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DEFINING GEOGRAPHIC MARKETS ACROSS NATIONAL BORDERS

-- Background Paper by the Secretariat --

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More documentation related to this discussion can be found at
www.oecd.org/daf/competition/geographic-market-definition.htm

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DEFINING GEOGRAPHIC MARKETS ACROSS NATIONAL BORDERS

Background paper by the Secretariat *

Abstract

Geographic market definition is an important and challenging exercise that defies cursory analysis. This paper describes the process with an emphasis on markets that may extend beyond national borders. It also discusses how geographic market definition fits relative to competitive assessment, and the tendency of some authorities to leave definition open in cases where no competition concerns are present.

The range of evidence that must be considered when assessing the geographic scope of markets is wide. Significant price differences across countries may point to heterogeneity in competitive conditions, and therefore a narrower market definition, but pricing analysis can generate misleading results. Import flows and their responsiveness to a SSNIP should also be considered, but this process can be speculative and is viewed sceptically by some competition authorities. In light of the complexities and criticisms inherent in the use of pricing and import data, competition authorities and practitioners should carefully consider ancillary evidence as well. While they may not be determinative on their own, product characteristics, transport costs, regulatory and trade barriers, consumer preferences and market dynamics play an important role in shaping the geographic scope of a market.

New challenges may emerge in future market definition exercises. In particular, there are variations in the treatment of foreign competition in merger assessment guidelines across jurisdictions. Although it appears that these variations have not led to substantially different decisions across jurisdictions, they may create uncertainty. Competition authorities should remain vigilant to the fact that an overly expansive (or unnecessary) geographic market definition could impact future merger cases, and could undermine the efficacy of remedies. This risk is particularly pronounced given current market trends, which could indicate an increase in global market definitions (or at least claims of global markets from notifying parties). As a result, authorities should use caution, take in all the available evidence and, whenever possible, co-operate with each other in the definition of international geographic markets.

* This paper was written by James Mancini, OECD Competition Division, with valuable comments from Sabine Zigelski and Despina Pachnou.

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1. Introduction

1. The definition of a geographic market in merger reviews or antitrust proceedings can be a controversial process. As with product market definition, parties may be motivated to promote the geographic definition that best alleviates concerns about the competitive impacts of a merger or other conduct (often the widest possible market definition). This can lead to pronounced disagreement with competition authorities, particularly where there is a possibility that a market stretches beyond national borders. In such cases, parties often raise the spectre of low-cost foreign competition, whether actual or potential, and emphasise the effects of globalisation. Competition authorities may need to tread carefully given the implications of broad geographic market definition decisions for future cases involving the same market. For instance, characterising a market as global rather than regional, continental or an even broader subset of the globe can significantly affect future merger approvals within and beyond a competition authority's jurisdiction.

2. So how should enforcers and practitioners approach geographic market definition involving broader than national markets? In 2012, the OECD Competition Committee held a Roundtable meeting on market definition that highlighted some of the challenges inherent in the process and concluded that, despite criticism and some assertions that it is unnecessary, market definition remains an important step in a competition investigation (see OECD, 2012). Many of the complexities identified with respect to product market definition in those discussions apply equally to geographic market definition. However, there are also some unique considerations that apply only to delineating the geographic scope of a market. This paper will identify some of these considerations. Specifically:

- **Section 2** provides a brief introduction to the concepts behind geographic market definition.

- **Section 3** describes current approaches to geographic market definition in terms of evidence and analysis. It describes the benefits and drawbacks of using pricing and import data, and identifies some areas of controversy, such as supply substitution. It also identifies a range of ancillary factors that should inform analysis supporting the delineation of a geographic market.

- **Section 4** sets out some of the specific challenges associated with defining geographic markets, including differences in approaches across jurisdictions. It also identifies some of the long-term considerations that may affect future geographic market definition exercises, particularly the potential broadening of geographic market scopes and the attendant implications for competition authority data access and co-operation.

3. In sum, this paper seeks to underline the importance of a well-designed approach to geographic market definition, as well as the need to consider all available evidence rather than rely on one particular tool or indicator. Further, there is a pressing need in increasingly globalised markets for competition authorities to share information as well as experience in order to inform market definition decisions.

2. The concept of geographic market definition

4. The definition of an antitrust market is an important process for competition authorities and practitioners in order to assess the competitive effects of a merger or firm conduct. OECD (2012) summed up this process of market definition as follows:

> *"Market definition serves several purposes in identifying the scope of competition in a market. The main goal of market definition is to assess the existence, creation or strengthening of market power, which is defined as the ability of the firm to keep the price above the long-run competitive level. The market shares of the respective firms provide an indication of market power. Market*

definition also facilitates the identification of relevant competitors and is useful in evaluating the risk of potential co-ordinated effects in mergers. In addition, identifying the area of competition allows other relevant competition issues to be examined, such as potential barriers to entry."

5. A market is defined both in terms of the relevant product and the geographical area within its scope. The US antitrust authorities' Horizontal Merger Guidelines note that "The arena of competition affected by the merger may be geographically bounded if geography limits some customers' willingness or ability to substitute to some products, or some suppliers' willingness or ability to serve some customers. Both supplier and customer locations can affect this" (p. 13). The Guidelines indicate that geographic markets are generally based on the location of the suppliers, unless suppliers are able to discriminate based on consumer location (as described in Section 3.1). The European Commission ("EC") has for its part emphasised consumer location, noting that "market definition is essentially a customer-focused exercise: it is all about finding out what alternative suppliers are available to customers in a given area. If customers cannot rely on suppliers located outside of this area, those other suppliers are not part of the relevant geographic market" (EC, 2015).

6. The most commonly used tool in market definition is called the hypothetical monopolist test. This test generally defines the geographic market as the smallest area in which a hypothetical monopolist could profitably impose a small but significant and non-transitory increase in price (SSNIP) above the competitive price level.[1] So, for example, the geographic market for groceries in a remote area would consist of the narrowest region in which a single supermarket could profitably impose a 5-10% price increase on its customers due to (i) the inability (or unwillingness) of those customers to travel to purchase from substitute stores located outside the region and (ii) the inability of supermarkets outside of the region to supply customers within it. In some high-technology industries where there are only a handful of producers and sophisticated consumers around the world, the geographic market could be defined as global, since a hypothetical monopolist in a narrower geography could find a SSNIP is unprofitable due to the availability of other substitutes from foreign producers.

7. Critical loss analysis is a quantitative method for carrying out a SSNIP test. A critical loss is the decrease in demand that would be sufficient to make a SSNIP unprofitable, despite the increased margins for a hypothetical monopolist on each sale. To implement this analysis, the critical elasticity must be computed – that is, the elasticity at which a SSNIP would be unprofitable. If the actual elasticity observed in a market is below the critical elasticity, the imposition of a SSNIP by a hypothetical monopolist would therefore be expected to be profitable, since the resulting drop in demand would be less than the critical loss (see OECD, 2012, p. 36 for further discussion). Critical loss analysis has been criticised by some who find that it implies high margins make merging firms less likely to raise prices (O'Brien and Wickelgren, 2003). As noted in OECD (2012, p.39): "If the necessary information to carry out a thorough critical loss analysis is available, that is diversion ratios and margins are known, this information in itself would almost be sufficient to estimate market power directly without defining a relevant market in the first place." Because such data is often not available, alternatives including econometric analysis, pricing event studies and qualitative evidence are often used. OECD (2012) advised that "Even when the necessary data to perform the hypothetical monopolist test are not available, this test provides a coherent conceptual framework to define the relevant market" (p. 11).

2.1 Market definition versus competitive assessment

8. The concept of market definition is, in formal competition authority proceedings, presented as distinct from the assessment of market competition. However, the precise boundaries between factors that should be the focus of market definition and those that should be the focus of the competitive assessment are not always clear. All of the evidence discussed in this paper is relevant for geographic market definition, but much of it could also inform the competitive assessment, and competition authorities tend to make a judgment regarding whether to consider evidence in geographic market definition, competitive

assessment, or both. For instance, Fletcher and Lyons (2016) observe that evidence in EC decisions tends to be duplicated in both stages. This challenge is somewhat less pronounced in the US due to its more narrow approach to supply substitution (discussed below in Section 0), but is common across many jurisdictions. In general, though, some duplication is to be expected to a certain extent – the hypothetical monopolist test for geographic market definition is often not straightforward, and could therefore require a wide range of relevant evidence as enumerated in this paper.

2.2 The necessity of defining a geographic market

9. When reviewing cases for which there are no competition concerns regardless of the geographic scope of a market, the approach often adopted by courts and competition authorities is to keep geographic market definition open. The use of this approach is particularly reflected in EC decisions, which generally note that any plausible geographic definition in the case at hand would not affect its conclusions. Examples discussed in this paper include: *Panasonic/Sanyo, Glencore/Xstrata, Arsenal/DSP, United Brands, GALP Energia/ExxonMobil* (with respect to bitumen), *Arjowiggins/M-real Zanders Reflex* and *SSAB/Rautaruukki*.

10. A US District Court decision in *Advocate Health Care* provides the following summary, albeit in the context of a case regarding local market definition (p. 6):

> *"The geographic market "need not . . . be defined with scientific precision," [United States v. Connecticut National Bank, 418 U.S. 656, 669 (1974)], but "must be sufficiently defined so that the Court understands in which part of the country competition is threatened," [Federal Trade Commission v. Cardinal Health, Inc., 12 F. Supp. 2d 34, 49 (D.D.C. 1998)]. "The FTC's failure to sufficiently define the relevant geographic market can be grounds to deny the requested injunction.""*

11. Keeping geographic market definition open can save time and resources for competition authorities reviewing mergers when there are no competition concerns regardless of the geographic scope of the market. It also prevents authorities from reaching an unnecessary market definition that may affect future cases based on cursory analysis.

12. However, this approach is not always an option – as noted above, it is confined to cases in which no competition concerns have been identified. Neglecting to define a geographic market in controversial cases involving prohibitions, or remedies that are likely to be challenged before a court, can leave competition authority actions open to challenge and create uncertainty. Further, this approach could be criticised for perceived arbitrariness and for causing uncertainty (see, for instance, Padilla, 2001). That being said, the impact on a case's outcome could be neutral. The then-UK OFT, in its guidance on market definition, stated: "[w]hether a potential competitive constraint is labelled supply side substitution (and so part of market definition) or potential entry (and so not within the market) should not matter for the overall competitive assessment" (2004, p. 14). Given the risks, however, caution may be the best strategy.

3. Evidence considered in current approaches to geographic market definition

13. The analytical thinking behind geographic market definition is similar to that of product market definition, although the relevant evidence for geographic market definition is somewhat unique. The section below describes common approaches to the two primary datasets considered by competition authorities in geographic market definition: pricing and imports. It will review the challenges inherent in analysing these types of data, and the criticisms of relying exclusively on them. Finally, it will identify ancillary quantitative and qualitative evidence that should complement any consideration of pricing and imports; namely product characteristics, transport costs, regulatory and trade barriers, consumer preferences and market dynamics.

14. While the case examples discussed below mostly relate to mergers, the analysis they feature should be relevant for other competition infringements as well. There is no reason to expect assessments of dominance in abuse cases, for example, to involve a different approach to geographic market definition, other than foregoing it entirely by using an effects-based approach, as discussed in OECD (2012, pp.73-77). Critiques that decisions in abuse cases incorrectly set geographic markets on the basis of the area affected by the alleged anticompetitive conduct, rather than the scope of competition in the market, should be carefully considered. However, the geographic area in which anticompetitive conduct occurs can sometimes be a good indication of the limits of a geographic market. For example, in its 2001 decision in *Michelin,* the EC noted that fidelity rebates (the subject of abuse of dominance concerns) were calculated by considering only sales within the Netherlands, including this as one of the factors pointing toward a national market definition. Similarly, in *Arjowiggins,* the fact that cartel members agreed upon quite different prices between countries was used as evidence to support a national, rather than European Economic Area ("EEA") wide, market definition.

3.1 Pricing

15. Reviewing and analysing price data is a common first step in defining a geographic market. Price correlation analysis, for instance, is sometimes used to develop preliminary indications of the scope of a market prior to the full quantitative implementation of a hypothetical monopolist test (if such an implementation is possible). The rationale behind this approach is that goods in the same geographic market – i.e. those subject to homogeneous competitive conditions (per the EC's Guidelines) – will be expected to exhibit similar price levels and price movements. Products for which there is a significant disconnect in prices may not exert competitive pressures on each other, and therefore for the purposes of the hypothetical monopolist test would not be considered to be in the same market.

16. This intuitive explanation masks the difficulties inherent in drawing conclusions from pricing evidence alone in case work. For example, pricing data can be useful in conducting event studies to examine the impact of price changes on import flows (as discussed further below) or margins (as illustrated in Donath, 2009). However, the availability of such natural experiments in a market can be limited. More generally, the limited amount of data available to competition authorities is a significant obstacle to fulsome pricing analyses (Coe and Krause, 2008). In reviewing recent EC decisions on geographic market definition, Fletcher and Lyons (2016, p. 19) note for example that sophisticated pricing analyses were often limited to basic industrial goods markets where data is more widely available.

17. Beyond challenges of data availability, there have also been numerous theoretical and practical criticisms of using statistical analysis of price changes to delineate markets. The statistical correlation between two price series should for example be examined sceptically given that common trends can overstate correlation, breaks in statistical relationships and time lags can understate it, and differing elasticities can generate misleading conclusions (Werden and Froeb, 1993). The EC has, in effect, recognised these limitations by stating in *SSAB/Rautaruukki* "The Commission notes that in general evidence on price correlation can only provide indirect evidence of market definition, given that it is not directly informative about the outcome of the demand substitution test…" (p. 17). Further, there is no defined threshold that would lead to a correlation coefficient being determinative in market delineation, making the interpretation of these tests ambiguous. Tests for stationarity in prices can address some of these shortfalls but are nonetheless vulnerable to structural breaks (Donath, 2009), time lags and common factors unrelated to the competitive pressures that one product places on another (Werden and Froeb, 1993). These risks can be particularly pronounced when an international market scope is a possibility, since there are a range of factors (such as foreign exchange movements and economic growth) that could bias results.

18. Another risk of relying on pricing analysis is the cellophane fallacy, which can generate misleading conclusions.[2] This error may lead to the definition of an incorrectly broad geographic market as a result of a failure to consider whether current prices are at competitive levels.

19. So it is clear that the analysis of prices cannot be the only tool used to define markets, as it can provide misleading results. Elzinga and Hogarty stated "price data are of little use in geographic market delineation" (1973, p. 48), instead advancing their theory that actual shipments data in and out of an area should be used, discussed further in Section 3.2. Nonetheless, pricing analysis continues to be employed, often with a clear recognition of its drawbacks. As Donath (2009) notes, it is still helpful for competition authorities to identify substantial and durable "misalignments" in prices that would suggest separate geographic markets. One such example arose in *Chiquita Brands International/Fyffes,* where the opportunity for arbitrage between national markets was limited due to the time frame for ripeness in bananas, resulting in durable price discrepancies across the EU. In *Glencore/Xstrata,* the EC found that regional premia for zinc differed in the EU and US markets by on average 40%, noting that:

> "*The evidence on premia is relevant to geographic market definition because regional premia are the element of price which directly reflects differences in competitive conditions across regions, and more generally differences in regional demand-supply balances. As such, the regional premium appears to represent the main element of price of zinc metal that is subject to commercial bilateral negotiations between buyers and sellers of zinc metal" (pp. 28-29).*

20. Similarly, the Japan Fair Trade Commission ("JFTC") used pricing data suggesting significant differences in Japan relative to East Asia to support a national market definition in the merger of Nippon Steel Corporation and Sumitomo Metal Industries Ltd (JFTC, 2012).

21. Information about the price-setting process can also provide strong indications of the nature of competitive conditions within a given geographic area. The EC used evidence that banana prices were negotiated with retailers on an individual basis in each country, even if the retailer had operations in several countries, to support its national market definition in *Chiquita Brands International/Fyffes*.

22. Determining whether price discrimination exists on the basis of a consumer's geographic location in a market can also assist with market definition. Price discrimination becomes important when it allows a hypothetical monopolist to distinguish geographical areas based on their likely response to a SSNIP. Different geographical areas may constitute separate geographical markets if a monopolist can profitably impose a SSNIP on some but not others. Hausman et al (1996) note that it is often difficult for firms to assign consumers to different groups, and SSNIPs could be rendered unprofitable by only a few mistaken guesses, but these difficulties may be muted when consumers are segmented on the basis of location. Regardless, Hausman et al's call for caution in using the ability to price discriminate to define markets should be heeded, in particular where firms do not currently price discriminate, or where price discrimination could be defeated with arbitrage (subject to low transportation costs and other permissive factors).

23. The US antitrust authorities' Horizontal Merger Guidelines make clear that the feasibility of price discrimination on the basis of location would support defining a geographic market based on the location of consumers (rather than suppliers) (pp. 14-15). This approach was reflected in *Anheuser-Busch InBev SA/NV and Grupo Modelo S.A*, where the US Department of Justice's complaint noted that the beer market constituted a series of local markets between which prices could vary, because individual consumers do not travel extended distance to seek lower prices, and because distributors were generally limited to certain geographic areas (p.11).

24. In view of the observations above, pricing evidence should be supplemented with additional evidence about the nature of competition in a market, of the type described in the sections below. For instance, in *Arjowiggins/M-real Zanders Reflex,* the EC supplemented low price correlations with stationarity tests and observations about the national, rather than international, basis on which alleged cartel members set prices.

3.2 Imports

25. The market share of imports can also be informative when examining markets whose scope potentially extends beyond national borders. However the presence of imports in a market does not automatically imply a market definition that is broader than national. Some would also posit that a lack of imports does not necessarily mean that foreign suppliers do not exert competitive pressures on domestic suppliers. There are several considerations required to interpret import data when defining a geographic market.

3.2.1 Current import levels

26. The volume of current imports into a market will help establish some preliminary indications of the competitive pressures that come from foreign firms, including indications of the viability of importing products to serve the market and the substitutability of these products with domestically-produced products. This can have implications for both competitive assessment (all actual imports of competing products are considered to be part of an at least national market and will be reflected in market shares) and geographic market definition. While the EC guidance on market definition notes that trade flows are not themselves "conclusive" (para. 49), the EC did use low import levels (under 15% of the market) as indicators in favour of an EEA, rather than global, market definition in *Outokumpu/Norzink* and *Glencore/Xstrata.* The JFTC found that relatively low levels of imports of certain steel products, along with other factors, made it unlikely that foreign firms would constrain a SSNIP, leading to a national market definition in *Nippon Steel Corporation/Sumitomo Metal Industries* (JFTC, 2012). In *Dow Chemical*, the US Federal Trade Commission ("FTC") argued that imports of certain chemical products would not act as competitive constraints on domestic producers because they were constrained by "increases in production costs overseas, by increases in shipping costs, and by growing demand overseas" (p. 2). Conversely, in *Eastman Kodak Co.*, the fact that one-third of the US film market was supplied by imports led to a global market definition that was upheld the Court of Appeals.

27. Care should be taken before drawing geographic market boundaries on the basis of current import data. The presence of imports in a market, even if at significant levels, does not mean that the source country of those imports should be automatically included in geographic market definition. Consider two hypothetical countries, A and B, and a market definition exercise in country A in which the potential inclusion of country B is being examined. Imports in country A from country B must be sufficient to render a SSNIP in country A unprofitable[3], and vice versa, for the geographic market definition to include both countries.

28. Import elasticities can provide a more relevant perspective on the extent of competitive pressure from foreign producers, in that they capture the degree to which imports respond to changes in a market (including price increases by domestic producers). This provides significantly further insight than the market share of imports alone, although the data requirements (and the need for recent price changes to have occurred) are greater. As the EC indicated in *Glencore/Xstrata* (p. 30)*:*

> *"…the observation that price differences across regions have historically been below the 5% threshold typically considered for market definition purposes is not sufficient to infer that the scope of the geographic market is wider than EEA. A relevant factor that also needs to be considered is the*

actual responsiveness of absolute aggregate import and export flows to relative price changes across regions, since this indicates the competitive constraint that foreign producers impose on a hypothetical monopolist of zinc metal in any given region."

29. The EC conducted econometric analysis of the responsiveness of imports to changes in relative prices in two geographic areas (to test whether they were in the same geographic market) in *Glencore/Xstrata* and *Outokumpu/Inoxum*, as described in Fletcher and Lyons (2016, p.40). In both cases, the EC rebutted anecdotal evidence with analysis which found that increased imports after price increases were not sufficient to render a SSNIP unprofitable. Limited data availability can hamper this type of critical loss analysis, however.

30. In addition to the data requirements, there are some other shortcomings to relying exclusively on import elasticities to define geographic markets. For example, Hay et al (1988) warned "… even if empirical studies show a significant degree of "import elasticity," it is important to recall that changes in exchange rates, in a direction that make imports more expensive, can take place rapidly and to a degree that would reverse the import-generating effect of a modest increase in the domestic price level" (p. 735).

31. Where competition authorities are fortunate enough to have the opportunity, they should take advantage of event studies demonstrating the responsiveness of imports to price changes. In *Arsenal/DSP*, for example, the EC demonstrated that import flows did not increase in response to shortages and price increases in Europe that did not occur elsewhere. As a result, the likelihood that imports would point in the direction of a market wider than Europe or apply competitive pressure to European producers was considered to be low.

32. Elzinga and Hogarty took a more mechanical approach in arguing that trade flows are of primary importance in a series of papers (Elzinga and Hogarty, 1973; Elzinga, 1981) that proposed a specific market definition procedure. Under this procedure, a potential geographic market area is validated if (i) at least 90% of consumer purchases made within the area are from producers within the area and (ii) if at least 90% of the sales of producers in the area are made to consumers in the area. As noted in OECD (2012, p.36), there are numerous critiques of this approach; including the following:

- Because the test is based on current prices and import flows, it may not provide an evaluation of the likely response of foreign producers to an increase in price (see, for instance, Werden, 1981).
- The 90% threshold specified by the test is arbitrary.
- The precise market definition based on the Elzinga-Hogarty test is highly sensitive to the choice of methodology used to apply the test, and it may in fact be impossible to reach a market definition using the test in some instances (Frech et al, 2004).
- Capps et al questioned the Elzinga-Hogarty test on the grounds that it assumes homogeneity among consumers, stating that the test "…draws a conclusion about the entire market from the behaviour of those consumers who express displeasure with their local sellers by traveling elsewhere… if travellers and non-travelers display fundamentally different demand behaviour, either because they differ in their taste for travel or their need for local/non-local services, then there is no necessary relationship between the market experiences of these two groups post-merger… then the presence of a minority of travellers does not imply that local firms lack market power vis-à-vis the majority of consumers who are non-travelers" (2001, p.1.).

33. In responding to these critiques, Elzinga noted that the test was most relevant as an indication of the minimum size of a market (1981, p. 743). Further, in *Advocate Health Care*, Elzinga was one of the signatories to a court brief positing that "flow-based analyses along the lines recommended by EH have been shown to generate unreliable and incorrect conclusions regarding market definition and market

power" (Advocate Health Care Amicus Brief p. 32). While directly referred to in several US cases (e.g., *Oracle* and *Country Lake Foods),* Massey (2000) noted that the 90% threshold appears to have been ignored in certain US and EC cases (such as *Pabst* and *Flat Glass* (Massey, 2000, p. 316)).

34. Efforts to evaluate the broader than national scope of a market based on current import data can therefore be challenged by data availability, including the accessibility of information beyond a competition authority's jurisdiction, and methodological critiques. As a result, conclusions on geographic markets can require further supporting evidence.

3.2.2 Potential increases to imports

35. While they can provide some helpful indications, data on current import flows are generally not decisive on their own for geographic market definition. Capturing the degree of competitive pressure that foreign producers represent would also require an assessment of the ability of those producers to respond to a SSNIP by a domestic monopolist (for example, with reference to their spare capacity). Indeed, several authors have argued in favour of considering the potential for foreign producers to enter a country, or expand their presence, in response to price changes in that area (often termed "supply substitution" or "supply diversion")[4]. However, practical constraints suggest that any such analysis can be included in geographic market definition in only a narrow subset of cases with a strong set of evidence and data. As a result, antitrust authorities generally do not consider supply substitution in the market definition process.

36. Landes and Posner (1981) were among the first to advocate for a market definition that includes the entire sales of any foreign firm currently supplying a national market on the grounds that its capacity could be diverted to respond to a price increase. In particular, they note that a foreign firm importing into the country has already surmounted any trade barriers and transport costs to participating in the market, and that "Unused capacity implies a high supply elasticity of the competitive fringe because such capacity can be brought into production promptly and with no increase in production costs; hence it is an effective constraint on the pricing of the local seller" (1981, p. 966). O'Brien (1985) goes beyond this approach by positing that even foreign producers not currently supplying a region should be considered. This thinking led to consideration of relative shares of spare capacity ("capacity shares"), in the place of current market shares. O'Brien stated that a focus on local producers and a "competitive fringe" of importers fails to take into account the competitive discipline of potential importers, as well as the limits that current importers may face in expansion (such as limits to governments subsidies that permit their participation in the market, or limits to their ability to compete at a certain price given that their current participation may be part of a strategy to secure a market foothold).

37. Hay et al. (1988) warn about the risks of "depending" on potential foreign imports to exert competitive pressure on domestic producers. They identify numerous factors that would alter the influence foreign producers have on a market, including exchange rate changes, trade barriers and other political decisions.

38. Competition authorities have taken a narrow approach to the use of potential foreign competition to justify a geographic market definition that is broader than national (including with respect to the calculation of capacity market shares). In general, the ability of consumers to switch to imports (generally termed "demand substitution") is considered, but the ability of foreign producers to switch their production to the goods in question (supply substitution) is not. For instance, the US FTC and Department of Justice ("DoJ") Guidelines recognise rapid entrants[5] as market participants for the calculation of capacity shares, but do not permit the existence of foreign rapid entrants to broaden the geographic market definition. Similarly, the Canadian Competition Bureau's guidelines indicate that "[f]or the purpose of geographic market definition, what matters is not the identity of the sellers, but buyers' ability or willingness to switch

their purchases in sufficient quantity from suppliers in one location to suppliers in another, in response to changes in relative prices…" (2011, p. 14).

39. In contrast, the EC's Notice on market definition (1997) accepts the use of supply substitution in geographic market definition, on the condition that "its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy" (para 20). In particular, the Notice indicates that any suppliers considered for these purposes should, similar to the "rapid entrant" concept in the US, be able to enter the market without significant cost or risk. However, the application of the notice does not appear to have frequently resulted in a wider geographic market definition in EC decisions. For example, in the *Chiquita* case, the EC used a relatively narrow (national) geographic definition but cleared the merger with relatively few remedies based on a competitive assessment that recognised the potential for market entry from other EU member states. Röller (2011) counted the paragraphs in which supply substitution is referenced in EC decisions and found that supply substitution appeared in 20% more paragraphs in the competitive assessment section relative to market definition for markets with a scope of EEA or wider. Fletcher and Lyons support this approach by arguing that "The competitive conditions in a market are better understood by adopting a narrower market definition whilst giving fully appropriate weight to imports as a competitive constraint" (2016, p. 56-57). It should be noted, however, that Röller found the difference in references to supply substitution in competitive assessment versus market definition was much greater with respect to local markets, suggesting that supply substitution still plays a more significant role in market definition in EEA or broader markets.

40. Nonetheless, the EC has demonstrated openness to supply substitution in some cases. In *Glencore/Xstrata,* for example, it noted that there did not appear to be any barriers to importing lead concentrates from Chinese producers (p. 60). While it did not reach a definitive conclusion on geographic market definition for this product, the EC noted that there was a consensus among the market participants it consulted that China should not be excluded from any geographic definition of the lead concentrate market.

41. The UK Merger Assessment Guidelines (2010) only explicitly acknowledge demand substitution, but in guidelines on market definition published in 2004, the then-Office of Fair Trading stated that it would consider potential new sources of supply if the potential for such substitution already exerted competitive pressure on the market (p. 14). For instance, in *Arcelor SA/Corus Group plc,* the UK Competition Commission considered the potential for supply-side substitution and determined that, while market participants indicated entry into the UK market would be technically feasible, a significant investment would be required that would not be easily recouped. The lack of feasible supply-side substitution was one of the factors that led to the definition of the UK as a geographic market (Appendix C, 2005).

42. As with pricing and current import data, therefore, it appears that evidence on potential supply substitution must be complimented with additional, strong factual evidence if it is to be considered as an argument for a wider than national market (in jurisdictions that permit it). The following sections will describe evidence that complement price and import data.

3.3 Other market characteristics

43. There are a wide range of indicative factors that can guide the geographic market definition process. These factors provide essential context to import and price data, although they may not necessarily be determinative on their own. This section will describe the most common considerations and their application in recent cases.

3.3.1 Transport costs

44. **Transport costs** are one of the most frequently-cited, and potentially determinative, characteristics of geographic markets. Transport costs increase the relative price of imports and, if sufficiently high, effectively close a market to some foreign producers, therefore supporting a narrower market definition. As noted by Elzinga (1981, p. 742), the cost of transport relative to the total price of a product, rather than gross transport cost, is the most relevant metric. O'Brien (1985) cautions against drawing the conclusion that competition from imports is unfeasible simply because of high transport costs, however. Instead, he emphasises that the impact of transport costs on the total price for consumers should be considered, since differences in efficiency and other costs could offset transport costs in the price of imports. Transportation costs may also be non-monetary: while not explicitly expressed as such, transport costs in terms of the freshness (and therefore quality for perishable goods) of bananas supported a national or at least regional market definition in *Chiquita Brands International/Fyffes.*

3.3.2 Product characteristics

45. First, there are several product characteristics that are indicative of the degree of substitutability across national borders, and therefore whether a market can be defined across multiple countries (or, in fact, the entire globe):

- **Language:** the degree to which a product must be adapted for use in different languages ranges from relatively minor (e.g. translating product information and adding sales staff with language skills for mining products) to significant (e.g. extensive translation of published works, including changes for cultural context). The availability of software in multiple languages and the ability to reflect local currencies and other country-specific data points were cited as evidence in favour of a global market definition in *Oracle,* for example. Conversely, in *Google/DoubleClick*, the EC recognised that advertising operated across borders, but for consumers was national because of the importance in advertising markets of cultural and linguistic boundaries in Europe.
- **Manufacturing location:** the location in which a product is manufactured can define the geographic scope of a market under certain circumstances. The US Merger Guidelines note that, where consumers often make purchases at the location of a manufacturer, the location of those suppliers forms the geographic market. It can be more complicated when no manufacturing of the product in question occurs within a country. The relationship of the manufacturer with its direct customer (whether a distributor or final user) should be carefully considered to determine whether competition among suppliers truly occurs on an international basis, or whether manufacturing facilities feed into objectively different geographic markets. The fact that several of the products being considered in *Panasonic/Sanyo* were entirely produced outside of the EU was, for example, noted by the EC as a factor in favour of a global market definition (although it did not come to a conclusion on geographic market definition in that case). Similarly, centralised manufacturing was cited by the notifying parties as an indicator of EEA or wider geographic definition in *Arjowiggins/M-real Zanders Reflex*, although the EC found indications that prices and consumer preferences varied across countries, causing it to cast doubt on a broad geographic scope. The widespread adoption of just-in-time manufacturing techniques can strengthen the effects of manufacturing location, as distant suppliers will be less able to respond quickly to changes in market conditions and control the timing of their supply.
- **Distribution networks:** significant differences in the distribution network for goods across countries can be indicative of a national, rather than cross-border, market scope. Consider a product for which the distribution capacity of foreign imports varies significantly. In countries with less import distribution capacity, the influence of foreign competition can be limited – especially where an expansion of this capacity would require significant investment. As such,

significant variations in distribution capacity alone could be sufficient to form a narrower geographic scope. The degree to which such networks are connected can also be informative: in *Michelin* (2002, p. 19), the EC found that wholesale markets, which would facilitate the trading of tyres across national borders, were relatively underdeveloped in France compared to certain other EU countries, and therefore that domestic distribution networks were predominant. This was a key factor leading the EC to conclude that the tyre market was national in geographic scope. The presence of a national or regional subsidiary tasked with distribution was also discussed in *Oracle;* specifically, it was argued that the sales of a competitor's local distributor (SAP North America) should be included in market share calculations, but the competitor's remaining global sales should be excluded (suggesting a national market definition). The court disagreed with this characterisation, indicating that since competition occurred on a global basis, the entire global sales of firms should be considered.

- **After-sales and ancillary services:** as with distribution networks, the presence of a significant after-sales element in a product market could be a decisive factor in market definition. In *Volvo/Scania,* the EC found that the market for trucks in the EU was national, rather than EEA-wide as argued by the merging parties. Among the factors noted in the decision was the importance of after-sales networks for truck maintenance, which could significantly limit the ability of foreign truck manufacturers to compete.
- **Switching costs and product customisation:** the presence of switching costs and product customisation limit the take-up of foreign imports and arbitrage, respectively. As a result, they suggest a narrower geographic market definition.

3.3.3 Regulatory and trade barriers

46. Government-imposed barriers to foreign supplier participation in markets, including measures that increase the relative cost of imports, could also limit the responsiveness of imports to a SSNIP, and therefore support a national rather than cross-border market definition. These barriers include the following:

- **Import quotas** place a ceiling on the volume of imports, effectively rendering the supply elasticity of foreign producers zero (at the ceiling). In such cases, the geographic market may be defined to be national (or narrower). While not determinative in the case, the European Court decision in *United Brands* recognised Italian quotas as a factor militating toward a national market definition. It can also be argued that import quotas should cause the volume of imports to be excluded from any price or market share analysis since they would not be responsive to changes in a market, such as a SSNIP (see, for instance, Scheffman and Spiller, 1985, and Hay et al, 1988).
- **Import duties** raise the relative cost of imports and constrain the ability of foreign suppliers to exert competitive pressure on domestic suppliers. As with transport costs, the relative rather than absolute level of duties should be considered. The basis from which to analyse the relative level should also be carefully considered, as demonstrated in *Glencore/Xstrata.* The EC noted that, even though the duty on zinc metal was only 2.5% of the total cost, it was a significant share of the gross refining margin for zinc metal smelters (the customers in this case), leading to an EEA (rather than global) market definition. The current volume of imports into a market could be an indicator of the degree to which foreign producers have overcome the cost of tariffs in order to compete in a market.
- **Product regulation and standards** have a similar effect to import duties in that they impose barriers or costs on foreign suppliers seeking to offer their products in a country. These barriers can either fully bar foreign products from a market, or simply limit their attractiveness to consumers or distributors. In *GALP Energia/ExxonMobil Iberia*, the EC noted that Spanish and

Portuguese gasoline regulations differed with respect to colouring, technical specifications and bio-fuel content, leading to the conclusion that each country should be defined as a separate market for non-retail gasoline. Chirayath (2005) describes how regulatory responses to the trend of drug re-importation from Canada to the US may lead to a narrower market definition than the broader (Canada and the US) definition that would have prevailed at the time. State aid in Europe should also be considered for its effects on geographic market definition and the overall competitive dynamics between foreign and domestic firms (Langenfeld and Alexander, 2013). At the same time, the EC's Notice on the Definition of the Relevant Market explicitly states that it takes into account the "continuing process of market integration, in particular in [the European Community]" (para 32).

3.3.4 Consumer preferences and characteristics

47. The characteristics and preferences of consumers can be determinative in establishing the substitutability of imports. Specific aspects that have been identified in past cases include the following:

- **National preferences** are often cited as contributing factors that favour a national market definition. The EC has in particular noted significant differences in consumer preference in several consumer products cases, including with respect to mineral water in *Nestle/Perrier* (para 24-25), cheese in *Friesland Foods/Campina*, and bananas in *Chiquita*. For example, in the latter case, the EC observed that UK consumers preferred medium- to small-sized bananas, while consumers in Germany, Scandinavia and Poland preferred larger ones. There were also differences within Scandinavia, such as the relative popularity of Fairtrade bananas in Denmark relative to Norway (pp. 21-22). In *Western Digital Ireland/Viviti Technologies*, the EC observed that consumers in Europe relative to Asia and other regions had different levels of brand awareness as well as different preferences about products (for instance, some areas prefer to customise their hard drives and expect different sizes for external devices) (pp. 81-85).
- **Consumer characteristics** should also be considered when they affect the consumer's ability or willingness to substitute between domestic goods and imports. Sophisticated manufacturing firms often have a greater ability to seek out foreign sources of supply, and to substitute for these products, relative to individual consumers. For example, in *Western Digital Ireland/Viviti Technologies*, the EC determined that the market for internal hard disk drives, used as an input for computer manufacturers, is global in scope but the market for external hard disk drives, which are a final consumer product, was regional. Similar differences could emerge when considering wholesalers versus retailers as clients, or when a case pertains to intermediate manufacturers at different stages of a supply chain. Differing levels of vertical integration among customers will also encourage a narrower market definition (see, for instance, Fletcher and Lyons, 2016, p. 59).
- **Consumer relationships with suppliers** have a bearing on demand substitution, and can be indicative of the geographic basis of competition. Market participant interviews can be a crucial source of evidence on the subject, although it is preferable to corroborate their views with consumer surveys or interviews as well. However, obtaining a fully representative sample of customers can be challenging, and consumers can find answering hypothetical questions difficult given the numerous dynamic factors at play (e.g. answering questions about their likely response to a SSNIP given transport costs, import duties and foreign exchange variability). A wide body of evidence is often therefore needed to reach a conclusion.

  In *Sysco Corp./US Foods Inc.*, the US District Court accepted the FTC's argument that two geographic market definitions should be considered – a US-wide one for customers with large, national businesses who made purchases through a national sales team, and a set of local markets for smaller customers who purchased from local representatives. A similar segmentation of consumer relationships between large national ones and smaller local ones was identified by the

FTC in *Staples/Office Depot.* An individual sales relationship is not always decisive in globalised product markets, however. In *Oracle*, the global nature of product competition was not narrowed by the presence of local sales networks.

Markets in which potential suppliers submit bids can often be wider than national in scope – particularly when they involve sophisticated clients. Bidding procedures can offer a real chance for foreign suppliers to compete, and customers have an interest in broadening their supplier base. In *Ball/Rexam*, for example, the individual (and local) nature of pricing negotiations did not prevent the EC from accepting a regional market definition on the basis that regional producers could bid for contracts (and therefore exert competitive pressure) with relatively few barriers.

- **Consumer purchasing patterns** are indicative of the nature and scope of competition in a market. In *CMA CGM/OPDR*, the EC defined the geographic market as a series of container shipping routes on the basis of consumer purchasing arrangements, which consisted of individual contracts on specific routes rather than overarching global contracts.

  The use of isochrones (essentially lines that represent a given amount of travel time and which can be used to construct a geographic market), common in local market definition cases such as supermarket mergers, could be equally relevant to cross-border markets. In *Ball/Rexam*, the EC recognised the lack of national barriers to trade, and instead drew regional markets based on 700 kilometre-wide “catchment areas” that reflected transport and warehousing costs as well as logistical feasibility. Fletcher and Lyons (2016) note in their review of recent EC geographic market definition cases that there is a tendency to define markets according to national borders (either a country or a group of countries). They advocate for the more frequent use of isochrones, even if a market may cross national borders, although they recognise that this may present challenges in terms of data availability (pp. 58-59).

3.3.5 Market dynamics and commercial relationships

- **Market volatility:** Many of the factors that affect the substitutability of imports exhibit significant volatility, presenting a challenge for geographic market definition. In particular, exchange rates and commodity prices, including fuel prices that determine transport costs, can have a determinative effect on the ability of imports to respond to a domestic producer SSNIP. In their Horizontal Merger Guidelines, the US authorities recognise this issue with respect to exchange rates, noting: “[t]he competitive significance of foreign firms may be assessed at various exchange rates, especially if exchange rates have fluctuated in the recent past” (p. 13). In *Outokumpu/ Inoxum*, the EC also noted the inherent variability of markets such as the nickel market, where foreign exchange rates among other economic factors will have a significant impact on the viability of import competition (p. 117). However, as the parties did not claim the market should be broader than the EEA in scope, there was no assessment of whether similar factors would be determinative in future cases involving a potentially broader market definition.[6]

- **Chains of substitution:** Merger review guidelines in Australia, the EC and the UK (ICN, 2004, p. 7) recognise the concept of a chain of substitution, in which, for example, two markets connected by a third may indirectly exert competitive pressure on each other. This concept is generally applied to local markets in conjunction with isochrones, but could be informative when considering markets whose scope may extend beyond national borders. Aproskie and Lynch (2012) caution that chains of substitution must be carefully examined for (i) potential breaks, or missing links in the chain, (ii) factors that would nonetheless make a SSNIP profitable, such as low customer switching and low fixed costs, and (iii) potential price discrimination.

  While not explicitly characterised as such, the EC considered a similar situation to a chain of substitution in *Glencore/Xstrata*, when it found that Chinese producers of refined copper indirectly constrained European producers, indicating (p. 55):

A significant majority of customers and all producers considers that, regardless of grade, the market for refined copper is worldwide including China. With regard to China, a significant majority of customers consider that no obstacles exist in purchasing refined copper from China. A large majority of refined copper producers confirm that China exports refined copper even if they do not consider that refined copper originating from China, as a result of high logistics costs, exerts significant competitive pressure on their sales in geographical areas outside China. The demand and supply conditions within China are moreover considered by a large majority of refined copper customers and producers to affect the production and supply of refined copper outside China. This shows that China should be included in the market.

- **Contracting relationships:** Contracting characteristics prevalent in a given market can also have a significant effect on geographic market definition when they, for instance, specify the area to which a distribution license applies. In *Sony/BMG,* the EC recognised that contractual agreements for the sale of wholesale music licenses were concluded on a national basis, and that despite the cross-border nature of the internet, the limitations of those licenses suggested a national market definition.

4. Future challenges in geographic market definition

48. There are a range of factors that affect the geographic delineation of markets, many of which may not be decisive on their own, but all of which contribute to a fuller picture of the scope of competition in a market. These factors have been considered as part of the geographic market definition process in merger reviews for markets with a potentially cross-border scope – especially in the EU, which by definition deals with many such cases. However, the task of geographic market definition is not getting any easier for practitioners and competition authorities. In particular, they must grapple with the following complexities, which will be discussed in turn below:

- Variation in the treatment of foreign competition in merger assessment guidelines across jurisdictions.
- Market developments that are erasing borders and bringing certain issues to the fore, challenging traditional approaches.
- Investigation challenges with respect to potentially international markets, particularly in terms of data accessibility.

4.1 Variation in the treatment of foreign competition in merger assessment guidelines

49. Variations in guidelines for geographic market definition could lead to significantly different conclusions across jurisdictions regarding the same product market. These differences begin with the question of whether cross-border market definitions are considered at all: the International Competition Network ("ICN") reviewed the merger guidelines of 12 jurisdictions in 2004 and found that only 5 (Australia, Canada, the EU, the UK and the US) discuss the possibility that a market could be international. The remaining jurisdictions forego any attempts at determining the precise scope of a market once it is clear that it is at least national, leaving any analysis of foreign competition to the analysis of competitive pressures. The ICN also found that, of 12 jurisdictions, only 7 took into account qualitative factors beyond physical properties, end uses and industry perception, 6 referred to switching costs as a factor in market definition, 3 discussed chains of substitution, and 7 connected the presence of price discrimination with market definition (p. 7).

50. In addition to these differences, there appears to be a significant divergence in the consideration of supply-side substitution. A more permissive approach to supply substitution in one jurisdiction can lead

to a conclusion that a product market is effectively global in scope, while another jurisdiction may deem it to be national. Guidelines that accept supply substitution, such as the EC's, set conditions around the consideration of potential entrants (low-cost entry ability within a short period of time), while the US Guidelines factor rapid entrants into the competitive assessment (including market share calculations) without considering them when defining the geographic market. While these differing approaches may not lead to different conclusions, they can lead to uncertainty for market participants. Further, the prospect of varying geographic scopes could have longer-term implications given the potential for prior decisions on geographic market definition to be referred to in future cases.

51. One message that could be taken from differences in market definitions across jurisdictions is that a global market definition should be approached with caution – especially when it may lead to mismatches with other authorities. In particular, careful consideration should be given to the question of whether a market is truly global rather than simply large (e.g. including several continents). This question is particularly relevant when exports from low-cost countries are used to argue for a broad geographic market definition. Are there other firms that cater to the domestic consumer in these low-cost countries? Or do exporters offer a different product to their domestic consumers?

52. At the very least, the existence of discrepancies should lead to a careful consideration of the precise role that the market definition process plays in a merger (or anticompetitive conduct) assessment. If it makes no difference whether foreign rapid entrants are considered in market definition or the competitive assessment, how should the distinction between these two concepts be maintained, if at all?

4.2 Market trends that pose challenges for geographic market definition

53. Adding to the conceptual challenges described above, markets are changing in a way that makes geographic market definition more difficult. This has not yet led to significant changes in the way competition authorities define markets, but may well in the future.

4.2.1 Increasingly global markets

54. First, there is the question of whether markets are becoming increasingly international. Several factors could lead to this conclusion:

- **Increasing popularity and development of online retail delivery networks:** Improvements in technology, consumer trust and delivery offerings for online retailers, have led to a rapid expansion of e-commerce in recent years. One forecast indicates that in 2018, e-commerce will have a retail market share of 18% in Asia (an increase of over 200% from 2014), 10% in Western Europe and 9% in North America (Barns, 2016). By now, competition authorities are very familiar with merging parties' references to online retailers like Amazon to argue in favour of approval for bricks-and-mortar retail mergers. And the argument that online retailers represent a significant competitive constraint has been accepted in many cases, such as *Darty/FNAC* in France (see Autorité de la concurrence, 2016), *GAME Group/Gamestation* in the UK and *Office Depot/Office Max* (see US FTC, 2013). This is not to say that online competition is automatically accepted, however, as seen in *Staples/Office Depot,* where the substantially higher prices of online retailers minimised their competitive pressure in certain markets. As e-commerce grows and retailer consolidation continues in response, authorities' traditional approach to bricks-and-mortar mergers (the use of local isochrones) runs up against home delivery of products, and the distinction in a consumer's mind between the two becomes less pronounced. Further, digital products that can be seamlessly provided to consumers over an internet connection are subject to fewer of the barriers and costs described above. Thus, competition authorities can expect to see more and more claims that online competition should lead to a broad geographic market definition, and the question of whether certain competitive pressures belong in market definition or competitive assessment will continue to be relevant. Several pharmaceutical cases involving online Canadian pharmacies selling to US consumers (Chirayath, 2005), for example, led to a cross-border market definition. However, these market changes do not by themselves suggest that the existing approach to market definition described in Section 3 must be changed. Distribution and retail networks, for instance, should be carefully considered when evaluating whether online competition actually broadens the geographic scope of a market.

- **The pace of technological innovation:** New technology-based offerings have the potential to rapidly change the geographic scope of markets. Consider the telecommunications industry, which has historically been national, or narrower, in scope. Now, the development of global online offerings like Skype and Whatsapp, as well as attempts by large technology firms like Google to begin offering telecommunications services, could be broadening the market (see, for example, OECD, 2014) and defeating geographic boundaries between markets. Dealing with two competing business models with different geographic scopes would be a significant challenge for competition authorities, and could lead to potential inconsistencies among them. As an alternative, Padilla (2001) described several potential changes to adapt market definition to high technology industries and, in particular, to reflect the tendency of market participants to compete for the market in these industries. These proposed changes include the broadening of rapid entry parameters to a longer time horizon, but have not attracted wide support, nor have they been adopted by any competition authorities to date.

  Further, as online platforms constituting multi-sided markets continue to grow, authorities will need to grapple more and more often with the challenges associated with analysing markets where the geographic scope varies between sides of a market (see OECD, 2012, for further discussion on the market definition implications of multi-sided markets).

- **Reductions in linguistic and cultural barriers between countries:** Machine translation, online platforms for freelancers and the proliferation of low-cost translation and “localisation” services (which adapt content to a national audience) are all serving to increase the ease with which foreign firms can begin supplying into national markets. As a result, the existence of cultural and linguistic differences between countries will likely become a less important barrier to competition across those countries, and could militate toward more cross-border market definitions. At the same time, however, regulatory barriers will continue to play a decisive role in market definition – while many online services can be offered on a more global basis, the existence of professional regulations and other rules limiting who can provide certain services will continue to restrain broad market definitions.

- **Potential trade liberalisation:** As new trade agreements are signed and the globalisation of commerce continues, geographic markets may shift, although the precise impact may not always be the same. Donath (2009) notes, for example, that the addition of new EU members in 2004 opened up trade, but it also increased the heterogeneity of countries within the EU, with implications for geographic market definition. As such, pre-2004 EC decisions that defined a geographic market as EEA-wide may not be relied on for future cases as a result of changes to the composition of the EU.

55. The implications of the potential internationalisation of markets are significant. As noted above, authorities may be incentivised to avoid unnecessarily defining geographic markets when no competition concerns exist regardless of the definition. This could be a preferable approach to adopting a market definition based on incomplete information. When this is not an option, care must be taken not to rely on a global market definition without sufficient evidence, particularly when a regional, continental or even multi-continental grouping may be more accurate. Global market definitions should be limited to cases in which suppliers effectively compete with each other on a global scale in homogeneous conditions (i.e.

cases in which no sub-global monopolist could profitably impose a SSNIP), as appears to have been the case for example with the sophisticated software at issue in *Oracle.*

56. The risks of an inaccurate global market definition are significant. It could lead to a much more permissive approach to mergers and major challenges with the design as well as enforceability of remedies, which, it could be argued, should match the defined geographic scope of a market. In addition, inconsistencies across jurisdictions could contribute to market participant uncertainty and enforcement challenges.

57. In contrast to the trends mentioned above which suggest markets will become more international, data analytics and other technologies could allow service providers to increasingly tailor their offerings and prices to customers on a granular level, including on the basis of their location. Price discrimination – a relatively straightforward indication of geographic market definition – could thus become easier to implement for firms. Geo-coding of online users can, for instance, allow service providers to differentiate consumers (as with Netflix and other content providers) or advertising targets (as with Google ad targeting – see Ratliff and Rubenfeld, 2010). The national scope of media licensing agreements observed in *Sony/BMG* also shows no signs of disappearing, meaning that national borders may persist despite the global nature of internet services.

4.3 Access to data and other evidence

58. Another significant emerging challenge for geographic market definition, particularly in light of the potential increasing frequency of cases with a possible cross-border scope, is the accessibility of data and other evidence. The information request powers of competition authorities generally stop at national borders, even if the markets they are examining do not. The practical impacts can be significant – for example, in *Arsenal/DSP*, the EC did not have sufficient data from Chinese suppliers to construct market-level prices for Asia, which would have been used for comparison with US and EU data in geographic market definition (Donath, 2009). It is also difficult for authorities to evaluate the relevance of the international data and evidence that they lack – even in cases where domestic market share is high, for example, foreign producers could still represent a significant source of competitive pressure and limit a SSNIP. Thus authorities must be able to provide context to a market share figure to evaluate whether a high domestic market share is more the result of historical factors rather than insulation from competitive pressure.

59. Given the potential reticence of foreign suppliers to willingly share information with a competition authority, international co-operation between authorities is essential to provide them with the evidence they need in markets with a potential cross-border scope. And this co-operation should extend beyond simple information sharing, to the sharing of past experience in markets with which a given national authority may have had limited experience. The OECD has hosted several discussions on the subject of international co-operation among competition authorities, including with respect to information sharing and avoiding inconsistencies.[7]

5. Conclusion

60. Geographic market definition is an important and challenging exercise that defies cursory analysis. While all of the evidence described in this paper is relevant for geographic market definition, it may also be relevant for a competitive assessment, and it is not always clear whether competition authorities should choose to consider evidence in one or the other, or in both. They may opt to defer more ambiguous pieces of evidence to the weighing process of the competitive assessment and, in cases where no competitive concerns exist, bypass geographic market definition altogether.

61. The range of evidence that must be considered when assessing the potential cross-border scope of markets is wide. Significant price differences across countries may point to heterogeneity in competitive conditions, and therefore a narrower market definition. Pricing data must be used with caution, however, since there are several shortfalls to pricing-based analyses, including vulnerability to common trends, breaks in statistical relationships and time lags. The existence of price discrimination is a particularly helpful indicator of geographic market scope that avoids some of these shortfalls, but potential (rather than actual) price discrimination should be approached with caution.

62. The consideration of import flows, both in terms of their magnitude and responsiveness to changes in conditions in a market, can also be relevant but require careful analysis. The presence of imports in a country should not, for instance, immediately lead to a broader than national market definition. Further, the consideration of potential increases to imports in response to a SSNIP is viewed sceptically by some competition authorities.

63. In light of the complexities and criticisms inherent in the use of pricing and import data, competition authorities and practitioners should carefully consider ancillary evidence as well. While they may not be determinative on their own, product characteristics, transport costs, regulatory and trade barriers, consumer preferences and market dynamics play a role in shaping the geographic scope of a market.

64. New challenges may emerge in future market definition exercises. In particular, there are variations in the treatment of foreign competition in merger assessment guidelines across jurisdictions. Although it appears that these variations have not led to substantially different decisions across jurisdictions, they may create uncertainty. Competition authorities should also remain vigilant to the fact that an overly expansive (or unnecessary) geographic market definition could impact future merger cases, and could undermine the efficacy of remedies. This risk is particularly pronounced given current market trends, which could indicate an increase in global market definitions (or at least claims of global markets from notifying parties). As a result, authorities should use caution, take in all the available evidence and, wherever possible, co-operate with each other when defining geographic markets.

ENDNOTES

1 It is crucial that the price increase be considered relative to the competitive price level, which may or may not be the same as the current price. Considering only current price levels is referred to as the "cellophane fallacy", in reference to a case related to plastic wrap prices. In that case, the US Supreme Court ruled in favour of a broad product market definition given the presence of substitutes that would constrain a price increase for plastic wrap, without recognising that market power in the plastic wrap market had already allowed the firm in question to raise prices above a competitive level. Only at the inflated prices were the other substitutes able to restrain price increases. See OECD, 2012, p. 40 for further details.

2 Supra note 1.

3 Even if indirectly through chains of substitution, as explored in Section 3.3 below. The near-term potential for additional imports, discussed in the following section, must also be considered.

4 Note that this section discusses supply substitution by firms that are already producing the same, or a very similar, product, whether within the country in question or not. This is distinct from the concept of potential competition, which refers to the emergence of competition from firms not previously producing the product or anything similar. Potential competition is not considered in geographic market competition. See Padilla (2001) for further discussion on this subject.

5 "Firms that are not current producers in a relevant market, but that would very likely provide rapid supply responses with direct competitive impact in the event of a SSNIP, without incurring significant sunk costs…" (US Horizontal Merger Guidelines, pp. 15-16)

6 See Fletcher and Lyons, 2016, pp. 49, 60, for further discussion of the EC's approach in this case.

7 For more information, please visit http://www.oecd.org/competition/internationalco-operationandcompetition.htm.

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