Market Definition and Analysis for SMP: A practical guide

David Rogerson

Jim Holmes

Incyte Consulting Ltd
United Kingdom
t/f +44 1324 870429

Incyte Consulting Pty Ltd
Australia
t/f +61 3 9752 7828

www.incyteconsulting.com

1. Significant Market Power – introduction

Significant Market Power (SMP) describes the power that enables a service provider to make decisions and to act independently of its competitors and customers. Typically this means the ability to raise prices or to reduce output without being concerned that competitors will gain material advantage through taking revenue and share, or that customers will exercise the choice in material numbers to go elsewhere.

In an effectively competitive market it is the market that determines outcomes, not individual competitors.

In a market characterized by SMP, the service provider with SMP will invariably make decisions that are to its commercial benefit, and which do not advance the economic welfare of customers.

In such markets there is a justification for regulators to act in advance of anti-competitive behaviour and to take *ex ante* action to address or limit the potentially harmful effects on customers of the exercise of SMP. Sometimes the *ex ante* intervention may be justified on the basis that waiting until after anti-competitive behaviour has become apparent may be too late, and there may be lasting damage to competition. This could occur if competitors are commercially destroyed and cannot continue in the market as a result of the exercise of SMP.

On the other hand regulators need to recognize that their *ex ante* intervention will be distorting and may affect adversely the development of the market. This is particularly the case where markets are embryonic and the patterns of demand have yet to be established.

Before a regulator can make sensible enquiries into the existence of SMP and determine how, if at all, it might intervene, it must define the relevant market under consideration. SMP cannot exist at large; it exists, if at all, in specific markets which need to be defined.

2. Market definition

Best practice in market definition involves adopting the EC preferred approaches to the various issues set out in its *Market Analysis and SMP Guidelines.* This does not mean that the outcomes as expressed in the EC's market set from 2003 or from 2007 would be appropriate for all other countries, but, rather, that the process by which these markets were identified and tested, and finally defined is a relevant and proper process for most purposes.

The theory of market definition is well understood. Markets are formed at the intersection of the three dimensions listed below:

- **Consumer**. A group of consumers has a common set of objectives that are satisfied by services/products
- **Product**. A supplier offers services/products to a market to satisfy consumer objectives.
- **Geography**. Consumer objectives, and the services/products that meet those objectives, have to be available in a common location, for a transaction to take place, and a market to exist.

The consumer dimension is particularly relevant because the existence of distinct sub-sets of consumers with different requirements of a service, different channels to market, and the possibility of price discrimination between them (without arbitrage) may well indicate that there are really two distinct markets that need to be defined as separate for the purposes of ex ante regulation for SMP. The distinction between wholesale markets and retail markets is partly a reflection of this. It also reflects licensing regulation and other factors.

The boundaries that separate different markets are understood in terms of the services/products that comprise each market, and specifically in terms of the ability of one product to be substituted for another. Customer markets may be defined in terms of geography and the services that are offered, or both.

Applying economic definitions in a clear and easily administered way is a major challenge in any sector of the economy. However, in the telecommunications sector there are further difficulties that result from the dynamic nature of the sector, such as:

- Rapid pace of underlying technological development. Services are defined in market and in technical terms. As the technologies change or merge the service characteristics change as well. In telecommunications the fundamental shift to common IP platforms for the provision of services, rather than discrete technology and discrete service platforms has significant impact at the service and supplier levels.
- Fast changing cost structures and cost relationships. The 'distance' between services and markets, in terms of substitutability, may be measured in many ways, including cost. As unit costs fall, or cost relationships change through convergent technologies,

the market boundaries, established when earlier technologies held sway, come under question.

- Fast changing patterns of demand and of substitution between services and applications. This follows from changes in the underlying technological and cost realities.
- Convergence of services and technologies, underpinned by the extension of ubiquitous digital technologies and particularly packet technologies
- Convergence of suppliers resulting from changes in the value chains associated with the sector, and the changing value relationships of functions and those who undertake them, and from the commoditisation of many services in the sector.

These factors make it difficult to segment and define specific service markets in the first place, and to ensure that they remain relevant in future as a basis for regulation. For that reason it is desirable to adopt a time horizon for market definition (and analysis) of 18 months to 2 years at most. An initial model for market definition (or definition review) and analysis needs to be adopted so that the period between reviews implied by the time horizon is not unduly burdensome on the regulator and the industry.

It is recommended that a robust methodology involving a six-step approach to market definition be adopted. The six steps are as follows:

- **Step 1**: Select an initial market definition that is not too broad. The purists will say that the market should be defined as narrowly as possible for this initial testing stage, but our experience, and the experience in the EC, suggests that we can with assurance move to a broader basis of analysis. We could, for example, adopt some of the market definitions developed by the EC in its enlarged set of markets in 2003 as an initial working hypothesis. This would be a starting point only. If used as a start, this set of markets may be adjusted in light of local market conditions. For example, in the EC there was attention to the separate markets defined in terms of business and residential customers. Some of these distinctions may not be relevant in other countries.
- **Step 2**: Consider geographic market segmentation in the candidate markets. In the EC the emphasis is on national markets, although more recently Ofcom in the UK has examined wholesale leased line markets on a detailed, exchange area by exchange area, geographic basis. There may be major geographical market segmentations needed for SMP analysis in some countries (e.g. if the state of development or competition varies substantially between areas), and regulators should at least consider this possibility. The emphasis in the EC on national markets is really a default assumption. There is an assumption that markets for telecommunications services are national in character unless there is strong evidence to the contrary. In part this is supported by the relatively even population densities across much of Europe, with few extremes between urban communities and extremely sparsely populated rural and remote communities. The assumption may not hold for all countries.
- **Step 3:** Customer elements in market definition. The demand, requirements and affordability patterns of customers serve to define markets. It may be appropriate in some cases to define the market in terms of customer characteristics. A market will

always need to be defined as wholesale or retail, and even though the customers are distinct, the product and service offerings are usually significantly different as well. As noted earlier, business and residential customers may serve to define discrete and separate markets in some service areas, but not others. Nowhere is this clearer than when the level of competition is significant for business customers but very low for residential customers. Even when the differences are not particularly great, regulatory restrictions may accentuate such differences to the point where it makes sense to talk of two markets rather than one.

- **Step 4:** Examine demand-side substitution using the techniques such as the Hypothetical Monopolist (or SSNIP) Test. This is a test is used to define the limits of substitution on the demand side. The test considers a hypothetical monopolist who introduces a small, significant non-transient (or permanent) increase in price (SSNIP) for a service, and tests whether such an increase is profitable for the hypothetical monopolist. That will depend on the number of customers that move to a substitute service. The test is usually based on a price increase of 5-10%. If the increase is profitable, then this will be evidence of the absence of appropriate substitutes, and therefore of the boundaries of a discrete market. If the increase is not profitable, the service definition needs to be expanded to include the substitute service, and the SSNIP Test run again on the basis of the enlarged definition. It is useful if the test is aided by surveys of customer intentions in the event of price increases, but these are typically either not available or, if available, not definitive. Great care needs to be taken in applying the test to ensure that a range of fallacious assumptions or conclusions are avoided. It has been said that the Hypothetical Monopolist Test usually relies on hypothetical data, and may not produce the guide that is needed. For this reason it may also be helpful to examine other indicia of demand-side substitution, including a consideration of the characteristics of other services and past evidence of substitution.
- **Step 5:** Examine supply-side substitution. Supply-side substitution occurs when suppliers to different markets respond to increased prices in a ‘neighbouring’ market (neighbouring in service terms, not in location necessarily) to divert productive capacity to that market. The Hypothetical Monopolist Test is not particularly useful for examining supply-side substitutability because the 5-10% price changes that are typically assumed in applying the test are not sufficient to overcome the expected one-off costs to redirect productive capacity to a new market. In considering whether such alternative suppliers might exist and be prepared to enter the market being tested, it is important to consider the practical issues that they might have to address in deciding on entry, otherwise their availability as substitute-suppliers and competitors may be too readily assumed. The EC places lesser emphasis on supply-side substitution in market definition. Nevertheless, for completeness, it needs to be considered.
- **Step 6:** Repeat the earlier steps as the definition of the market under consideration is changed to reflect the earlier application of each step. The process that underlines the methodology is therefore iterative, until the boundaries of substitution have been explored and some comfit exists that the boundaries are, in a robust correct, correct for the purposes of analysis.

3. Analysis of markets for SMP

Analysis of defined markets for SMP is difficult and resource-intensive. Few European regulators completed the analysis of the 18 markets identified by the EC in 2003.

It is important therefore to adopt practical steps to reduce the effort and resource involved.

3.1 The threshold criteria

The EC has adopted a set of three threshold criteria to be applied to markets under consideration before a full-scale market analysis is undertaken.

The three threshold criteria are:

1. whether the telecommunications market under consideration is subject to high and non-transitory barriers to entry;
2. whether the telecommunications market under consideration would naturally tend, in the short or medium term, toward sufficient competition to protect the interests of customers, even without regulatory intervention; and
3. Whether *ex-post* remedies alone, in the absence of *ex-ante* remedies in the same telecommunications market, would likely be sufficient to address concerns related to market dominance.

These criteria need to be applied in aggregate. If the barriers to entry are not enduring, and if there is evidence of recent increased competition and likely further increased competition in the short to medium term, and if there is some reason to believe that *ex post* intervention by the regulator might be effective, then there is good reason for the regulator to desist and not intervene with *ex ante* remedies for SMP. Instead the regulator might decide to monitor developments to see if the market develops in a competitive manner.

If the set of criteria does not suggest caution of this kind, then a full-scale examination of the market is warranted.

3.2 Full-scale analysis

There are many factors that need to be considered to determine whether there is SMP in the market. These factors may not all point in the same direction, so that often an “on balance” conclusion needs to be reached.

The factors that are likely to be relevant (but not always) and which need to be taken into account are:

1. the degree of market concentration as determined by reference to revenues, numbers of subscribers or other relevant statistics;
2. the evolution of telecommunications service providers' market share over time;
3. the degree to which a telecommunications service provider's tariffs have varied over time;
4. the ability of the telecommunications service provider to earn higher than normal profits;
5. the telecommunications service provider's financial resources and access to funding;
6. the telecommunications service provider's vertical integration and the existence of a highly developed distribution network;
7. the ability of the telecommunications service provider to benefit from preferential or limited access to superior technology; and
8. the ability of the telecommunications service provider to obtain preferential or long-term contracts for the supply of relevant services to large users.

It is important to note that market share alone should not be taken to be determinative of SMP. The reason for this is that any market share threshold that is adopted is arbitrary, and may give rise to perverse results. Two examples may illustrate this point:

- Suppose, for example, that a market share of 50% is taken as determinative of SMP. In a market of two players one may have 50.1% market share and the other 49.9%. If market share is taken to be determinative of SMP, then the one company will be determined as SMP and the other will not, even though they are effectively of the same scale. Of course, a materiality test could be incorporated so that this worst case is avoided, but even then the difficulties in defining and accurately measuring market share will cause problems, as will the natural variations in market share over time.

- Suppose, alternatively, that a market share of 25% is taken as the threshold for determining dominance. (This was the situation in the EU prior to the 2002 regulatory framework being adopted.) Now, as a player comes close to 25% market share, its behaviour will change. It may try to manage its market share to remain just below this threshold and so avoid the rigors of *ex ante* regulation. If it does this it will be responding to regulation, not to the market. If, for example, the market share calculation is based on revenues it may give away services for free or for a reduced price so as to maintain its revenues below the threshold. Alternatively, if the market share calculation is based on volumes it may find ways to cast off the least profitable customers. These tactics will continue to be deployed until it has in reality far more than the 25% market share. It should be noted that similar but reverse tactics apply in the case of a company whose market share falls towards the threshold level. In this case it will try to manage its share artificially downwards, while simultaneously lobbying the regulator to have its status reviewed.

In some countries the law incorporates market share thresholds into the definition of SMP (or dominance). In these cases the regulator obviously has to use the market share criterion directly. In other cases the law might make market share thresholds into rebuttable presumptions of SMP – that is, unless there is evidence to the contrary the presumptions apply. In most countries there is reference to market share as a test for SMP, but it is only one of a number of factors to be considered and is therefore unlikely to be the sole determinative issue affecting the conclusion on SMP. We prefer this approach. After all market share is the result of various market forces and the more that the enquiry turns to those underlying forces, rather than to market share alone, the better will be the analysis of the state of the market and the strength of the competitive forces in play. In practice we have found that changes in market share over time provide a better indication of competition in a market than any assessment at a single point in time.

3.3 Conjoint SMP

The regulator will need to consider the possibility that more than one service provider has SMP in a market. This appears to be contrary to the definition of SMP, which is based on acting independently of competitors and customers. Conjoint SMP therefore can only arise when there is a degree of joint action in the market, whether through active collusion or some form of parallelism short of collusion. In the former case criminal sanctions may be available in some jurisdictions. In both cases the challenge is to find evidence that supports the proposition of conjoint SMP. We have found the need to consider conjoint SMP to be more common in smaller markets with two competitors. The policy solution might appear to be issuing further licences for new entrant service providers, but often the market will not be big enough to sustain a larger number of competitors. Additional licensing is not an ex ante remedy in any case.

4. Remedies

Many regulators have the view that the critical decision is to conclude, on all of the economic evidence, whether there is SMP in a market, and which service provider has SMP. However the next step in the process is at least as important – namely that, in accordance with the approach preferred by the EC, the determination of remedies (*ex ante* regulation) that are appropriate, reasonable and proportionate in all the circumstances. This means that the remedies should be no more than is required to contain the risk of harm presented by the SMP.

It is the role of the regulator to shape these remedies (sometimes called 'determining the intensity of the remedy') to match the risk of harm. This also implies that it is not automatic that the intensity of a remedy applied to two operators both of whom may be considered to have SMP (because of the risk of cooperation) need be the identical.

It is also important to consider what, if any, action to take in downstream retail markets where there is SMP, having regard to the actual or likely effectiveness of the remedies applied or proposed for related upstream wholesale markets.

Outlined in the table below is a list of potential harms from SMP and of the remedies that may be useful to address them. The remedies are indicative only.

Relevant Market Category	***Typical potential for harm from market dominance***	***Indicative potential remedies***
1. Retail markets	Over-charging, anti-competitive pricing, cross subsidies, etc.	- Tariff filing and approval - Tariff Notification - Cost studies - Price Cap Regulation - Accounting Separation
	Unfair terms and condition, information asymmetry, subscriber lock-in, etc.	- Subscriber information obligations - Terms of service
	Reduction in quality	- Quality of service
2. Wholesale markets	Reduction in quality	- Quality of service
	Unfair terms and condition, information asymmetry, subscriber lock-in, etc.	- Subscriber information obligations - Terms of service
	Over-charging, anti-competitive pricing, cross subsidies, etc	- Interconnection Charges - Cost studies - Accounting Separation - Tariff filing and approval
	Denial or delay in providing services, unfair terms and condition, etc.	- Offer interconnection services - Reference Interconnection Offer (RIO) - Reference Offer for Data Access (RODA) - Interconnection Agreement - Offer wholesale leased lines - Offer access to essential facilities
	General discrimination in favour of own retail operations	- Operational separation - Offer access to essential facilities