Competing Ideas

The SSNIP test: some common misconceptions

The SSNIP test is used by most competition authorities around the world as a framework for defining relevant markets. Many practitioners will be familiar with the basic logic of the test, but there are a number of common misconceptions, which can sometimes lead to incorrect conclusions. The final issue of **Competing Ideas** explores some of these

The hypothetical monopolist test was developed in the USA as a tool for market definition in merger cases.[1] In essence, the test asks whether a hypothetical monopolist of a product (region) would impose a 'small but significant and non-transitory increase in price' (SSNIP). If the answer is affirmative, that product (region) is a relevant market; if not, this must be because other products (regions) exert competitive pressure and hence should also be included in the relevant market. In other words, a market is 'something worth monopolising'.

The test is now used by many competition authorities for market definition in competition investigations more generally (ie, not only mergers). The basic logic of the SSNIP test is reasonably well understood by practitioners; however, there are some common misunderstandings which can sometimes lead to incorrect conclusions on market definition. This article explores four of these misconceptions and their implications.

'The SSNIP test asks whether products A and B are in the same market'

Market definition is about the competitive pressure that different products impose on each other, so a central question is often whether two specific products are in the same relevant market. However, asking the question in this way could be misleading, because the answer may depend on which product the SSNIP test starts from.

If the competitive issue at hand (eg, a merger) arises in relation to product A, this product should form the starting point for the SSNIP test. The question is then whether a hypothetical monopolist of A would impose a SSNIP; if the answer is no, product B (assuming that this is the closest substitute for A) should be included in the market. In contrast, the SSNIP test should start with product B if that is where the competitive issue arises.

These two tests may result in different answers. For example, there may be situations where a hypothetical monopolist for A cannot increase price—hence the market is AB—whereas a hypothetical monopolist for B can, resulting in a B-only market. This leads to an asymmetric market definition. An example can be found in the *Bayer/Aventis Crop Science* merger (2000), which involved agricultural crop-protection products.[2] The European Commission found evidence of substitution from foliar and soil applications of fungicides and insecticides to seed treatment, but not the other way around (from seed treatment to the other applications).

It is therefore important that a competition authority that is considering an issue relating to product A only takes into account factors through which product B puts competitive pressure on A; any reverse competitive pressure that A puts on B is irrelevant in this instance. Following the above example of products A and B, a merger between producers of A may be regarded favourably, since the market is defined as AB; however, a merger between producers of B may be anti-competitive since, from the perspective of B, there is insufficient competitive pressure from A.

'The SSNIP test asks whether consumers would switch from product A to B'

A common explanation of the logic of the SSNIP test is that it asks whether consumers would switch from product A to B after a 5–10% price increase in A. While intuitive, this explanation is not entirely accurate.

Whether a price increase by a hypothetical monopolist in product A is profitable depends on *any* sales that the monopolist loses as a result, not just on sales lost to product B, even if that is the closest substitute. In the example where product A is cruise holidays and product B is other types of package holiday, the hypothetical monopolist that considers an increase in the price of cruises will take into account not only switching from cruises to other types of holiday, but also the loss of sales from consumers who decide not to take any holiday after the price increase. Thus, focusing only on switching from A to B may lead to a narrow view of competitive pressure and hence underestimate the extent of the market.

It is important to bear in mind that the theory of the SSNIP test is based on an underlying demand system, which, in

[1] See Department of Justice and Federal Trade Commission (1992), 'Horizontal Merger Guidelines', April 2nd (revised in 1997).
[2] European Commission decision of July 12th 2000 in Case COMP/M 2547.

principle, covers all goods and services in an economy. In this system, the demand for each product depends on its own price, the prices of each of the other products, and on the disposable income of consumers. In the example above, consumers who no longer take any holiday after the price increase in cruise holidays are assumed to spend their money on other, possibly completely unrelated, products instead (eg, clothes).[3]

Furthermore, the focus on switching from product A to B may lead to an undue emphasis on the cross-price elasticity of demand between A and B, whereas theoretically it is the *own-price* elasticity that matters most when assessing the SSNIP question.[4] In the demand system that underlies the SSNIP test, the sensitivity of the demand for each product can be measured with respect to:

- *the own price of that product*—giving rise to the own-price elasticity;
- *the prices of each of the other products*—generating a series of cross-price elasticities (many of which may be expected to be close to zero, for example, between milk and bicycles); and
- *disposable income*—giving the income elasticity.

All these elasticities are related within the demand system: for any product in the demand system (eg, product A), the sum of its own-price elasticity, its cross-price elasticities with respect to the prices of the other products, and the income elasticity, is equal to zero. This means that high and positive cross-price elasticities tend to go hand in hand with a high own-price elasticity—and hence a wider market—other things equal.[5]

However, once all elasticities have been measured in the model, the answer to the SSNIP test depends exclusively on the own-price elasticity of product A. This own-price elasticity is what determines the degree to which the hypothetical monopolist in A will increase the price. Only if it is found that the monopolist would not impose a 5–10% price increase do cross-price elasticities become relevant again—ie, in determining which product is the closest substitute that should be brought under the control of the hypothetical monopolist. Hence, caution should be exercised when relying solely on evidence on cross-price elasticities to define the market.

'The 5–10% price increase applies to all products controlled by the hypothetical monopolist'

The SSNIP test is an iterative process. If in the first round it emerges that the hypothetical monopolist of product A would not increase the price by 5–10%, product B, the closest substitute, should be included in the market. The test should then be applied again to the hypothetical monopolist of products A and B. A frequently asked question is whether the price increase should now apply to both products.

The answer is no. To see why, consider the following example. A competition authority assesses the merger between two producers of product A. Suppose that the first round of the SSNIP test shows that a hypothetical monopolist of A would not increase price by more than 5–10% and that the increase would only be 3%. Next, product B, the closest substitute, is brought under the control of the monopolist. This means that it can increase the price of A more than before, since it is now not as concerned about sales being diverted to B. Suppose that, in this new situation, the price increase for the monopolised product A is 12%. This already shows that product A is only constrained by product B, and as soon as competition from product B is eliminated (by bringing it under control of the monopolist), the price of A will increase by more than 5–10%. Hence, the SSNIP test is satisfied.

This conclusion does not depend on what happens to the price of B after monopolisation. It may well be that the price of B also increases by more than 5–10%, in which case, this particular misconception will not be of relevance to the analysis. However, it is also possible that the price of B only increases by, say, 2% in this situation, indicating that it faces strong competition from product C. Hence, the monopolist of AB only increases the price of A by more than 5–10%, but not the price of B. Does this mean product C should be included in the market as well?

If in this case the market were defined as ABC, the authority would overlook the fact that, in product A, there is scope for exercising market power in the smaller AB market. Given that the original concern was with a merger in A, this scope for market power in AB should be taken into account. This illustrates the important principle that the relevant market is 'no bigger than necessary' to satisfy the SSNIP test—ie, the smallest market in which a monopolist can increase price, as emphasised in the 1992 US guidelines (section 1.0).

'Supply-side substitution only counts if it is from firms that are not yet in the market'

In the USA, the main focus of the SSNIP test is on demand-side substitution (by consumers), which follows from the fact that the merger guidelines define the hypothetical monopolist as 'the only present *and future* supplier' (section 1.0). The practice in Europe is to consider supply-side substitution (by suppliers established in neighbouring markets) as well if it is immediate. The classic example of supply-side substitution is the production of varying qualities of paper used in publishing. They are not substitutes for consumers, but existing suppliers can readily use production capacity to supply different grades.

[3] In most practical cases, it will not be necessary to iterate the SSNIP so many times as to go all the way from switching from cruise holidays to clothes—usually, after a few iterations with the nearest substitutes, it can be determined whether there is a competitive concern in the market in question.

[4] A price elasticity is a measure of the responsiveness of demand to price. For example, an own-price elasticity of –2 for product A means that an increase in the price of A by 10% leads to a fall in demand for A by 20%. A cross-price elasticity of 0.5 for the demand for product A with respect to the price of product B means that an increase in the price of B by 10% leads to an increase in demand for A by 5%.

[5] This is because cross-price elasticities are positive (for substitute products), whereas own-price elasticities are normally negative.

The focus on demand-side substitution has some advantages since it is the more immediate form of substitution and because competitive pressure from supply-side substitution may sometimes be overstated if included in the market.[6] However, in the USA, supply-side substitution (referred to as uncommitted entry) is taken into account at a later stage of the investigation when measuring market shares. Ultimately, therefore, the same conclusion will often be reached. Furthermore, supply-side substitution is often (implicitly) accounted for in cases where the supply conditions for two products are essentially the same—for example, left shoes and right shoes, or certain transport and communications markets where, from a pure demand perspective, there are many point-to-point markets but, from a supply perspective, it makes sense to aggregate them into one.

Supply-side substitution between products A and B depends critically on the ease with which existing production capacity can be shifted from one product to the other. An indication of this may be the fact that some firms already produce both A and B using the same facilities. In this respect some discussion has emerged as to whether supply-side substitution should only come from *new* competitors.

The European Commission's guidance on market analysis in electronic communications markets (2002) suggests that this is indeed the case, stating that, in assessing the scope for supply substitution, national regulatory authorities may also take into account the likelihood that undertakings *not currently active in the relevant product market* may decide to enter the market.[7]

This could lead to overly narrow markets. In some electronic communications markets, operators can use the same infrastructure to offer different services, indicating that supply-side substitution may be straightforward. Suppose a regulator is analysing the market for service A, and that some operators do indeed offer both services A and B, which are not demand-side substitutes but are easily interchangeable from the operators' perspective. In line with the above guidance, A and B would be considered separate markets because there could only be supply-side substitution from operators in B that are already active in A, and this does not count according to the Commission's guidance. However, this approach overlooks the fact that there can nevertheless be competitive pressure from B on A, since the operators in B might switch additional capacity from B to A if this were to be lucrative after a price increase in A. A hypothetical monopolist of service A would feel this additional competitive pressure—higher capacity usually leads to pressure on price—and hence it should be included in the relevant market.[8]

Concluding remarks

The SSNIP test has several limitations; for example, it only deals with price competition and does not take account of other dimensions along which products might compete with each other (eg, quality). The SSNIP test is also not particularly well suited to markets with differentiated products; in recent years, this has led to an increasing focus on the unilateral effects of mergers in such markets, thus bypassing market definition altogether.

Nevertheless, in many competition investigations, the SSNIP test will continue to be relevant. Authorities around the world are increasingly using the SSNIP framework, and empirical measurements of elasticities to approximate the SSNIP test are becoming more common. Therefore, it is important to clarify some misunderstandings in relation to the application of the test. This article has made the following clarifications.

- Market definition can be asymmetric; it may therefore be misleading to ask whether products A and B are in the same market, as this depends on the starting point of the assessment.
- Any sales loss is relevant when applying the SSNIP test, including the loss of consumers who would no longer consume the product in question rather than switch to a close substitute.
- The own-price elasticity is of primary importance for market definition; cross-price elasticities become relevant when the test is failed in the first round.
- If a competitive issue arises in market A, the SSNIP only addresses the question of whether the price of A can increase by 5–10%. If the test is applied to a monopolist for A and B, only the effect on the price of A is relevant (the price of B does not have to be increased by 5–10%).
- Supply-side substitution from product B to A can be relevant even if the firms concerned are already active in the A market.

[6] See, for example, Baker, J. (1997), 'The Problem with Baker Hughes and Syufy: On the Role of Entry in Merger Analysis', *Antitrust Law Journal*, **65**, 353–74.

[7] Commission of the European Communities (2002), 'Commission Guidelines on Market Analysis and the Assessment of Significant Market Power under the Community Regulatory Framework for Electronic Communications Networks and Services', OJ C 165/6, July 7th, para 52.

[8] This approach may still lead to similar conclusions if the supply-side pressure from B on A is appropriately taken into account as a source of potential competitive pressure during the market power stage of the analysis.

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