level in the chain.

There may be many relevant markets containing a single product

4.2.7 As highlighted in Appendix 1, market definition (in any sector) is not an exercise in parcelling out the space of possible trades into relevant markets within which competition occurs (or fails to occur) and between which there are no important constraints. In fact, relevant markets can have a complex structure and overlap in many ways. The example of bundling shows how relevant markets may need to be defined to contain the bundle and one component, and the bundle and another component, even if these two components cannot be placed in the same relevant market. For example, a relevant market may be defined for the supply of a bundle of pay-television and telephony which includes the supply of standalone pay-television services, but at the same there may be other relevant markets for the supply of pay-television in unbundled form, or the supply of telephony services in unbundled form. In order to recognise market power where it may exist, the potential for dominance needs to be assessed in each of the markets comprising the relevant products.

4.2.8 Similarly, the existence of apparent chains of substitutability does not mean that a broad market can be defined for all substitutes, even if each individual link of each chain is robust. Markets for specific content with few effective substitutes, such as music or

literature, may be defined by relatively small clusters of similar products, and apparent chains of substitution do not automatically allow markets to be extended to match genres into which products can be pigeonholed.

4.3 Defining Media Markets in Practice

4.3.1 In order to show how market definition in media differs from similar exercises in many other sectors, we have assessed the issues that may arise in practice with each of the three steps that we see as essential components of market definition in any sector. The results are shown in the following table.

Step	Traditional role	Role in media
Step 1. Identification of relevant products and services.	Often reduced to a mere formality.	Essential component. Requires analysis of chains of production and identification of products most likely to be relevant.
Step 2. Direct assessment of substitutability.	Often seen as the most difficult form of evidence to use, because quantitative analysis requires extensive data. But qualitative analysis is possible and valuable.	Robust quantitative analysis frequently impossible, but qualitative substitutability analysis still possible and valuable within the framework of the hypothetical monopolist test.
Step 3. Cross-checking with other evidence.	Often considered sufficient to reach an acceptably robust conclusion.	Rendered almost useless by rapid change and the lack of a track record of trade in the relevant markets.

4.3.2 Thus, whilst the concept of market definition is unaffected by the specific characteristics of the media sector, and whilst the traditional approach grounded in the hypothetical monopolist test framework remains entirely valid, the balance of evidence is different in media from what is traditionally perceived in many other sectors.

4.3.3 The use of quantitative analysis in media cases is frequently invalidated by rapid change, and/or made impractical because of the lack of relevant data. However, this does not mean that market definition analysis itself is made impractical as a result. As demonstrated by the examples in this report, qualitative analysis is a powerful and effective tool for market definition, provided that it is grounded in a clear understanding of chains of production, and conducted rigorously within the framework set by the hypothetical monopolist test. Quantitative data remain valuable to support such an analysis. But in many cases it will be possible to reach a conclusion on the basis of reasoned assumptions, where appropriate supported by technical expertise and/or the results of customer surveys.

4.3.4 The specific economic characteristics of the media sector analysed in this report mean that media markets are often complex. As such, significant time and effort may be required to conduct market definition analysis to an acceptable standard. But complex competition inquiries inevitably require substantial resources. The intricacies of market

definition in media cases are merely a manifestation of that fact, and do not by themselves indicate any deficiency with the framework for market definition.

- 4.3.5 The practical issue is how the time and effort should best be allocated: this report's conclusion is that a qualitative analysis of market definition can be a valuable use of these resources provided that it is conducted rigorously within the overall framework of the hypothetical monopolist test.

APPENDIX 1: THE CONCEPT OF MARKET DEFINITION

Introduction

- A1.1 At a superficial level, market definition for competition law purposes is a simple concept. A relevant market is a group of products or services such that the existence of a dominant position can be assessed within this market.
- A1.2 Thus, for example, a monopoly within the relevant market would not find its behaviour constrained by suppliers operating outside the relevant market; and, in contrast, effective competition within the relevant market would be sufficient to constrain the behaviour of undertakings within that market.
- A1.3 Market definition is primarily an analytical tool to help identify in a systematic way the competitive constraints that an undertaking faces. The purpose of market definition is to identify which products and services are capable of acting as an effective competitive pressure and constraining the undertaking's behaviour in the market.
- A1.4 However, behind this facade lies a conceptually demanding set of issues.
- A1.5 In complex industries such as media, distinctions that may sometimes be dismissed as unnecessary subtleties often take centre-stage. As such, a clear grasp of the concepts underpinning market definition, and of the limitations of simple characterisations of market definition, is a necessary basis for the discussion on methodological problems associated with defining markets in the media sector set out in Sections 2 and 3 of this report.
- A1.6 The remainder of Appendix 1 is structured as follows. We first outline the distinction between different concepts of “markets” used in the academic literature and then highlight the concepts outlined in the European Commission Notice on Market Definition, which our terms of reference require us to take as a starting point. A discussion on the need for care to be taken in using the hypothetical monopolist test as a tool to identify actual dominant positions is then presented. With this in mind, we set out a precise framework for market definition, based on the 1997 notice and the hypothetical monopolist test. Finally, we draw out the implications of this conceptual framework for some perennial issues often raised in connection with market definition.

Economic Markets and Relevant Markets

- A1.7 Stigler and Sherwin (1985, p555) state that the “the market is that set of suppliers and demanders whose trading establishes the price of a good”. Taking “good” loosely to account for differentiated products within the same market, this can be rephrased somewhat to describe economic markets as identifying “the range of products and geographic areas for which arbitrage keeps price linked” (Massey, 2000, p318).
- A1.8 Under this terminology, economic markets refer to what is traditionally understood by “markets” in general economic theory (rather than in specific competition law

applications), i.e. all those products for which prices are linked through arbitrage. Scheffman and Spiller (1987, p 125) define an economic market as follows:

“[...] a classically defined market is that area and set of products within which prices are linked to one another by supply- or demand-side arbitrage and in which those prices can be treated independently of prices of goods not in the market.”

- A1.9 This definition does not specify the extent to which prices have to be linked for products to belong in the same market, since it refers to the group of firms whose behaviour determine the equilibrium market price. Thus, as long as prices are linked to some extent they belong to the same economic market.
- A1.10 However, this description of markets may not be of much practical use, since the prices of a very wide range of products are likely to be linked to some degree.
- A1.11 Progress can only be made by first specifying why we wish to define markets at all. One can only satisfactorily start to think about the extent of the market for a particular product once the purpose of so doing has been set out. For example, markets defined for the purpose of business strategy may not be the same as markets for the purposes of competition law.
- A1.12 Relevant markets or antitrust markets (which are also termed “economic markets” in some contexts) are defined in competition law cases to assess the likely effects of a merger, agreement, or behaviour, on the competitive process. Thus, relevant markets are not defined for their own account, but rather as an aid to the effective execution of competition policy.
- A1.13 Ultimately, competition policy is concerned with whether the competitive constraints a firm faces are sufficient to constrain its behaviour, to prevent it from harming the competitive process, and to promote efficient levels of prices, quality of service and innovation. The rationale for market definition in competition inquiry rests on the benefits it brings to the process of investigation: the definition of relevant markets is an analytical tool to help identify in a systematic way the competitive constraints that an undertaking is subject to. In many cases, market definition is seen as a “first step” in the investigation.
- A1.14 Given that the purpose of defining relevant markets is to establish whether a firm or a group of firms have or will have market power, relevant markets consist of the smallest relevant group of producers which, in the hypothesis that they were subsumed in a hypothetical monopolist or cartel, would possess market power. Therefore it makes sense to specify by how much prices have to be linked, by requiring that the link be sufficient to exert a competitive constraint on behaviour.
- A1.15 A key feature of relevant markets used in competition analysis is that some products whose price may help determine the equilibrium market price may not be included in the relevant market. By contrast, economic markets would include all the products that contribute to price formation.

A1.16 Kaserman and Zeisel (1996, p 668) summarise the distinction between economic and antitrust (relevant) markets as follows:

“[...] there is no unique market definition that is appropriate for all purposes. Where one is concerned with the potential exercise of market power, an antitrust market concept may be appropriate. Where one is interested in modelling market equilibrium, however, an economic market concept is required.”

The European Commission Notice on Market Definition

Purpose of market definition

A1.17 The European Commission Notice on Market Definition (European Commission, 1997) describes market definition as “a tool to identify and define the boundaries of competition between firms”, whose main purpose is to “identify in a systematic way the competitive constraints that the undertakings involved face”. The notice goes on to say that market definition makes it possible, amongst other things, to calculate market shares in order to convey information useful for the assessment of market power.

The hypothetical monopolist or SSNIP test

A1.18 The theoretical approach for defining markets put forward by the European Commission notice is based on the hypothetical monopolist or SSNIP (small but significant and non-transitory increase in price) test, first introduced by the US Department of Justice in its 1982 Horizontal Merger Guidelines.

A1.19 The hypothetical monopolist test is a thought experiment that can be used as a framework for defining relevant markets. The test effectively seeks to abstract from “within-market” rivalry (by assuming a hypothetical monopolist) in order to assess the scope for competition “between markets”.

A1.20 The proposition behind the hypothetical monopolist test is that, for antitrust purposes, a relevant market is defined when a hypothetical monopolist (or hypothetical cartel) containing all the firms in the market could increase profit by imposing a small but significant and non-transitory increase in price (sometimes specified as a 5-10 per cent increase for at least one year, although the 1984 revision of the US Merger Guidelines abandoned the “5 per cent rule” for the “small but significant standard”, and the European Commission Notice on Market Definition specifies a permanent change).

A1.21 Thus, in principle the inquiry would start with a small candidate market, (say, one consisting only of certain products of the undertakings under investigation), and test whether a hypothetical monopolist or cartel supplying those products would be constrained by competition from outside that market.

A1.22 To do so, the situation of a hypothetical monopolist in a candidate market is considered. If the hypothetical monopolist were considered able to raise profitably its prices, then the candidate market is accepted as a relevant market, since competition from outside it is

not an effective constraint on behaviour within it. By contrast, if the prices of other services effectively constrain the terms offered by the hypothetical monopolist, then the relevant market must be defined more broadly.

- A1.23 For example, if the hypothetical monopolist could not raise prices profitably, because consumers would switch to other products which in their view are sufficiently close substitutes, or to those of firms in different locations, then the market would have to be extended to include these other products and/or geographic areas. The hypothetical monopolist test would then be applied again and again, until such hypothetical monopolist or cartel is found.
- A1.24 At the heart of the assessment of whether it can be profitable for the hypothetical monopolist to raise prices is an estimate of the constraints exerted by demand- and supply-side substitutability.
- A1.25 The price of a product is constrained on the demand side if the supplier does not find it profitable to increase price because of the threat of customers switching their consumption away from the product. The price of a product is constrained on the supply side if the supplier does not find it profitable to increase price because of the threat of other producers switching their supply to products that would themselves act as demand side substitutes.
- A1.26 In other words, the hypothetical monopolist test seeks to bring together evidence on demand- and supply-side substitutability into a single framework for defining the relevant market.

Dimensions of market definition

- A1.27 The Notice on Market Definition states that markets are typically defined with reference to a product and a geographic dimension and it offers some guidance on how each of these two elements should be defined. A relevant product market is defined as comprising:

“All those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products’ characteristics, their prices and their intended use.”

- A1.28 Similarly, relevant geographic markets are defined as comprising:

“The area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogenous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas.”

- A1.29 Other product characteristics, such as time, may also be relevant dimensions for market definition.

Issues with the Hypothetical Monopolist Test

The so-called cellophane fallacy

- A1.30 A well-known issue with the hypothetical monopolist test, sometimes known as the cellophane fallacy, after extensive debate following a US case,¹¹ relates to cases where the situation in the candidate market is one of actual monopoly or cartel behaviour protected by entry barriers (for whatever reason). In these circumstances, it is most probable that the hypothetical monopolist would not be able to raise prices profitably from observed levels, since the actual monopolist or cartel would presumably already be pricing at the level that maximises monopoly profits.
- A1.31 Blind reliance on the hypothetical monopolist test in such circumstances would lead to the rejection of the monopoly market as a relevant market, and possibly to the amalgamation of a range of products into the same relevant market, when they do not actually provide an effective competitive constraint on each other's prices.

Relevance of market share data based on market definition

- A1.32 A strict interpretation of the hypothetical monopolist test also makes nonsense of any use of market share data in a relevant market, at least where there is any degree of product differentiation. If a firm controls less than 100 per cent of capacity in the relevant market, then by definition it is constrained by competition, since otherwise the relevant market should have been defined to include only that firm's product.
- A1.33 Thus, if a merger between the producers of two products is expected to result in the combined entity having a 90 per cent market share, a strict interpretation would imply that competition would not be reduced because of the constraints imposed by the firms supplying the other 10 per cent. If the converse was true — that the holder of the 90 per cent would not be constrained by the firms supplying the 10 per cent — then the relevant market should not have included the products supplied by these firms in the first place.

The competitive price standard

- A1.34 Some authors have claimed that the cellophane fallacy can be circumvented by defining markets for the purpose of assessment of dominance (although not for the purpose of assessing the impact of conduct or transactions) in the hypothesis that the prices used in the hypothetical monopolist test are set to the competitive level, rather than their actual level.¹²
- A1.35 At a practical level, this suggestion would require an assessment of what prices might be under effective competition, which could presumably be estimated on the basis of the

¹¹ *US v El Du Pont de Nemours & Co* (1956) 351 US 377.

¹² See for example Bishop and Walker (1999, footnotes to pages 48 and 49) or NERA (2001, p 15).

costs that a competitor or new entrant would face in supplying to the market in question. However, the reliability of such estimates would be open to serious question.

- A1.36 But there is a more fundamental problem with this idea. If there were reliable evidence that prices are above the competitive level, then this would demonstrate dominance in the candidate market, and market definition would not have been a useful step in the analysis (although it might still be necessary to describe the scope of the dominant position with precision).

Reconciling the Concepts

- A1.37 The combined impact of the above problems is dramatic. For any candidate market submitted to the hypothetical monopolist test, if one undertaking (or a group of undertakings linked so as to behave as a single undertaking) controls 100 per cent of the market, then the hypothetical monopolist test, in its simplest form, cannot be relied upon due to the cellophane fallacy. If not, then there can be no dominant position, since the ultimate relevant market will always be broader than any candidate market. On that basis, the hypothetical monopolist test appears never to be of any use in practice for the purpose of identifying dominant positions (although the problem is likely to be less severe when market definition is used to assess mergers or agreements).

- A1.38 In order to reach a meaningful concept of market definition, it is necessary first to consider the purpose of competition law, and in particular the way in which the competitive process, which it seeks to protect, operates.

The competitive process and competition law

- A1.39 The absurd result above illustrates the dangers of a static and purely quantitative approach to market definition and competition analysis. Understanding of demand and supply functions is not sufficient to enforce competition law. If it were, and if market power could be adequately defined as the power to raise prices above a calculated competitive level (for a supplier), then the purpose of competition law would presumably be to intervene and set prices to that level wherever there is evidence of a material deviation between the market outcome and the outcome expected from a hypothetical competitive market.
- A1.40 Such an approach to competition law would fail to recognise that competition is a process, one of whose main effects is to convey information enabling producers, traders and consumers to match each other's wants most effectively. The underlying economic problem is not how to allocate resources if there were perfect information, but rather how resources are best allocated given that there is not perfect information, and that a key role of markets is to provide and convey information, for example by using prices as signals.
- A1.41 Out of all the forms that the competitive process can take, price competition between existing suppliers fits most closely with the classical economist's notion of "perfect competition". Through the process of price competition, firms' prices are driven down by many competing sellers towards the (marginal) cost of production, and each firm earns

“normal” returns. But whilst this can be seen as a manifestation of competition, it is by no means the whole of it; and an approach to competition law that would seek to enforce the calculated outcome of price competition would in all likelihood cause more damage to the process of competition than any gain from more “efficient” price levels.

- A1.42 Nevertheless, the competitive process can be distorted or even suspended for a range of reasons. Whilst many apparent monopolies are part of the competitive process, if the gains from a temporary monopoly position are the returns to an innovating firm of successfully innovating “ahead of the pack”, monopoly can also be an impediment to the competitive process, for example if a monopolist in one market is able to erect barriers to entry in the same or in related markets. In this case the monopolist’s position is not maintained through its superiority in the products it sells. Instead consumers are denied the choice of alternative suppliers, a choice likely to bring, through the selection process of competition, higher efficiency and more valued products.
- A1.43 The purpose of competition law is to prevent such abuses of monopoly power, as well as to control transactions which would distort or hinder competition without some greater gain to the public interest. Competition law does not seek to impose any theoretical concept of perfect competition. Its purpose is to protect the competitive processes from tendencies of market participants to restrict competition.

Using the hypothetical monopolist test

- A1.44 It would clearly be meaningless to define market power for an undertaking as the ability to raise prices profitably above their current level, since a profit-maximising firm would already have made full use of any such power irrespective of competitive conditions.
- A1.45 Defining market power as the ability to raise prices profitably above the competitive level, whilst not absurd per se, would not be consistent with a dynamic (and realistic) understanding of competition and of the role of competition law. Furthermore, as noted above, if market power was expressed by prices higher than the competitive level, then it could be measured on its own and market definition would have no role in assessing whether a firm has market power.
- A1.46 Thus, a slightly more subtle characterisation of what constitutes a competitive constraint is needed. Monopolists as well as firms operating in competitive markets face the same reality of a downward-sloping demand curve. Wherever sales of a product decline as price rises, this involves consumers switching to alternative products, including not consuming now (and instead saving money). Both monopolists and firms facing competition from rivals are constrained by the ability of their consumers to make purchasing choices.
- A1.47 The difference between a dominant undertaking and one that is not is that the substitution that constrains the former’s prices is to goods in general across the economy (including savings), whereas for the latter the threat of substitution is to a narrow band of products. The fundamental question of market definition, therefore, is not whether a hypothetical monopolist’s prices for a particular service would be constrained (or, in the case of a

proposed merger, would be expected to be constrained if the transaction were to be allowed), but rather which other goods and services are the source of this constraint.

A1.48 Case law provides a threshold for the purpose of judging whether a potential substitute can be considered to provide a competitive constraint: products must have similar physical characteristics and intended use, as well as be substitutable, in order to be considered as part of the same relevant market.

A1.49 Thus, a meaningful application of the Notice on Market Definition needs to consider product characteristics and intended use.

A1.50 As noted by Whish (2001, p 31-32):

“The Notice on Market Definition is a useful document. It explains in a helpful way both the reasons for market definition and some of the possible techniques that are available. [...] However [...] it is ‘only’ a Commission Notice: it does not have the force of law, and ought not to be treated as a legislative instrument. The ECJ has referred to demand substitutability in terms of price, physical characteristics and intended use, whereas the Notice very much emphasises price. While the emphasis in the Notice is no doubt in accord with how most economists approach the issue of market definition, it nevertheless remains the case, as a matter of law, that physical characteristics and intended use are also relevant to market definition.”

A1.51 For example, evidence that the prices of pay-per-view movies supplied through digital television are constrained because an increase would cause consumers to switch to using broadband internet access to watch movies can be taken to indicate that these two services are in the same market. But evidence that the constraint on pay-per-view movie prices arises from the fact that consumers would cease watching pay-television and use the money released in that way to buy higher-quality food would in fact indicate that the pay-television movie supplier operates in a narrow market (or markets) for the supply of pay-per-view movies across digital television.

A1.52 The consideration of product characteristics and intended use, as part of the application of the hypothetical monopolist framework, is also consistent with an economic theory of competition.

A1.53 The fundamental benefit of competition is the ability of the competitive process to select the products and suppliers able to meet consumers’ requirements most efficiently, and to ensure that new products or ideas displace inferior alternatives if (and only if) they are more efficient. As such, a substitute product provides a competitive constraint only if that product is conceivably capable of replacing the incumbent product altogether in meeting a particular need of the customer. In other words, almost by definition, two products can only exert competitive constraints on each other if they have sufficiently similar characteristics to be able to be purchased for the same intended use, so that they can displace each other in meeting that purpose.

The role of market definition in the economic analysis of competition

- A1.54 Apart from its role as part of an assessment of dominance, discussed above, market definition is also a useful tool in other areas of competition economics.
- A1.55 Most obviously, in inquiries relating to agreements or mergers, or when assessing the impact of particular forms of conduct on competition, market definition can help gauge whether any undertaking (or undertakings) could gain or strengthen a dominant position as a result of the transaction or conduct.
- A1.56 Market definition can also assist in the analysis of other potential detriments to competition resulting from a transaction or conduct, for example:
- (a) Potential unilateral effects of a merger in an oligopoly market will be limited if there are other the merging parties face other competitive constraints than those that they exert on each other. Thus, the relevant market must be identified in order to determine its structure, and estimate the likely impact of changes in that structure.
 - (b) Potential barriers to entry or distortions of competition as a result of an anti-competitive agreement need to be considered by reference to the relevant markets in which they would occur in order to assess their detrimental impact on competition in these markets.
 - (c) Potential anti-competitive effects of conduct by a dominant undertaking need to be considered by reference to the relevant markets in which competition might be hindered or distorted, which may not be the same as the market in which a dominant position is held.

Practical constraints on the specification of relevant markets

- A1.57 Whilst the above restrictions on the characteristics and intended use of potential substitutes resolve the simplest form of the cellophane fallacy, they do not dispose of the problem that any market share short of 100 per cent in a relevant market defined as a smallest collection of products that “passes” the test should lead to a finding of no dominance, or explain the potential for non-uniqueness of the relevant market containing a particular product.
- A1.58 It seems that the main reason why relevant markets are often defined in such a way that firms with market shares below 100 per cent can be dominant appears to be purely practical, in that candidate markets are only defined in a reasonably simple way. For example, if competition from both heavy metal and classical music needed to be taken into account in order to amount to an effective constraint on the price of a particular pop CD, then the market might well be defined as encompassing all these types of music. However, a dominant position may result from control over the supply of both heavy metal and pop, or from control over the supply of both pop and classical music, both of which would correspond to below 100 per cent market shares in the market defined as encompassing all three types.

A1.59 Thus, whilst in principle a dominant position should be associated with a relevant market in which the dominant undertaking (or the collectively dominant undertakings) controls all the production capacity, in practice lower market shares may be compatible with dominance. Where this is the case, there is merit in the market definition exercise making clear, prior to assessment of dominance, the extent to which it is likely that dominance with market shares significantly below 100 per cent will be feasible given the practical, but necessarily inaccurate, market definition that has been chosen.

Perennial Market Definition Issues

Significance thresholds for hypothetical price increases

A1.60 If a hypothetical monopolist over a group of services would be able to profit from raising prices above current level by any amount, however small and for however short a period of time, then this must indicate that competition between the suppliers within that candidate market, rather than competition from outside it, is the effective constraint on behaviour. Thus, at the simplest level, the requirement that the hypothetical price increase be significant appears superfluous to define markets.

A1.61 The rationale for this requirement appears to be an implicit trade-off between the benefits of competition and the costs of competition law enforcement. The effect of restricting the hypothetical monopolist test to the consideration of small but “significant” hypothetical price increases is to widen the definition of markets, and therefore to treat as not dominant an undertaking which is, in fact, not constrained by competition, but would be so constrained if it were to raise prices in any significant manner. In other words, a relevant market is defined as a group of products whose prices may not constrain each other directly, but provide a competitive constraint not far above current price levels.

A1.62 It seems appropriate to retain some flexibility as to the meaning of significant to avert a risk of allowing anti-competitive behaviour or transactions that may meet a generic threshold but in fact cause significant detriment. The need for such flexibility is further underlined by the fact that in some cases, especially in media cases, a quality variable must be used instead of price in the hypothetical monopolist test.

A1.63 The requirement for the hypothetical price increase to be sustained (the European Commission Notice refers to a permanent price change) can be similarly interpreted as a way of disregarding market power that is merely transitory, as this would not normally create opportunities for a sustained threat to the competitive process. However, in some cases (e.g. time-sensitive products) it may be necessary to define markets along temporal dimensions in a more specific way. This would be achieved by applying the hypothetical monopolist test framework but treating time as another product characteristic, alongside product description and place of trade. Thus, hypothetical price increases would be applied to different time periods to identify the effectiveness of any constraints resulting from substitutability between trades at different times.

Market definition under hypothetical conduct or prices

- A1.64 When assessing allegations of abuse of dominance or reviewing whether a transaction would lessen competition, it is generally most appropriate to use the definition of the markets that matches reality as closely as possible: a dominant position that does not really exist cannot be abused. In particular, as argued above, it is not correct to use an estimated “competitive” level of prices in order to assess market definition and dominance. Where anti-competitive conduct occurs in such a market, it often has its source in a dominant position in a related market, such as an upstream essential facility. For example, a broadcaster with control over an essential package of sports rights may be able to distort competition in markets for pay-television by tying supply of sports content to the supply of other content. But this would be an abuse of the monopoly over sports rights, and would not justify an attempt at defining hypothetical pay-television markets (assuming some concept of competitive price level) in which the broadcaster in question would appear to be dominant (and thus would not charge the prices assumed in the market definition analysis).
- A1.65 Nevertheless, it may be appropriate in some cases to undertake market definition under assumptions for firms’ conduct or prices that differ from reality. For example, in reviewing a proposed merger against a dominance test, the impact of the merger on prices and its knock-on effects on supply and demand would be assessed as part of defining post-merger markets and assessing the scope for dominance in these markets. Conversely, if a remedy has been proposed to increase competition and remove opportunities for abuse, its assessment will entail estimation of the competitive level of prices and associated behaviour as part of the definition of the relevant markets if the remedy is implemented.
- A1.66 Furthermore, comparing definitions of markets under different market structures, conduct or prices can shed light on the nature of changes in the nature of competition and competitive constraints. For example, in a situation with two analogue pay-television broadcasters and one digital pay-television provider, separate relevant markets may be defined for analogue and digital television if, for example, analogue television is cheaper but digital television offers a greater variety of programmes. If the two analogue broadcasters merge, and if the new merged company raises its price to a level where its service becomes substitutable with digital television, then this may not lead to a dominant position in the supply of analogue television, because the post-merger market definition is a single pay-television market where analogue and digital compete. Whilst the merger has led to the loss of a competitive constraint (a unilateral effect), the widening of the market means that no dominant position is created.

Supply-side substitutability

- A1.67 Competitive constraints can arise from demand-side substitutability or supply-side substitutability, and both types must be recognised within market definition analysis. Arguably, there is overlap between supply-side substitutability and potential entry (which informs the assessment of dominance within the relevant market), since both refer to

competitive influences on the firms in the relevant market originating on the supply side of the market. But the distinction between supply-side substitutability and entry is generally regarded as arising from the nature of the costs involved in switching production from one output to another, and the time required to carry out the switch. Where the same capital resources can be used in the production of various outputs and the switch can take place over a relatively short time period and at low risk, these outputs might be regarded as supply-side substitutes. If, on the other hand, significant resources and risks (e.g. sunk costs) are required to switch production, then it is most appropriate to view the possibility of the switch as potential entry.

- A1.68 However, it is important to recognise that demand-side substitutability and supply-side substitutability play different roles in market definition analysis. Demand-side substitutability is what defines whether the possibility of trade in one product constrains the price of another product, and is the sole determinant of the market definition in terms of the products that are in the relevant market. Supply-side substitutability identifies the scope for the existence of assets or businesses on the supply-side to constrain prices and is therefore used to define the markets in terms of the firms or types of firms that compete in them.
- A1.69 As such, it is generally most appropriate to define markets first on the demand side, and in a second step to assess supply-side substitutability in order to identify the production capacity able to supply the products that have been placed in the relevant market. This approach enables the constraints of supply-side substitutability to be recognised in market share measures based on available capacity to supply the relevant market, rather than simply the shares of current supply. Of course, even with that definition it remains the case that a very high market share need not indicate dominance, since the threat of entry may exert significant competitive constraints even if entry would require significant investment or risks.
- A1.70 Confusing these two steps can lead to erroneous assessments. For example, assume that radio and television are not substitutable for viewers/listeners, and that there exist a single television company which controls a digital television platform with a capability to transmit digital radio. A hypothetical monopolist controlling all analogue and digital radio transmitters may well be constrained by supply-side substitutability from the digital television platform, but nevertheless it would not be appropriate to define a big market containing radio and television. Doing so could lead to the incorrect conclusion that the television platform cannot be dominant, because it has a relatively small market share in that market. In fact, in this case the television platform would have monopoly power in the relevant market for television and competes with radio broadcasters in the separate relevant market for radio.
- A1.71 There are cases in which supply-side substitutability appears to play such a crucial role in market definition that it might at first appear impractical to treat it as a second step. For example, in the case of telephony, markets defined on the demand side could be very narrow, segmented by call origin, call destination, time and duration. Only by considering supply-side substitutability would broader markets be identified. However, it is not

necessary to broaden the market definition in terms of product, time and location in order to recognise the competitive effects of supply-side substitutability. Many separate markets can be defined on the demand side, but the competitive conditions will be the same in many of these markets since the capacity and capability to supply them may be obtained with a single set of network assets and/or contracts for use of network assets; thus it would be appropriate to consider these markets as a group in assessing the operation of competition (e.g. calculating market shares). Nevertheless, it will be important to bear in mind the underlying structure of the relevant markets and the lack of demand-side substitutability in order to be able to identify any particular circumstances that lead to different supply conditions in certain of the narrow markets defined from the demand side. For example, if there are fewer providers of interconnection for calls with particular origins or destinations, then this will need to be recognised through a separate assessment for these markets rather than lost in an average market share in a broad market defined (wrongly) by reference to supply-side substitutability.

- A1.72 The concept of defining market shares by reference to capacity rather than actual supply is also valuable when defining bidding markets, where all transactions are for a bespoke supply and a specific competition takes place for each transaction. In such a case, the market definition obtained from a demand-side substitutability analysis would only include the potential products that the purchaser considers as capable of meeting its requirement.
- A1.73 For example, a channel seeking to purchase a television news service would have a number of strict requirements which cannot be varied (perhaps the timing of bulletins, or a regulatory obligation to ensure that its news provider is independent of political influences), but would also be able to trade-off certain characteristics (e.g. the appearance of big-name presenters, or the proposed balance between domestic and foreign news) with each other and/or with prices. If so, the market might be defined as the supply of television news meeting the strict requirements, and there may therefore be a specific relevant market for each individual transaction. Competition in such a market would then be assessed by identifying all the potential suppliers with the capacity to meet the requirement, i.e. by reference to supply-side substitutability. Even if many of the markets defined on the demand side can be supplied by substantially the same set of suppliers, it remains important to treat them separately, at least conceptually, rather than defining a broad market for all television news on the grounds of supply-side substitutability. For example, if one channel had a particularly strict requirement for political independence of its news provider, then the competitive conditions in supplying that market may be materially different to those in other markets.

Non-uniqueness of relevant market

- A1.74 It is important to note that the application of the hypothetical monopolist test may not necessarily lead to unique results. This is not a defect of the hypothetical monopolist test but rather a reflection of the way competition works.
- A1.75 Starting from the product of interest (e.g. that a party to a merger supplies) an approach of adding further products to the candidate market until a hypothetical monopolist would be

unconstrained in its price setting behaviour may lead to a relevant market that depends on the order in which further products were considered. In other words, a different relevant market for the product of interest may be found if products are added to the hypothetical monopolist's supply in a different order. Hence, in some cases, it will be important not to stop the analysis once one relevant market is found.

- A1.76 As discussed in Section 2.3, non-unique relevant markets are likely to be a common feature of media markets that are associated with bundling. But the issue may arise in other cases. We focus here on the economics behind this observation.
- A1.77 Suppose the price of product *A* is constrained by competition from either product *B* or product *C* such that either *B* alone or *C* alone are enough to constrain *A*'s price. Product *A* would clearly not constitute a relevant market because a hypothetical monopolist would be constrained from increasing its price by the threat of substitution to products of similar characteristics and intended use (*B* or *C*). If a hypothetical monopolist of products *A* and *B* is not constrained by competition from *C* (or by other products of similar characteristics and intended use) then a relevant market should be defined for the supply of *A* and *B*.
- A1.78 Nonetheless, it may also be the case that a hypothetical monopolist of *A* and *C* is not constrained by competition from product *B* and a relevant market should be defined for the supply of *A* and *C*. Thus product *A* could feature in two relevant markets: a market for the supply of *A* and *B* and a market for the supply of *A* and *C*.
- A1.79 The intuition for this result stems from the difference between economic and antitrust markets. Economic markets take account of all substitutability and hence in the example above the economic market includes *A*, *B* and *C*. But relevant (antitrust) markets focus on strength of competitive constraints caused by substitutability. If *B* is sufficient to prevent a hypothetical monopolist of product *A* from increasing its price then the supply of *A* and *B* is a relevant market; there is no reason to include product *C* because, once *B* is included in the candidate market, *C* is superfluous in constraining *A*'s price. However, since the same sufficiency of competitive constraint on *A* is found in this example by the inclusion of *C* instead of *B*, there is not a unique relevant market for the supply of product *A*.
- A1.80 This phenomenon is not an academic triviality. Real problems in competition policy enforcement may arise if the possibility of non-unique relevant markets is overlooked and the hypothetical monopolist framework ignored.
- A1.81 Suppose in this example that a relevant market is (incorrectly) defined for the supply of *A*, *B* and *C*, perhaps on the basis of some notion of reasonable substitutability between them. An undertaking controlling *A* and *B* may not be found dominant in this market, especially if the revenue from the supply of *C* is high enough to mean that the combined "market share" of the supplier of *A* and *B* appears to be low. But we know (by construction of the example) that a supplier of *A* and *B* is not constrained by competition and thus it is simply wrong for this firm not to be found dominant (in the absence of countervailing factors such as potential entry or buyer power). Thus, the erroneous

market definition could lead to failure to prevent distortions to competition by appearing to render article 82 inapplicable to a single supplier of both *A* and *B*.

A1.82 Thus, at least in principle a number of possible markets may need to be defined in order to be able to identify, say, any dominant position that might be relevant to the case. Some of these markets may be relevant to the competition issue under investigation while others may not be, and in that sense the market definition may depend on the case at hand.

Chains of substitution

A1.83 Whilst substitutability is the key factor driving market definition, there is no reason why all products within a relevant market should be directly substitutable. Nonetheless, in order for competition within the relevant market to be an effective constraint, any two products within it must be linked by a chain of substitution. If this were not so, and if two or more groups of products were not connected by chains of substitution, then these groups would form relevant markets of their own right.

A1.84 But the converse need not be true. The existence of a chain of substitution does not necessarily indicate that all the products linked by it will be in the same relevant market. Whether this is so depends on the effectiveness of substitution as a competitive constraint, both between links on the chain and between products on the chain and other potential substitutes. This fact justifies the caution enjoined by the Notice with regard to the use of chains of substitution to define markets. Chains of substitution are however particularly valuable to analyse the geographical dimension of market definition, as substitutability between directly neighbouring areas can lead to effective competitive constraints across wider regions.

A1.85 For example, if a CD is substitutable for other CDs by the same artist and for contemporaneous CDs in the same sub-genre, then depending on the strength of these competitive constraints, the structure of the relevant markets may involve artist-specific markets, sub-genre and data-specific markets, and combinations of these. Each CD will in all likelihood find itself in a number of such relevant markets, defined as any set of CDs such that a hypothetical monopolist over them would have market power, but removal of any one title from the market would mean that, together, all the substitution options at the boundary of the market would lead to a competitive constraint on a hypothetical monopolist.

APPENDIX 2: CHALLENGES TO THE TRADITIONAL FRAMEWORK

Introduction

- A2.1 Some commentators have expressed concern with the traditional approach to market definition based around the hypothetical monopolist test, in particular that it is especially unsuitable with respect to “new economy” industries.
- A2.2 This section seeks to assess these claims, attempting to distinguish between those arguments which entail a modification to the market definition approach that is still broadly consistent with the Notice, and those arguments which concern the role of market definition more generally and its value as a first step in an assessment of dominance.

Theories of Competition in the “New Economy”

- A2.3 The “new economy” has received considerable attention from economists in the field of competition policy. As outlined below several of the key features of the media sector also pertain to the new economy. Consequently, the following discussion of whether a modified approach to market definition is needed draws on the literature and discussion of competition policy in the new economy where this is relevant to media markets.
- A2.4 Evans and Schmalensee (2001, p 4) describe the defining feature of new economy industries as “a competitive process dominated by efforts to create intellectual property through R&D, which often results in rapid and disruptive technological change”. They highlight the following characteristics of the new-economy as departures from “textbook” economic models of competition:
- (a) low-marginal costs and high fixed costs;
 - (b) labour and human capital intensity;
 - (c) network and system effects;
 - (d) innovation as a series of winner-take-all races; and
 - (e) highly profitable industry leaders.
- A2.5 All these features can apply to the media industry.
- A2.6 Most fundamentally, there are obvious parallels between R&D and the creation of media content. R&D is essentially aimed at producing an output (knowledge) that is an information good, it can entail large sunk costs and possibly low marginal costs, and intellectual property rights (particularly patents and copyright) are often important.
- A2.7 Likewise, but perhaps less obviously, media content is often subject to strong dynamic competition, sometimes showing winner-takes-all characteristics. Indeed the Schumpeterian notion of creative destruction is perhaps at its most extreme in the media

sector. A prime example is that of the music industry where CD singles for the latest pop songs may have a very short lifetime before they are replaced in consumers' preferences by newer songs, and may face very high risks of complete commercial failure. But there is also substantial dynamic competition in the distribution of content, such as competition between rival technologies for broadcasting networks.

- A2.8 Some authors have claimed that market definition is not useful, particularly in new economy cases, and may actually be an obstacle to a robust analysis of the competitive process. Others have argued that the hypothetical monopolist framework is not suitable for industries characterised by rapid innovation and that a broader approach is needed. The following sections assess these views and their relevance to media cases.

Market Definition as Unnecessary

- A2.9 The concerns with market definition reflect two interrelated views. On one hand, it could be argued that in certain cases, market definition confers no benefit to competition policy analysis, and that the correct decision can be achieved without this step. This viewpoint is analysed in this section. On the other hand, as discussed in the following section, it can be argued that in certain cases, market definition hinders the analysis, reducing the likelihood of the correct decision being reached.

- A2.10 According to the first argument, the ultimate aim of competition policy analysis — such as assessment of the likely effects of a merger or the assessment of abuse of dominance — can be undertaken without defining markets. Stigler and Sherwin (1985, p 583) protest against the reliance placed on market definition in the 1982 US Horizontal Merger Guidelines:

“Why the factual enquiry necessary under this 5 per cent [hypothetical monopolist] approach — coupled with quantification of market shares and judgement concerning the level and changes in concentration — is any easier than asking directly whether the merger will result in an increased price (the question that is, after all, the one to be answered) is beyond us.”

- A2.11 This is in line with the “first principles” approach given by Steven Salop and advocated in a recent UK Office of Fair Trading (OFT) discussion paper on competition policy in new economy industries.

- A2.12 Salop (1999, p3), emphasises that market power and market definition:

“Should not be analysed in a vacuum or in a threshold test divorced from the conduct and allegations about its effects. Instead, market power should be measured as the power to profitably raise price above the competitive benchmark price, which is the price that would prevail in the absence of the alleged anticompetitive restraint. The competitive benchmark may be the current price, the perfectly competitive price or some other in-between price, depending on the particular allegations of anticompetitive effect being asserted.”

- A2.13 He denotes this integrated approach to competition policy analysis the “first principles” approach. At first sight, one may wonder exactly what is different. Nobody sensible would suggest conducting policy analysis in a vacuum. But part of this approach entails the option for going straight to the assessment of abuse and avoiding market definition. Salop (1999, p3) goes on to say that “it will often be possible to avoid useless quibbling over the exact scope of the relevant market and focus instead on the actual factual disputes over the likely effect of the conduct on consumer welfare.”
- A2.14 Similarly, Dumont (1999) notes that, in many cases, (US) courts tend to ignore traditional methods of market definition when analysing whether the defendant controls an essential facility. She argues (p 144) that:
- “When one must look for a monopoly, determining a relevant market in which to look and in which to evaluate competitive effects is obviously an essential step. But when one can see the existence of market power, not by inference from market shares, but by determining actual ability to exclude competition and control prices, there appears no real need to go further.”
- A2.15 A recent discussion paper prepared for the OFT (2002, p 42) argues that, especially in new economy cases, the assessment of allegations of anticompetitive exclusionary conduct does not need to define markets and assess market power. In some cases a dominant position could be inferred directly from an assessment of conduct:
- “In cases where the relevant form of market power is exclusionary, one must often modify the standard paradigm to include the analysis of several markets because the exclusionary conduct frequently occurs in a market other than the one that is being protected. Further, the determination of whether exclusionary conduct has occurred is not only the central focus of the analysis but also the existence of successful exclusionary conduct also tells you that exclusionary [market] power exists.”
- A2.16 There are certainly cases in which it is possible to correctly infer dominance without market definition or explicit assessment of market power. In this respect, market definition is not always necessary. But a compelling reason for undertaking market definition exercise is that, when dominance is found (by whatever method), it allows for the market in which market power is held to be set out. Even if market definition is not necessary to establish that a particular dominant position exists, it is valuable in informing on the scope and nature of this dominance.
- A2.17 Most firms supply multiple services (and sometimes could supply services for which there are no current transactions). Labelling a firm as dominant would not pin down the activities it has market power in, or the precise types of behaviour which it should refrain from engaging in. An argument in favour of market definition to be undertaken and described fully in decisions of the competition authorities is that this would enable competition law to be better understood by managers of companies that operate in a variety of competitive and non-competitive markets, thus making the law more effective as a way of preventing or deterring abuse.

Market Definition as Potentially Harmful

A2.18 Turning to the second of the concerns, strong criticism that market definition can be a harmful step must be based not on the market definition exercise per se, but rather what will be done with it.

A2.19 Fingleton (2000, p39) argues that:

“Dependence on market definition may not be healthy. For one, it leads to a fixation with concentration. Second, it may actually distort the market definition and make it inconsistent.”

A2.20 Fingleton’s first concern is that competition authorities will assess market power placing far too much emphasis on concentration indices such as market shares, thus even if the market definition itself is sound, the assessment of dominance (and ultimately the decision of the competition authority) may not be. He argues strongly that a high market share should not, on its own, imply dominance and a low market share should not, on its own, imply lack of market power. Along similar lines, Evans and Schmalensee (2001, p 19) worry that the courts and enforcement agencies have become “fixated on markets shares” and that this has shaped market power assessment.

A2.21 This first point made by Fingleton is clearly criticism at how the assessment of market power, rather than market definition, is undertaken. Nevertheless, if we feel that market definition does have a tendency to lead competition authorities to place undue reliance on market shares, then it would be wise to leave off market definition if there are no compensating benefits.

A2.22 Fingleton’s supports his second point, contending (p 40) that:

“[I]f a court believes a firm has market power, but sees that it has several competitors, it faces a choice between finding market power on a low market share or defining the market narrowly (possibly down to a single brand) and boosting the market share to levels that make a finding of market power appear reasonable.”

A2.23 Fingleton thinks that a requirement for market definition can be self-defeating: an assessment of dominance could be made independently of market delineation, but a requirement for market definition could then lead to (potentially incorrect) relevant markets that best fit with this finding. Again, the criticism is not at market definition per se, but more the inter-relationship between market definition and the finding of dominance.

A2.24 Thus, the root of Fingleton’s criticism concerns how to appropriately assess market power. But so long as market shares and concentration indices do not have a foothold on the assessment of dominance, market definition is not detrimental.

Alleged Weaknesses of the Hypothetical Monopolist Test

A2.25 Others have expressed the view that in new economy industries in particular, market definition grounded in the hypothetical monopolist test is especially ill-suited. Instead,

they argue, a broader approach to market definition is appropriate which takes account of the dynamic nature of competition in such industries.

- A2.26 Hruska (1992) discusses (US) product market definition in innovative industries, in the context of a 1991 joint venture between IBM and Apple. He argues against the use of narrow market definition based on a hypothetical monopolist framework, in favour of a “broad market” approach, in which the entire industry is considered, including the “whole spectrum of partial substitutes ... and the range of potential competitors ... who could enter the market however long it might take” (p 311). However, much of Hruska’s concerns with the “smallest market approach” of the US Merger Guidelines are associated with the progression straight from market definition to the calculation of concentration measures (HHI) and the important role these in turn can play in the final analysis (in the US).
- A2.27 It is true that a joint venture for innovation could result in a product being produced for which the relevant market under a hypothetical monopolist framework is very narrow (perhaps just the product in question), entailing a very high degree of concentration by the parties involved in the joint venture. But this is not a reason to define the market more widely. Indeed, since innovation may require large sunk costs and entail significant risk of failure, an expectancy of (temporary) market power for success could be needed to provide incentives to innovate. If so, any approach that leads to such a wide market definition for the output of the innovation that market power is never found would be misleading. In fact, the potential fault that Hruska highlights is not in the assessment of the relevant market or of dominance, but rather in the way in which this assessment may inform decisions. It is often appropriate for competition authorities to allow the existence of a dominant position, and sometimes even to bless its creation, as a quid pro quo for innovation: it is better for consumers to have a monopoly supplier of the innovative product than to have no innovation. In these circumstances, it would be wrong for a competition authority to pretend that the dominant position does not exist because the industry is competitive “in the whole”, meaning in the development of other innovations. Not only would this be intellectually unsatisfactory, it could also impair the ability of the authority to prevent the abuse of dominant positions that it refuses to see, for example through denial of access to essential facilities or through anti-competitive bundling or tying.
- A2.28 More recently, Evans and Schmalensee (2001, p 20) argue that although “the purpose of market definition and market power analysis is to learn to what extent competitive forces constrain the ability of a firm or set of firms to engage in actions that will harm consumers”, traditional market definition analysis can present a seriously misleading picture of competitive relations in new economy industries. Their point is that the threats that constrain new economy firms are typically threats from innovating firms. They argue that static market power analysis (e.g. that which would be undertaken based on the hypothetical monopolist framework) is insufficient to investigate such firms’ market power (p24):

“Static market power does not provide a useful measure of the constraints that market forces place on efforts by a firm to take anti-competitive actions — those that will tend to reduce consumer welfare. In most traditional businesses, firms are primarily constrained by their direct competitors in the market. In some cases, potential competitors are also an important constraint because it is easy to enter the business, produce comparable products, and compete effectively. ... In many new-economy industries, on the other hand, leading firms are constrained mainly by rivals — known and unknown — that are investing or could easily invest in drastic innovations.”

- A2.29 The problem with this objection to the market definition paradigm is that static market power (in the sense of that which a hypothetical monopolist may hold) does matter. Even if a firm faces dynamic competition and competition on many other fronts, a monopoly position in a relevant market may provide potential for behaviour that distorts competition. While the big picture is certainly important, and no competition policy analysis in such cases should focus only within one relevant market, there is still danger in ignoring monopoly positions.
- A2.30 A pertinent example concerning the debate between whether market definition should focus on “narrow” product markets (as defined under a hypothetical monopolist framework) or should take a more broad “industry” view, can be found in mobile telecommunications. It may be the case that under the calling party pays model, under circumstances including (a) that subscribers do not worry too much about the price callers to them face and (b) a call to a person’s mobile is not easily substitutable for an e-mail, text message or fixed line call, call termination to an individual mobile subscriber could constitute a separate market under the hypothetical monopolist test. On the other hand, at the retail level, mobile network operators may compete in a single market with a strong inter-relationship with the other services they provide (including termination), such that any rents earned in termination monopolies are competed away. On these grounds, competition assessment may well wish to take account of the broad picture and not focus solely on the termination market. However, while this is certainly the correct approach for overall analysis, there is still merit in defining the market for termination, as under the hypothetical monopolist framework. To do otherwise could overlook the potential for anticompetitive behaviour for termination services, in which market power may well exist. Thus, it is important to understand in what activities the operator does have market power and in what activities it does not, and market definition is a key tool in the development of such an understanding.

An Alternative Hierarchical Approach

- A2.31 Nesvold (1997) sets out a proposed alternative approach to market definition in the media industry, based on a hierarchical framework. Since this approach is based on substitutability and product characteristics it does not seem entirely inconsistent with the Notice on Market Definition. As such, it is worthy of consideration, even if only as a potential additional tool in media cases.
- A2.32 Nesvold highlights various criticisms with the market definition approach taken by the US courts in cases covering newspapers, movies, television and radio. He argues, for

instance, that there has been significant inconsistency: on one hand in some newspaper cases the courts have been overly narrow, defining the product market “microscopically” as “daily local newspapers”; on the other hand, the FCC’s grouping all information and entertainment media into a single market is too broad.

- A2.33 By way of a solution, he suggests that problems in market definition can be reduced by recognising four factors. First, that consumers’ perception of media substitutability varies with the content of that media. Second, that consumers’ “propensity to substitute” media is a function of the medium through which the content is distributed. Third, that regulation of content on some forms of media may be different from the regulation on other forms, which can impact on, and potentially limit, competition between the forms (an example might be a listed sporting events policy imposing different restrictions between free-to-air and pay-television). Fourth, that multimedia firms can now provide “one-stop shopping” to their customers, which may affect market definition.
- A2.34 Nesvold advocates a three-step process for defining product markets in the multimedia industry:
- (a) create “content genres”;
 - (b) exclude non-substitutable media; and
 - (c) incorporate “cluster markets”.
- A2.35 The first stage involves grouping similar content genres (defined as “a group of texts set apart by similarities in format, length, or content, such that viewers consider them reasonably substitutable”). Examples given are “motion pictures”, “news” and “variety shows”. The initial split by content genre is justified on the basis that “different media do compete, but only to the extent that they communicate similar messages.”
- A2.36 Turning to the second step, Nesvold gives four reasons why markets for the same content genre may need to be delineated according to means of communication: (1) technical restrictions (e.g. newspapers cannot report live news) or regulatory restrictions (content regulation may differentiate between television and video); (2) diehard consumers (with very inelastic demand for content by a particular form); (3) temporal price discrimination (e.g. movies by video versus movie at cinemas); or (4) bundling. Markets may need to be sub-divided along these lines. Nesvold gives the example of the “sports genre” for which division is necessary between live sports exhibition and “anecdotal” sports reporting because certain media such as newspapers or movie theatres cannot transmit real-time images.
- A2.37 The third stage is to incorporate “cluster markets” and other supplier behaviour. Thus, products that do not compete may be grouped together if they are usually sold as a bundle. As an example, Nesvold suggests the grouping of fixed-line telephony, wireless communications and cable television into a single market because the US Telecommunications Act allows for cable and telephone companies to offer packages made up of these components.

- A2.38 In summary Nesvold's approach seems to be: (i) identify candidate markets based on content genres; (ii) where appropriate delineate markets by types of distribution where this substantially affects substitutability and (iii) aggregate candidate markets into a broader market according to consumers typically buying bundles of products.
- A2.39 Nesvold says that the same type of approach can be used for geographic market definition. He suggests the following as useful guides for defining the geographic market, although ultimately this should be defined on account of any "commercially significant area" that can reasonably be argued to confine the commercial activities:
- (a) any overlap of broadcasting signals;
 - (b) the area of a certain periodical's circulation;
 - (c) industry and regulatory definitions of the geographic market;
 - (d) the existence of any trade associations, societies, or journals;
 - (e) and, to a lesser degree, both parties' stipulations of the appropriate geographic market.
- A2.40 Nesvold gives a practical approach. But it is wrong from an economic point of view. It is wrong to consider content only insofar as broad genres. This is easily recognised by considering exclusive (territorial) rights to broadcast the World Cup finals — it is clear that the competitive constraints for these rights are completely different from those for the rights to broadcast a minor sports event, irrespective of whether the two can be considered to fulfil the same consumer need. Under a hypothetical monopolist framework, the competitive constraints that the broadcaster of the World Cup final would face could be very weak, whereas for other events, competition could come both from similar events in the same sport, different sports, and from other types of content (e.g. movies, general entertainment programming).
- A2.41 Furthermore, there is potential that content distributed in one way could compete with quite different content distributed another way, even though the same two forms of content would not compete if distributed differently. For example, music may be substitutable within very broad classes if used as background music in a shop, whereas purchasers of CDs or online music may not substitute between different artists or records.
- A2.42 In addition, the scope of the "content genre" that Nesvold advocates may vary with the age of each of the products within. Mixon and Ressler (2000) present results from an econometric study on price dispersion using US data, which are consistent with demand for new releases being more elastic than demand for older CDs. They explain this by "differing buyer characteristics and varying levels of close substitutes", in particular that customers of older CDs are more likely to be devoted fans of the artist than the customers of new releases. Although not a formal market definition exercise, if this inference is correct, it would suggest that the relevant market for a CD will vary not only by artist, but also along the product life cycle.

- A2.43 Finally, and crucially, under Nesvold's approach, products that are not demand-side or supply-side substitutes may be treated as a single product market by the fact that they are usually supplied and purchased as a bundle. This is a flawed approach. Firms compete in the supply of products, not in some general sense. Just because the same firm supplies lots of products does not mean that these should be in one big market.
- A2.44 The rejection of this example of a hierarchical approach supports our view, outlined elsewhere in the report, that there is unlikely to be any viable short-cuts or off-the-shelf techniques for market definition in the media sector. Instead, each case should be analysed in its own right, drawing on a clear conceptual understanding of the hypothetical monopolist technique and augmented by appreciation of how different evidence and assumptions can be used to inform on substitutability.

Conclusions for the Media Sector

- A2.45 If the expectation were that market definition leads straight to a calculation of market shares and that market shares lead straight to a conclusion on dominance, then we should be wary of market definition. Even if the market definition is undertaken well, such an approach would be likely to lead to incorrect results. To say this, however, is little more than to say that mistakes will be made if analysis is done badly. This should be separated from the question of whether, even if market definition and market power analysis are undertaken well, the hypothetical monopolist test is suitable for media markets.
- A2.46 There is also danger in viewing market definition as a tool for focusing the analysis. Some of the criticism associated with traditional market definition tests being applied in the new economy seem to come from concerns that a "narrow" market definition (resulting from a hypothetical monopolist test) will lead to narrow analysis, with insufficient emphasis on potential entry and dynamic competition as restraint on market power. However, there is no reason why a narrow market definition should lead to narrow analysis of market power.
- A2.47 In fact, we would argue that market definition, if well done, entails a clear description of the relationships between markets, and enables the scope of any dominant position to be identified and distinguished from the operation of competition in other, sometimes closely related, markets. Thus, market definition grounded in the hypothetical monopolist test is an essential part of a robust competition analysis, and should remain a key step in the analysis of competition in media cases.
- A2.48 Finally, the review and dismissal of the hierarchical approach to media market definition illustrates an important point. Market definition in the media sector can be particularly laborious: many markets may have to be defined, even multiple markets for the same service. For example, the relevant market for the retail supply of a particular CD could be at the artist or even title level, with clear implications for the resources required for an investigation. Given this, it may not be a surprise if there is temptation to look for shortcuts such as circumventing detailed analysis by creating "content genres" and undertaking market definition almost by "recipe book". But such an approach will lead to

incorrect results. As far as we can see, there is no simple approach or shortcut around these issues.

A2.49 The fact that market definition, properly done, may be complex or demanding in media cases is no justification for a simpler, but flawed approach.

APPENDIX 3: CATEGORISATION OF TRADITIONAL TECHNIQUES

Introduction

A3.1 This appendix outlines the evidence required by traditional techniques for market definition, which we have classified as follows:

- (a) methods based on a direct assessment of substitutability, including transport cost, diversion ratio and cross-price elasticity analyses;
- (b) residual demand analysis, which underpins the most direct form of empirical application of the SSNIP test; and
- (c) methods based on the analysis of market outcomes, including price correlation and stationarity tests, shock analysis, price/concentration and profitability analyses.

Direct Assessment of Substitutability

A3.2 Given the essential role of substitutability for market definition, a natural approach is to collect evidence on substitutability itself.

A3.3 A first valuable source of information on the substitutability between products in the candidate market and those outside can be provided by surveys of, and interviews with, customers and suppliers active in the relevant market. These may provide information on a number of issues, including:

(a) For consumers:

- What do consumers see as close substitutes?
- What are consumers' switching-rate and what are their drivers?
- What do consumers see as barriers to substitution to similar products?

(b) For suppliers:

- Who do suppliers consider as their competitors?
- What is the geographic area over which suppliers compete?
- Do suppliers behave as if supplying different customer segments?
- Is switching production from other products technically feasible and at a sufficiently low cost to make the switching firm competitive with existing suppliers?

A3.4 Though generally qualitative in nature, the answers to the above questions will provide insights on which to build a more detailed analysis, including quantitative analysis where appropriate.

- A3.5 Survey of market participants can be structured to estimate diversion ratios, defined as the proportion of sales of product A lost as a result of a hypothetical price increase or non-availability that are re-directed to product B, which provide an indication (but not more than an indication) as to the likelihood that the price of a product is constrained by competition from a particular product or group of products.
- A3.6 Surveys can also be complemented by other sources of evidence about substitutability, in particular information about transport costs in the context of geographical market definition, or more generally evidence relating to switching costs. Such evidence can be obtained directly, or inferred from the prevalence of trade or switching in the market.
- A3.7 The feasibility of substitutability can also be estimated on the basis of estimated cost structures of suppliers and customers. For example, substitutability between different digital television platforms can be estimated by assessing the costs (including an allowance for disruption) that would need to be incurred by customers to switch, and comparing this with the benefit of switching to another system in the event of a hypothetical price increase (a worked example of such a technique is provided in Section 3.4).
- A3.8 A similar analysis can be done for supply-side substitutability. If the costs of switching production between products are sufficiently low, so that a firm could compete profitably with existing suppliers if they raised prices by, say, 5-10 per cent, then the capacity of all such potential competitors should be considered as falling within the relevant market.
- A3.9 In cases where time series data for prices and volumes are available, it may also be possible to estimate cross-price elasticities between products. High positive cross-price elasticities might suggest that the two relevant products are close substitutes and should fall within the same relevant market. However, there is no threshold beyond which a cross-price elasticity can be considered high enough to lead to a broad market. In the same way as with diversion ratios, cross-price elasticities provide at best an indication for market definition. Even if they can be robustly estimated, they do not provide direct reliable evidence of the effective of competitive constraints, and cannot therefore be considered as a good basis for defining relevant markets.
- A3.10 In fact, Kamerschen and Kohler (1993, p 913) argue that:
- “Knowledge of all the cross-elasticities is unnecessary because it is unimportant which other firms in the market discipline most effectively a firm’s pricing behaviour. Only the total effect of the other firms is important.”
- A3.11 Whilst it is true that only the total effect is relevant for estimating the strength of the constraint on a firm’s pricing, we argue in Appendix 1 that it is not sufficient to achieve a meaningful market definition. Only if the hypothetical monopolist would be constrained by the threat of switching to products with similar characteristics and intended purpose does the relevant market need to be defined more broadly than the hypothetical monopolist. Thus, it matters which firms or products act as constraints on pricing behaviour.

Residual Demand Analysis

A3.12 It has been claimed that, despite its conceptual attractiveness, the SSNIP test is in fact very difficult to implement in practice, in particular because the data required to apply it directly are hardly ever available. When referring to the SSNIP test, for example, Stigler and Sherwin (1985) argue that:

“[...] this market definition has one, wholly decisive defect: it is completely non-operational. No method of investigation of data is presented, and no data, even those produced by coercive process, are specified that will allow the market to be determined empirically”.

A3.13 Nevertheless, in certain circumstances some form of empirical application of the SSNIP test may be possible. The quantitative methodology for the direct application of the SSNIP test is known as residual demand analysis.

A3.14 The residual demand curve facing a single firm represents the relationship between the firm's prices and quantities, taking the reaction of all other firms into account. The specific shape of a firm's demand curve is determined by the underlying demand behaviour of consumers and the supply behaviour of producers of substitutes. Scheffman and Spiller (1987) point out that, in defining antitrust markets as specified in the US 1982 Merger Guidelines, the hypothetical monopolist or cartel must be large enough to “render the residual demand curve faced by that cartel of sufficiently low elasticity to make the price increase profitable”.

A3.15 In identifying the residual demand function, a simultaneous equation method is required. The data required for this type of analysis might include price and quantity data for the products being investigated, transportation costs (in the case of geographic market definition) or other switching costs, a vector of demand shifters (e.g. average income) and a vector of supply shifters (e.g. regional input costs or capacity conditions), as well as stochastic shocks in the residual demand.

A3.16 For example, in defining the geographic market of gasoline refining in the Eastern United States, for example, Scheffman and Spiller (1987) use data on crude oil price, energy use, transportation cost and by-product production in different regions as cost shifters and on industrial production, personal income, travel-related gas use and quarterly seasonal dummies for these regions as demand shifters. Residual demands were estimated for different combinations of regions until relevant geographic markets were found.

A3.17 Residual demand analysis may also be employed in market definition for industries where there is product differentiation. Kamerschen and Kohler (1993), for example, applied residual demand analysis to the market for ready-to-eat breakfast cereal. In their paper they argue in fact that residual demand analysis is a means of assessing economic power directly (p 905):

“[...] despite the shortcomings of this approach, it does go to the real issue of whether the price will increase as the result of, e.g., a proposed merger as it identifies the reasonable

alternative firms and products available to consumers that impose constraints on the behaviour of firms.”

A3.18 In summary, at least at its simplest, residual demand analysis reflects the assertion of Ekelund et al. (1999, p 248) that:

“the own-price elasticity of demand summarises in one parameter all of the relevant substitution possibilities for a given product.”

A3.19 It should be noted that even if reliable estimates of own-price elasticity for a product (or group of products) can be obtained, implementing the SSNIP also requires information on marginal costs of production in order to assess whether a hypothetical price increase would be profitable.

A3.20 Furthermore, there are cases where Ekelund et al.’s generalisation does not apply, because own-price elasticity does not adequately capture the extent to which constraints on prices are of a competitive nature. As argued above, only the threat of substitution to products with similar characteristics and intended purpose can be described as a competitive pressure. Thus, at least for dominance cases, it is necessary to estimate the component of own-price elasticity that is attributable to competing products, i.e. assuming that substitution to other products (or to no purchase) is not possible. This can make the practical implementation of a residual demand analysis or SSNIP test for market definition even more difficult than envisaged by Stigler and Sherwin.

Inferences from Market Outcomes

A3.21 A final class of methods rely on the analysis of market outcomes, and in particular market responses to changes, in order to infer results about market definition. These methods are numerous and diverse, and the main ones are briefly outlined below.

A3.22 Shock analysis is based on the consideration of past shocks on prices and, if data are available, volumes. For example, if a major football tournament leads to relatively high prices for television advertising, but newspaper advertising rates are unaffected, then the two forms of advertising are probably in different relevant markets (unless countervailing influences can be identified). However, it is difficult to make an inference that any two products are in the same relevant market: unusually high demand and high prices for beer would not indicate substitutability between beer and advertising.

A3.23 Price correlation analysis is a similar approach, but based on econometric analysis of all past data rather than anecdotal evidence relating to particular events. If prices of two products are not correlated, then it is not likely that they constrain each other; although it should be noted that the correlation can be masked by other factors. And as with shock analysis, no inference can be made from strong correlation between the prices of two products, which could be caused by a range of factors, such as complementary demand or the use of common inputs in production, which need not indicate competition between the products.

- A3.24 The stationarity test is a refined version of price correlation, under which the hypothesis that the ratio of the price of two products is stationary is submitted to a statistical test based on time-series data (or, in a refined version, the two prices series are subject to a co-integration test). Again, whilst non-stationarity of relative prices may be taken to indicate separate markets (subject to similar caveats as for price correlation tests), no inference can be made from stationarity.
- A3.25 Causality tests rely on time-series analysis to derive causal relationships between, for example, price changes of different products. Such inferences can be used to justify models of the operation of competition, which can in turn inform market definition.
- A3.26 Price/concentration analysis uses empirical relationships between market concentration and price levels to test potential market definitions. If a significant relationship between price and number of competitors is found with a narrow market definition (e.g. narrow geographical regions), then the narrow markets are likely to be relevant markets. If there is no such relationship, then it is possible that competitive constraints across boundaries of the narrow markets may be effective, and that the relevant market may be broader; but price/concentration analysis would not provide strong evidence that this is so.
- A3.27 Bidding studies extract empirical relationships between, for example, the number of bidders and the prices offered and/or paid, to assess whether the participation of different types of potential suppliers appears to exert a competitive pressure on other bidders, which is then reflected in their bidding behaviour.
- A3.28 Profitability studies compare the observed level of prices with estimated prices under different possible competitive situations. Thus, a price well above the estimated competitive level may be taken to imply a lack of effective competition, and therefore an effective barrier to substitutability with potentially competing products. However, it is often impossible to construct a robust estimate of the competitive price level, although cost models or observed prices in similar markets (perhaps in other countries) are sometimes believed to provide relevant information.

Interplay between Techniques

- A3.29 Whilst they are all market definition techniques, it is essential to understand the different conceptual bases that underpins techniques in each of the categories reviewed above:
- (a) direct assessments of substitutability inform direct thought experiments based on the hypothetical monopolist test framework;
 - (b) residual demand analysis enables the effectiveness of constraints faced by a hypothetical monopolist to be quantified; and
 - (c) inferences from market outcomes provide additional guidance on the likely compatibility of different market definitions with observed behaviour and prices.

A3.30 Thus, direct assessments of substitutability consider the causes of substitutability at the lowest level of aggregation (consumer and supplier behaviour); residual demand analysis quantifies substitutability and the existence of competitive constraints at the level of total market demand and supply; and inferences from market outcomes do not consider substitutability at all, but instead identify some of the consequences that might be expected from the existence or otherwise of competitive constraints.

A3.31 These fundamental differences in kind imply different weaknesses for these techniques:

- (a) direct assessments of substitutability are often subjective, and often require specific data (e.g. survey data) to make the conclusions drawn from them appear robust;
- (b) residual demand analysis cannot distinguish between competitive constraints and other constraints on prices, and in particular cannot be used as such to define markets in which a dominant position may exist; and
- (c) none of the tests based on analysis of market outcomes is a robust guide to market definition: in all cases there are credible circumstances in which incorrect market definitions may be found valid, or correct market definitions may be rejected.

A3.32 Moreover, all quantitative techniques, especially residual demand analysis, require data that will rarely be available in a reliable form.

A3.33 As a result of these weaknesses, it is not advisable to draw any conclusions from any particular “test” for market definition. Instead, market definition must be justified in terms of a direct and rigorous analysis of substitutability within the framework of the hypothetical monopolist test, with the tests and techniques outlined above being used to support elements of the reasoning where possible, but not on their own as evidence for any particular market definition.

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