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Indirect Constraints and Captive Sales

Overview of regulatory practice and
competition case law with regard to
indirect constraints and captive sales
in market definition and market power
assessment

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1. INTRODUCTION AND OVERVIEW

CRA International has been requested by Ofcom to prepare a survey of the treatment of captive sales and indirect constraints in market definition and market power assessment by competition policy and telecommunications regulatory authorities in the EU. This report presents the main findings and conclusions from our survey.

Issues relating to indirect constraints and captive sales in principle may apply to any industry with a vertical structure, and may therefore arise frequently in competition and regulatory cases. These issues can play an important role in the definition of the market and in the market power assessment carried out in these cases. It would therefore be appropriate if competition authorities and national regulators were to apply a consistent and analytically sound approach to the treatment of indirect constraints and captive sales.

The decisions surveyed in this paper show that, in its judgements on competition policy cases, the Court of First Instance (CFI) has consistently stated that indirect constraints can be used not only at the market power assessment stage, but also in the market definition stage, i.e., to establish whether different upstream goods belong to the same market even if they are not directly substitutable. The Commission's practice in regulatory proceedings under Article 7 of the New Regulatory Framework (NRF) for electronic communications appears instead to be somewhat less consistent. In several comments about the market analyses of National Regulatory Authorities (NRA), the Commission has criticized their use of indirect constraints at the market definition stage. However, the Commission itself has relied on similar considerations in other cases (e.g., the analysis of market 15 for wholesale mobile access and call origination).

Regarding the treatment of captive sales, both the CFI and the Commission have recognized the need for case-by-case analyses to determine whether some internal transactions (self-supply) or some sales under long-term or relational contracts should be considered effectively "captive". In practice, the Commission has typically found that self-supply was effectively captive and excluded it directly from the market definition, while sales under long-term contracts have been included, consistently with the so-called "merchant market rule". The exceptions were mainly cases (e.g., *Schneider* or the analysis of market 15) where indirect constraints considerations appeared paramount.

1.1. STRUCTURE OF THE REPORT

The structure of the report is as follows. In the rest of this section we provide an overview of the issues concerning captive sales and indirect constraints for competition policy and regulatory analysis, as well as an overview of the cases and regulatory decisions surveyed later in the report.

Chapter 2 surveys the treatment of the issues of this survey in the guidelines for market definition and/or merger analysis adopted by antitrust and regulatory authorities in EU, UK, US, Canada and Australia.

Chapter 3 surveys six EU competition policy cases (three judgements by the Court of First Instance and three decisions by the European Commission) that represent the major precedents of EU competition case law in these matters.

Finally, Chapter 4 surveys some of the market analyses and Commission responses under Article 7 of the EU New Regulatory Framework (NRF) for electronic communications which we believe to be most informative for the purpose of this survey.¹

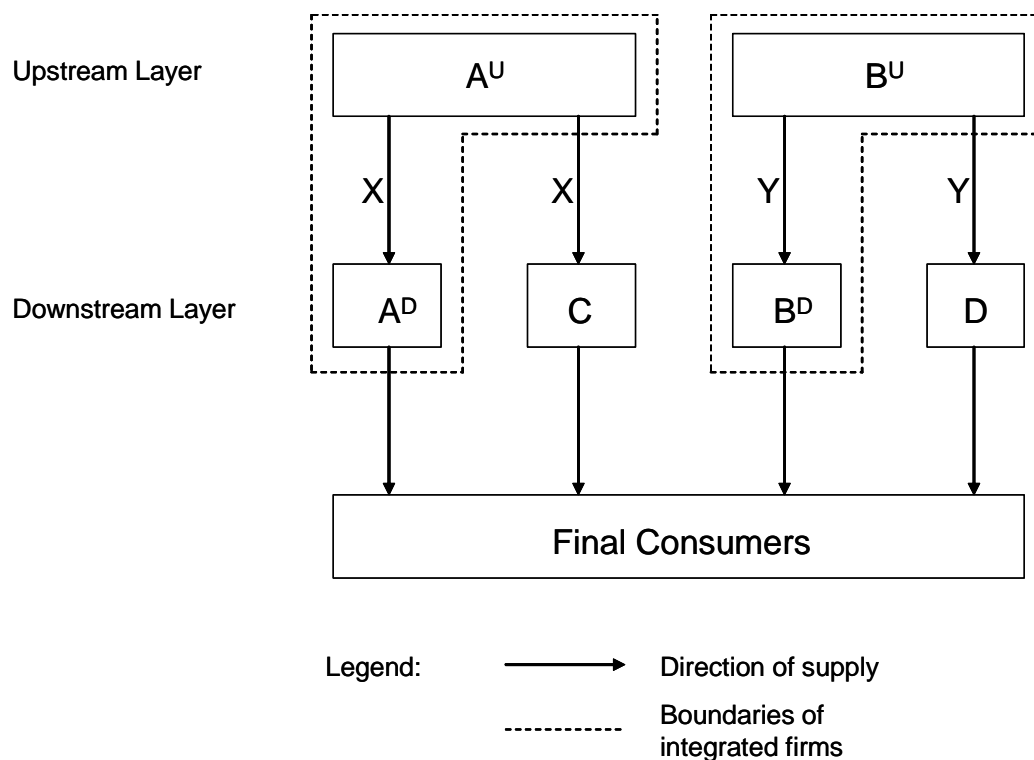
Appendix 1 contains a summary of our main findings in relation to the competition and regulatory cases surveyed in this Report.

1.2. OVERVIEW OF THE ISSUES

Indirect constraints and captive sales are issues that arise in the context of market definition and market power assessments of the supply of intermediate inputs into final products and the vertical relationships between firms at the upstream and downstream levels.

To illustrate the issues, Figure 1 presents a stylised representation of a two-layered industry with intermediate inputs. In this figure, an upstream (or wholesale) layer supplies intermediate wholesale inputs to a downstream (or retail) layer that supplies final consumers. Firms may be vertically integrated and operate at both layers, or they may operate only at one layer. Firms that are vertically integrated may supply themselves internally ("self-supply") or may supply non-integrated firms at the retail level.

¹ The selection of competition policy cases and market analyses under the NRF has been undertaken in consultation with Ofcom.

Figure 1: Stylised Representation of a Two-Layered Industry

Specifically, Figure 1 presents a situation where there is a single supplier (A^U) of an intermediate wholesale input, X , that is supplied to its own vertically integrated downstream retail arm (A^D) and to independent retailers (C). It also presents a similar structure around a second intermediate wholesale input, Y (which may or may not be substitutable for X), with a single supplier of this input (B^U) serving its own vertically integrated downstream retail arm (B^D) and a second set of independent retailers (D).

1.2.1. Indirect Constraints

The Issue

A firm operating at the upstream level may be constrained “directly” at that level by other firms operating at that level. For example, firm A in Figure 1 may be constrained in its ability to raise prices for the intermediate input X above the “competitive level” by the potential for firms C to substitute X for Y from firm B (demand side substitution) or the potential for B to begin to supply X itself (supply side substitution).

The upstream firm may, alternatively, be “indirectly constrained” by competition between products at the downstream level. For example, suppose that Y is not a substitute for X (or that B^U does not supply Y on the merchant market) and that B^U is unable within a reasonable period to begin to supply X . In this case, there would be no *direct* constraint on A ’s pricing of X . However, if there is competition at the downstream level (to supply final consumers) between firms using X as an input (A^D and C) and firms using Y as an input (B^D and D), then this competition will constrain the price that A^U can achieve for X . This is because any attempt by A^U to raise the price for X will put upward pressure on the

retail prices of downstream firms using X as an input, compromising their ability to compete for final consumers with firms using Y as an input. The effect of an increase in the price of X will then be to reduce sales of X and increase sales of Y (even where X and Y are not direct substitutes at the upstream level). In other words, A^U is not constrained directly by B^U , but indirectly by competition at the retail level and the ability of final consumers to switch to final products that do not use X as an input. There is no reason in principle why this indirect constraint should be any less effective than a direct constraint coming from B^U .²

Indirect Constraints in Market Definition and Market Power Assessments

Ultimately, the question of whether an upstream firm has significant market power (SMP)³ and discretion in the prices (or quality) at which the intermediate input is supplied must be determined on the particular facts of each case. Where an upstream firm is effectively constrained in the terms and conditions it can achieve for the intermediate input by indirect competition at the downstream level, a finding that the firm does not have SMP should follow. However, an issue that often arises in competition and regulatory assessments of markets where there may be indirect constraints is whether assessment of these constraints should be factored into the market definition stage or deferred to the assessment of market power or the effects on competition. The key question is how retail substitution should be taken into account in defining wholesale markets. Two alternative approaches exist and have been applied in the guidelines and cases that we review in this report.

² Note that the relevance of indirect constraints is logically independent of the extent of vertical integration in the industry: the argument in the text would apply equally well if A and/or B did not have any downstream divisions.

³ Our references to SMP should be understood as applicable also in the context of “dominance” assessments. The treatment of indirect constraints and captive sales does not depend on any distinctions there may be between the two concepts.

1. **Include only direct constraints in the market and defer indirect effects to the market power/competitive effects assessment.** One approach is to limit the market definition assessment to direct constraints, and defer assessment of indirect constraints to the assessment of significant market power or competitive effects. This approach is driven by practical considerations such as the desire to define markets including only clear substitutes. An economic approach to market definition, by contrast, would attempt to identify and include *all* relevant competitive constraints. It is also inconsistent with the SSNIP test for market definition that is traditionally applied in market definition assessments; indirect constraints are reflected in the elasticity of downstream firms' demand for the upstream products and will therefore factor into the relevant upstream market under a SSNIP test.⁴ As a consequence, this approach may produce market definitions and market share estimates that do not tell the competition or regulatory authority very much about competitive condition in the market. However, as long as these limitations are well understood and it is acknowledged that the purpose of the market definition stage is only to isolate a set of products for a first screening, not necessarily to define all the relevant competitive constraints, and as long as the competition or regulatory authority proceeds in the market power or competitive effects stage to fully analyse the competitive constraints from outside the defined market, then it is a workable approach.

This approach has been advocated by the European Commission ("the Commission") in a number of Article 7 comments on NRA market definition and market power assessments under the new regulatory framework ("NRF") for electronic communications. The Commission also advocated this approach (at least implicitly) in the *Schneider* case, but it was overruled on this point by the Court of First Instance ("CFI").⁵

⁴ It may be thought that this approach is somewhat analogous to the approach taken to supply side substitution constraints under the United States' Horizontal Merger Guidelines. In the United States, the market is defined only by reference to demand side considerations. However, capacity that would be diverted to the market in response to a SSNIP (i.e. supply side substitution) is still factored in to the calculation of market shares as long as it this would occur within one year and without the expenditure of significant sunk costs of entry and exit (firms that are in a position to divert such capacity are included, along with current producers, as "market participants"). By contrast, the approach of deferring the consideration of indirect constraints to a later stage implies that those indirect effects are not included in the calculation of market shares.

⁵ We review the *Schneider* case in Section 3.2 below.

2. **Include direct *and* indirect constraints in the market.** A second approach is to factor indirect constraints in to the assessment of the relevant market and to calculate market shares by reference to shares of the downstream market that are served by the intermediate inputs. This approach has the merit that it better reflects the economic purpose of the market definition exercise: to identify and represent within the defined market all the immediate competitive constraints that are faced by the firm(s) under investigation. It may therefore generate market share estimates that better reflect the full range of competitive constraints on the firm(s) under investigation. Two related approaches have been suggested along these lines. Both approaches aim to achieve the objective of reflecting within the relevant market all the competitive constraints on the supply of the intermediate input.

The first is to define an upstream market for X and Y, and when calculating market shares, incorporate the indirect constraints at the downstream level in to this market by inferring upstream market shares from downstream market shares. For example, if A produces only 75% of X (i.e. assume there is another supplier of X that produces the other 25%) and if final consumer products using X are only 40% of the downstream market (final consumer products using Y make up the other 60%) then A would have a market share of the upstream market of just 30% (i.e., 75% times 40%). This approach was advocated by the Commission and endorsed by the CFI in the *GE/Honeywell* case. The CFI had already endorsed this approach (against the Commission's view) in the *Schneider* case.⁶ This approach has also been adopted by several NRAs in their market reviews under the New Regulatory Framework for electronic communications (NRF).

⁶ The Commission considered the possibility of indirect constraints also in the market definition analyses in *Alcoa/Reynolds* and *Shell/DEA*, but found that the effects were not significant in those cases. See Sections 3.5 and 3.6 for details.

A difficulty with this approach is that a degree of artificiality arises in broadening the upstream market horizontally to reflect constraints at the downstream level and inferring upstream market shares from the downstream market. For example, the qualitative differences that reduce substitutability between the upstream intermediate inputs may be reflected in different contributions to the value added by the downstream production processes (one may require less labour for maintenance or further processing, for example). In such cases, the inference of upstream market shares from downstream shares may not be straightforward.⁷

An alternative, but closely related second approach (discussed in the Australian Merger Guidelines) is to define a single functional market covering both the upstream and downstream levels where close substitution possibilities (product or geographic) at the downstream level constrain pricing and quality decisions at the upstream level. Under this approach, rather than attempt to broaden the upstream market horizontally to reflect constraints imposed by downstream competition, these constraints are explicitly factored within a single functional market covering both levels. Under this definition it becomes more natural to refer to downstream market shares to analyse power within the broad functional market.⁸

In principle, the choice as to where indirect constraints are first considered (at the market definition stage or in the market power assessment) should not ultimately affect the outcome on the question of market power. Where there is an effective indirect constraint, either the market is defined broadly and the firm(s) in question do not have significant power within that market, or the market is defined more narrowly, but the analysis recognises that constraints that come from outside the market are effective to constrain behaviour in the market.

However, the choice will affect the calculation of market shares and related concentration measures; deferring consideration of indirect constraints to the market power assessment will lead to a narrower market and higher market share and concentration figures. A practical rationale for preferring the narrow approach is a concern to ensure that no market (in the regulatory context) and no merger or conduct (in the competition context)

⁷ The implementation of this approach via a SSNIP-like test also requires some methodological changes. The traditional SSNIP test calls for the progressive inclusion in the relevant market of (directly substitutable) products that would constrain a hypothetical monopolist from raising prices for its product by 5-10%. Where the relevant constraint comes indirectly from competition at a different functional level (in our example, from substitution possibilities at the downstream level) the traditional SSNIP procedure breaks down. This is because there is no sense in which the downstream products are "substitutes" for the upstream product. Rather, the downstream and upstream products are complementary parts of the supply chain to the consumer. It can be argued, however, that the logic behind the SSNIP test remains applicable: at each stage, the market can be extended to include the product (at any level) which is most effective at constraining the hypothetical monopolist, regardless of whether the constraint is direct or indirect.

⁸ Note that the Australian Merger Guidelines allow scope for either approach to be adopted, depending on which definition most accurately describes the arena of competition. For example, where the focus of the investigation is on retail competition between vertically integrated firms and independent downstream firms, defining a single functional market may be more appropriate. Where the focus is on competition at the wholesale level, defining a wholesale market, but accounting for indirect constraints within this market may be preferred.

escapes analysis by falling below formal or informal “safe haven” thresholds before a more complete analysis can be conducted at the stage of market power assessment or competitive effects. Conversely, a practical rationale against the narrow approach is that it may lead to a systematic bias against findings of effective competition when constraints external to the market may be effective. If a large weight is placed on findings of high market shares (for example, if there is a presumption of SMP for market shares above a formal or informal threshold) then deferring consideration of indirect constraints to the assessment of market power may accord them insufficient weight and lead to overly frequent findings of market power.

One way to interpret these opposing practical concerns is to view implicit advocacy of different market definition rules as attempts to reduce alleged biases in some given practices for market definition and market power assessment. It would probably be more efficient to tackle any such bias directly and avoid attempts to introduce countervailing distortions. If the market definition process is to be used to generate market shares that are informative as to the competitive conditions on the market, and the existence or otherwise of SMP or dominance, then it must allow for the inclusion of all the important immediate competitive constraints on the firms being investigated. To adopt any form-based rule that may ignore, or explicitly exclude, certain important constraints would defeat this purpose and lead to market definitions and associated market shares that are largely uninformative – and potentially misleading – for the competition or regulatory assessment.

1.2.2. Captive Sales

The Issue

Another issue that may arise in the context of market definition and market power assessments concerning intermediate inputs is how to deal with self-supply by integrated firms using capacity that may or may not be available on the wholesale merchant market. For example, in our stylised illustration in Figure 1, suppose a competition or regulatory authority has determined that the supply of Y represents a direct competitive constraint on the supply of X, and has consequently defined a wholesale market for X and Y. The question then arises whether the self-supply of X and Y within firms A and B (respectively) should be included in the market and the calculation of market shares, and ultimately whether these sales constrain the pricing (or quality) of the intermediate inputs on the merchant wholesale market.⁹

Note that sales may also be considered “captive” where supply of the intermediate input is to an independent downstream firm, but where relationship specific investments and/or long term contracts limit the economic attractiveness of withdrawing this supply to serve

⁹ It may be relevant in some instances as to who has the captive sales. For instance, in merger analysis, if the merging parties have the captive sales, then this capacity is unlikely to be relevant to a consideration of a post-merger price rise in the merchant market. But if the captive sales are held by non-merging parties, then they may be relevant to whether there will be a post-merger price rise (depending whether the sales are truly captive or just self-supply). Similar considerations may apply to the analysis of Article 82 cases or ex-ante assessment of SMP for regulatory purposes.

other downstream firms within a reasonable period.¹⁰ In fact, relationship specific investments and long term contracts may be seen as alternatives to internal organisation within a single firm (i.e. vertical integration). It may therefore be inconsistent to treat self-supply and sales under long-term relational contracts differently.¹¹

It is important to note at the outset that self-supply of an input is not necessarily “captive”. Ofcom has proposed a useful definition of captive sales as “sales that cannot within the period relevant to the definition of a relevant market under competition law (generally one year) be made available for sale as a traded good.”¹² This definition accords with the standard approach to supply side substitution in market definition which allows for inclusion within the market of any capacity that is readily available to act as a constraint on prices within a reasonably immediate period (e.g. one year), but which regards less immediate supply side substitution possibilities as potential entry outside the market. In many cases, intermediate inputs that are being self-supplied by the upstream arm of a vertically integrated firm to its downstream arm may be quickly diverted to supply an independent downstream firm.¹³ More broadly still, self-supplying firms may be able to adjust their production levels without much difficulty and continually monitor the markets to decide whether to provide their services to other firms. The capacity available within these firms will act as a constraint just as much as the capacity available within firms that are currently supplying on the merchant market. In these instances, the self-supply and associated capacity is *not* captive and a distinction between self-supply and sales on the merchant market would make no economic sense.

Captive Sales in Market Definition and Market Power Assessments

The first issue that arises at the market definition stage in an assessment of “captive sales” is to determine whether the transactions in question are truly “captive” (that is, whether the transactions will necessarily occur within the firm’s boundary for the relevant time horizon). If so, the corresponding production capacity of the firm will not act as a

10 This issue has been considered by the Commission in *Alcoa/Reynolds* and *Shell/DEA* where it decided that long-term sales were to be included in the corresponding relevant markets based on the structure of the price formation process for those sales.

11 In addition, note that where supply of an intermediate input to an independent firm is subject to relationship specific investments or long term contracts, these features suggest that the standard approach to market definition – which looks to immediate substitution possibilities – may not be instructive, and a longer term approach to the market definition exercise may be appropriate.

12 This definition was proposed in Ofcom’s “Invitation to Tender” for this Report. Ofcom’s definition focuses on an assessment of whether the upstream production capacity used for self-supply may be diverted to the merchant market or is truly “captive” within the firm. The definition might also be extended, symmetrically, to consider whether that self-supply represents “captive purchases” (i.e. whether the downstream demand within the firm could be diverted from the integrated upstream division to independent upstream producers selling in the merchant market).

13 For example, incumbent telephone companies self-supply local loops in the provision of narrowband and broadband telephony services to retail customers. However, in many countries these local loops may be quickly transferred to the wholesale unbundled local loop market and therefore should not be considered “captive”. The CFI used a similar argument in *Schneider*.

direct competitive constraint on the supply of the intermediate input on the merchant market and, apart from indirect constraints considerations, this capacity should not be included in the relevant market or market share calculations. The opposite conclusion would have to be reached if, within the relevant time frame, the firm could decide to divert its upstream production capacity to the merchant market and would do so within a reasonably short period of time in response to an increase in price on the merchant market.

The determination of whether some sales are captive will require a case-by-case analysis. Nonetheless, it may be possible to identify some aspects of firm or industry organisation that can help competition and regulatory authorities in making this assessment. For example, the importance of brand reputation and switching costs at the downstream level may suggest that a firm's downstream operations are unlikely to be curtailed just to free upstream capacity to exploit some temporary peak in upstream prices. Similarly, high entry costs may discourage activities in the merchant market and such entry costs may be related to the same factors that had led to vertical integration or relational contracting (e.g., asset specificity or difficulties in monitoring important aspects of suppliers' performance).¹⁴

As noted above, a case-by-case analysis is required to determine whether the transactions are truly captive. Formalistic application of general rules will not be particularly helpful for this exercise. For example, if the market definition exercise is to tell us something meaningful about the competitive conditions that are operating on the firm(s) under investigation, it would be inappropriate to adopt an inflexible "merchant market rule". Under the "merchant market rule", all internal sales of the intermediate input are excluded from the market for the purposes of market share calculations, and only sales made to independent downstream firms on the "merchant market" are included. There is no economic logic to justify a generalized application of such rule, as it can lead to market definitions and market shares that are not instructive as to competitive conditions. We can give three examples.

1. First, where there is only one firm supplying an intermediate input on a merchant basis, it may be found to have a 100% market share even if it has no ability to raise its prices above competitive levels due to the supply side constraints posed by capacity currently used for self-supply by potential competitors.
2. Second, if downstream customers are able to self-supply the intermediate input (i.e. "backwards" integrate) then a single firm supplying the intermediate input on

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The determinants of firms' decisions about vertical integration are the main focus of "transaction costs economics". For example, see Michael D. Whinston (2003), "On the Transaction Cost Determinants of Vertical Integration", *Journal of Law, Economics and Organization*, vol. 19, pp. 1-23.

the merchant market may be found to retain a 100% market share even as its volumes tend towards zero.¹⁵

3. Third, under a strict interpretation of the “merchant market rule”, sales under long term contracts or in the context of relationship specific investments would be included within the market, while essentially equivalent transactions that occur internally within a vertically integrated structure would be excluded. This further illustrates the arbitrariness of the distinction that is drawn by the “merchant market rule”; sales under long term contracts or in the context of relationship specific investments may be no less “captive” than internal transactions.

However, if for practical reasons a competition or regulatory authority were to apply a strict merchant market rule to its market definition assessments (perhaps so that the market definition stage can be completed as quickly and cleanly as possible) this approach might be saved if the authority is always careful to fully consider the effects of the captive sales in the subsequent assessment of market power or competitive effects. While such an approach would not be consistent with an economic approach to market definition, or the SSNIP test, it would not be fatal, as long as it was clearly understood that the purpose of the market definition process under this approach is only to provide a starting point for a fuller analysis and not to shed light on competitive conditions in the market, and as long as no particular reliance is placed on estimates of market shares.

As noted above, truly captive sales will have no *direct* effects on the pricing of intermediate inputs supplied on the merchant market. However, captive sales may have *indirect* effects on the pricing of intermediate inputs in the merchant market through the competitive pressure that they may represent when used as inputs into final products. If a competition or regulatory authority wishes to consider only direct effects at the market definition stage (the first approach outlined in the discussion of indirect effects above), captive sales should be excluded from the market. If the authority would instead prefer to consider direct *and* indirect effects at the market definition stage (the second approach outlined above) then a second step in an assessment of captive sales is to consider whether these sales impose an indirect constraint on the wholesale merchant market.

For example, under the second approach, even if A and B’s self-supply of X and Y is considered captive and hence not a direct constraint on the wholesale merchant market

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In this case, the ability of customers to self-supply may act as a direct constraint on the terms and conditions that can be achieved for the intermediate input. As a matter of principle, if the purpose of the market definition exercise is to identify all the immediate competitive constraints that are faced by the firm(s) under investigation, and thereby to allow a representation of these constraints in the form of market shares, then the market definition exercise should incorporate constraints that arise from the potential for downstream firms to self-supply upstream. This issue arose in the Commission’s Article 7 comments on NRA assessments of transit markets (discussed in full detail in Section 4.1. In these cases, self-supply may be “captive” in that the manner in which it is configured may not lend itself to diversion to the merchant market (it may be a solution that is particular to that downstream firm) or the downstream firm may simply have no interest in operating on the merchant market as a wholesaler. Nonetheless, consistent with the need to assess every case on its facts, this would be an instance where a principled economic approach would recommend inclusion of these captive sales in the market definition and market share calculations, and also consideration of self-supply as a factor pointing to effective competition in the market power assessment.

for X and Y, the corresponding production capacity may yet be included within the market if it is the case that this capacity exerts competitive pressure on the price and quality decisions for X and Y through the downstream market. If final consumers view as closely substitutable final products using X and Y as inputs, then accurately reflecting this retail competition in the market definition stage (and market share calculations) will require accounting for both captive sales and merchant market sales of X and Y. Indeed, the need to fully consider indirect constraints is arguably greater where there are captive sales, precisely because captive sales will not feature in the assessment of direct constraints although they may indirectly constrain the pricing of the intermediate input on the wholesale merchant market.¹⁶

Whichever approach is adopted at the market definition stage, any indirect effects that captive sales may have on the pricing of the intermediate input on the merchant market should certainly be considered in the market power or competitive effects assessment.

A summary of the alternative approaches to indirect constraints and the treatment of captive sales is provided in Table 1 below.

Table 1: Summary of Approaches to Indirect Constraints and Captive Sales

Stage of Analysis	Direct Constraints Approach	Direct + Indirect Constraints Approach
Market Definition	Include all non-captive direct constraints	Include all non-captive direct constraints and indirect constraints (including captive sales that act as indirect constraints)
Market Power/ Competitive Effects	Consider all direct and indirect constraints (including captive sales that act as indirect constraints)	Consider all direct and indirect constraints (including captive sales that act as indirect constraints)

1.3. OBSERVATIONS FROM THE GUIDELINES AND CASES

1.3.1. Indirect Constraints

Our review has revealed a fairly consistent approach to the issues of indirect constraints across the EU competition cases. The CFI has always stated that indirect constraints can be used to establish whether different upstream goods belong to the same market even if they are not directly substitutable. This has been confirmed both when the upstream goods were supplied “captive” by a vertically integrated firm (*Schneider*) and when neither of the upstream firms were active in the downstream market (*GE/Honeywell*).

¹⁶

For example, in most EU countries fibre-optic and co-axial cables to homes are not readily available for purchase on a merchant wholesale market. These inputs to retail cable broadband products are therefore captive sales within the cable operator’s integrated structure. However, strong arguments can be made that cable broadband and broadband supplied over DSL are close substitutes at the retail level, and that this competition indirectly constrains the pricing of wholesale DSL.

In evaluating the relevance of indirect constraints in specific cases, the Commission and the CFI have used a variety of approaches. In *Schneider*, the CFI considered the bidding nature of the downstream market as inducing competition between the merging parties' sales to (unaffiliated) downstream firms and the internal sales of vertically integrated firms. In *GE/Honeywell*, the Commission and the CFI used the evidence of internal documents showing that the upstream firm was willing to discount its price of engines in order to induce airlines to buy aircraft powered by its engines instead of those powered by rival engine makers. However, we have not seen any references in the published Decisions to formal quantitative assessments of the impact of indirect constraints.

The Commission appears to have adopted a different position in its analysis of telecommunications markets under the New Regulatory Framework (NRF). In several of its comments to NRA's reviews of markets 10, 11 and 12 under Article 7 of the NRF, the Commission has criticized the NRA's use of indirect constraints for market definition purposes. Although it admitted that those NRA's market definitions were "in principle" consistent with the Commission's recommended methodology, the Commission went on to claim that the market definition exercise should only consider the direct constraints from goods that are substitutable at the wholesale level, while the analysis of indirect constraints should be deferred to the market power assessment phase. Interestingly, and somewhat contradictorily, in its analyses of market 15 the Commission relied on indirect constraints from the retail level to define wholesale mobile call and origination markets even when there were no (merchant) sales on such a "market".

The reasons for this apparent difference between the Commission's approach in some Article 7 proceedings and the approach endorsed by the CFI in competition policy cases are unclear. Fortunately, however, it has not been a very consequential difference, since the Commission has recognized in its Article 7 comments that consideration of indirect effects at the market power assessment stage would have resulted in the same conclusions.

1.3.2. Captive Sales

The isolation of a unified, identifiable approach to captive sales in EU competition case law is intrinsically more difficult, since the issue itself is less amenable to generalizations. Each case requires a specific analysis.

The Commission's somewhat loose usage of the word "captive" may have caused some confusion. The Commission typically refers to the internal transactions of a vertically integrated firm (i.e. self-supply) as "captive" rather than reserving the term "captive" for those instances where self-supply is truly captive in our definition of the term. However, the Commission has generally proceeded to analyse whether such "captive sales" could be diverted to the merchant market in response to changed competitive conditions – i.e., whether such sales are truly captive. Moreover, the Commission has often discussed whether some merchant sales under long term contracts were to be considered as "captive", thus implicitly recognizing our distinction between self-supply and "captive sales".

In principle, therefore, the Commission and the CFI appear to have accepted the need to provide some case-specific analysis to justify their decisions to exclude self-supply (and

include long-term contracts) from the relevant markets. For example, in *Alcoa/Reynolds* it argued that the production processes (for CGA and SGA, two intermediate products in the aluminium industry) were technically integrated in a manner that made it too costly to divert production to the merchant market. In both *Alcoa/Reynolds* and *GE/Honeywell*, the Commission argued that downstream margins (for P0404 aluminium and aircraft engines, respectively) were too high for a vertically integrated firm to divert some of its upstream production to the merchant market.¹⁷ In *Endemol*, the Commission argued (somewhat less convincingly) that self-supply of programming by public broadcasters would not be diverted to the merchant market because of the presence of large sunk and fixed costs.¹⁸

It may be just a coincidence that, in all the competition cases we have surveyed, the Commission has always found all self-supply to be “captive” in our sense of the word and excluded it from the market analysis, also dismissing its potential to act as an indirect constraint. However, we would say that some of the justifications were not particularly compelling (e.g., *Schneider* and *Endemol*).¹⁹ It would be unfortunate if, instead of a coincidence, it was a deliberate (albeit implicit) methodological preference for a *per se* “merchant market rule”. Some statements by the Commission in both the competition arena (see *GE/Honeywell* and *Neste/IVO*) and in Article 7 comments (see the Austrian transit market case) and by some NRAs (e.g. the German NRA in its review of market 11) suggest a rule may be applied to exclude from the definition of the relevant market all the self-supply from firms that do not sell in the merchant market, but include all such self-supply if they have at least *some* merchant sales. Such a rule would not have any economic basis.²⁰

17 In the *GE/Honeywell* case, the CFI accepted the Commission’s view on this point and, implicitly, acknowledged the need to provide such justification.

18 The CFI decided that *Endemol* had not refuted this argument. The exclusion of public broadcasters’ self-supply was also justified by the Commission and the CFI by the alleged qualitative differences between the kind of programmes produced by public broadcasters and independent producers.

19 In one case (*Shell/DEA*), the Commission adopted, without much discussion in the text of the decision, a variation of the merchant market rule in which market shares were computed on a net basis (e.g., excluding product swaps at different times or locations from the market definition). It is unclear why such sales would be any more captive than those covered by long term contracts.

20 In fact, if any general rule had to be adopted for the treatment of captive sales, it would probably be more appropriate to include these at the market definition stage and then investigate the extent to which they affect market power at a later stage. The assessment of whether some sales are captive requires a rather complex analysis of the firms’ incentives to alter their demand and supply in different markets (as recognized in *Endemol*, *GE/Honeywell* and *Alcoa/Reynolds*) and that is a kind of analysis that has more in common with market power assessment than with market definition.

2. COMPETITION AND REGULATORY AUTHORITY GUIDELINES

Before turning to a review of the case law and regulatory decisions, we consider the treatment of indirect constraints and captive sales in the published guidelines of various competition and regulatory authorities around the world on market definition, market power, merger assessments and vertical restraints.

Specifically, we have reviewed the following guidelines:

- ❑ European Commission notice on the definition of the relevant market for the purposes of Community competition law (European Market Definition Notice);²¹
- ❑ European Commission guidelines on the assessment of horizontal mergers (European HMG);²²
- ❑ European Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (European Electronic Communications SMP Guidelines);²³
- ❑ European Commission recommendation on relevant product and service markets within the electronic communications sector subject to ex ante regulation (European Electronic Communications Recommendation) and the associated explanatory memorandum (Explanatory Memorandum);²⁴
- ❑ European Commission guidelines on vertical restraints (European Vertical Restraints Guidelines);²⁵
- ❑ UK Competition Commission guidelines on merger references (CC Merger Guidelines) and guidelines on market investigations (CC Market Investigation Guidelines);²⁶

21 Commission Notice on the Definition of Relevant Market for the Purposes of Community Competition Law (OJ C 372, 9.12.1997).

22 Commission Guidelines on the Assessment of Horizontal Mergers under the Council Regulation on the Control of Concentrations between Undertakings (2004/C 31/03).

23 Commission Guidelines on Market Analysis and the Assessment of Significant Market Power under the Community Regulatory Framework for Electronic Communications Networks and Services (2002/C 165/03).

24 Commission Recommendation on Relevant Product and Service Markets within the Electronic Communications Sector Susceptible to Ex Ante Regulation in Accordance with Directive 2002/21/EC of the European Parliament and of the Council on a Common Regulatory framework for Electronic Communications Networks and Services (2003/311/EC).

25 Commission Guidelines on Vertical Restraints (2002/C 291/01).

- UK Office of Fair Trading market definition guidelines (OFT Market Definition Guidelines) and guidance on the substantive assessment of mergers (OFT Merger Guidelines);²⁷
- United States Department of Justice and Federal Trade Commission horizontal merger guidelines (US HMG) and associated commentary that has recently been released (Commentary);²⁸
- Canadian Competition Bureau (CBC) merger enforcement guidelines (Canadian Merger Guidelines);²⁹ and
- Australian Competition and Consumer Commission (ACCC) merger guidelines (Australian Merger Guidelines).³⁰

In all cases, authorities specify an economic approach to market definition, based on the hypothetical monopolist test, although with some variations. While some weight is given to the market definition and associated market shares and concentration levels, in all cases authorities also make it clear that market definition is only a tool in the analysis of competitive effects, and market shares alone cannot be relied on to assess these effects.

Overall, where indirect constraints and captive sales are addressed at all, the authorities have been careful to reflect the need to assess each case on its particular facts and not lay down hard and fast rules. The European Commission is a notable exception in this regard; in some of its guidance the Commission has nominated certain rules for the treatment of these facets of the supply of intermediate inputs.

2.1. EUROPEAN MARKET DEFINITION NOTICE

The Commission's notice on market definition notes that "the definition of the relevant market in both its product and geographic dimensions often has a decisive influence on the assessment of a competition case" (Section I). It also notes that regulations based on (old) Articles 85 and 86 of the Treaty of Rome define relevant product markets as follows:

²⁶ UK Competition Commission, *Merger References: Competition Commission Guidelines*, June 2003; and UK Competition Commission, *Market Investigation References: Competition Commission Guidelines*, June 2003.

²⁷ UK Office of Fair Trading, *Market Definition: Understanding Competition Law*, 2004; and UK Office of Fair Trading, *Mergers: Substantive Assessment Guidance*, 2002.

²⁸ United States Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, Issued 1992, Revised 1997; and United States Department of Justice and Federal Trade Commission, *Commentary on the Horizontal Merger Guidelines*, 2006.

²⁹ Canadian Competition Bureau, *Merger Enforcement Guidelines*, September 2004.

³⁰ Australian Competition and Consumer Commission, *Merger Guidelines*, June 1999.

“A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products’ characteristics, their prices and their intended use.” (Section II.)

Note that this definition, on its face, and with its focus very much on interchangeability and substitutability, rather than competitive constraints more generally, allows little scope for consideration of indirect constraints.

In common with many other guidelines, the notice identifies three kinds of competitive constraints: demand substitutability, supply substitutability and potential competition (the latter is to be considered in an assessment of competition rather than at the market definition stage). As each of these is a direct constraint, there is again no recognition here of indirect constraints in this general approach.

However, in the final section of the notice (Section V: Additional Considerations) consideration is given to the issue of secondary markets (after-markets) and in this context the Commission notes the following:

“The method to define markets in these cases is the same, i.e. to assess the responses of customers based on their purchasing decisions to relative price changes, but taking into account as well constraints on substitution imposed by conditions on the connected markets. A narrow definition of [the] market for secondary products, for instance, spare parts, may result when compatibility with the primary product is important. Problems of finding compatible secondary products together with the existence of high prices and a long life time of the primary products may render relative price increases of secondary products profitable. A different market definition may result if significant substitution between secondary products is possible or if the characteristics of the primary products make quick and direct consumer responses to relative price increases of the secondary products feasible.” (Section V.)

In other words, the Commission is recognising here that indirect constraints from the primary market may bear on the horizontal breadth of the secondary market.

2.2. EUROPEAN HMG

The importance of properly defining the relevant market is highlighted by the following statement in the European HMG that:

“Market shares and concentration levels provide *useful first indications* of the market structure and of the competitive importance of both the merging parties and their competitors.” (Paragraph 14, emphasis added.)

Moreover, the European HMG acknowledges that market shares may provide more than useful first indications, and *may in themselves* be evidence of the presence or absence of significant market power.³¹

The European HMG do not directly touch on the issues of indirect constraints or captive sales.

2.3. EUROPEAN ELECTRONIC COMMUNICATIONS SMP GUIDELINES

The SMP Guidelines set out some general principles for market definition assessments by the NRAs under the NRF. These guidelines note that in assessing whether an undertaking has SMP, “the definition of the relevant market is of fundamental importance since effective competition can only be assessed by reference to the market thus defined” (par. 34). The guidelines also note that market definition is “not a mechanical or abstract process” (par. 35), and that NRAs should:

“seek to preserve, where possible, consistency in the methodology adopted between, on the one hand market definitions developed for the purposes of ex ante regulation, and on the other hand, market definitions developed for the purposes of application of the competition rules.” (Par. 37.)

With regard to the criteria for defining markets, the guidelines specify that the extent of the relevant market depends on the existence of competitive constraints on the price-setting behaviour of the producer(s) or service provider(s) concerned. The Guidelines then proceed to outline demand and supply side substitution constraints and note that potential competition represents a third form of constraint that involves longer substitution periods and falls to be considered only at the stage of market power assessment (par. 38). The guidelines set out the hypothetical monopolist test (in common with all guidelines on market definition that we reviewed) (par. 40-43) and note that:

“the relevant product/service market comprises all those products and services that are sufficiently interchangeable or substitutable, not only in terms of their objective characteristics [...] but also in terms of the conditions of competition and/or the structure of supply and demand on the market in question.” (Par. 44.)

The guidelines do not explicitly consider the issue of indirect effects, however they note that substitution among different technologies needs to be considered. For example, in regard to the “access” market, the Commission states that this:

“comprises all types of infrastructure that can be used for the provision of a given service. Whether the market for network infrastructures should be divided into as many separate submarkets as there are existing categories of network infrastructure, depends clearly on the degree of substitutability among such

³¹ The European HMG state (paragraph 17): “According to well-established case law, very large market shares – 50% or more – may in themselves be evidence of the existence of a dominant market position.” Conversely, an indication that a concentration will not impede effective competition and is compatible with the common market exists “where the market share of the undertaking concerned does not exceed 25%” (paragraph 18).

(alternative) networks. This exercise should be carried out in relation to the class of users to which access to the network is provided. A distinction should, therefore, be made between provision of infrastructure to other operators (wholesale level) and provision to end users (retail level).” (Par. 67.)

While there is the suggestion that distinct markets should be defined for provision at wholesale and retail levels, the guidelines do not explain how NRAs should approach a situation where there is an indirect constraint at the retail level from an integrated supplier and no obvious alternative wholesale product.³²

Under the criteria for assessing SMP, the guidelines make a number of comments that reflect the importance of market definition and market shares for an NRA’s assessment. For example, the guidelines state:

“Market shares are *often used as a proxy for market power*. Although a high market share alone is not sufficient to establish the possession of significant market power (dominance), it is unlikely that a firm without a significant share of the relevant market would be in a dominant position. [...] In the Commission’s decision making practice, dominance concerns normally arise in the case of undertakings with market shares over 40%, although the Commission may in some cases have concerns about dominance even with lower market shares [...]. According to established case-law, very large market shares – in excess of 50% – *are in themselves, save in exceptional circumstances, evidence of the existence of a dominant position*. An undertaking with a large market share *may be presumed to have SMP*, that is, to be in a dominant position, if its market share has remained stable over time.” (Par. 75, emphasis added.)

However, the guidelines also make the important qualification:

“the existence of a dominant position cannot be established on the sole basis of large market shares. As mentioned above, the existence of high market shares simply means that the operator concerned might be in a dominant position. Therefore, NRAs should undertake a thorough and overall analysis of the economic characteristics of the relevant market before coming to a conclusion as to the existence of significant market power. In that regard, the following criteria³³ can also be used to measure the power of an undertaking to behave to an appreciable extent independently of its competitors, customers and consumers.” (Par. 78.)

³² It is also unclear whether the “users” in the above quote refers to final users/consumers of the service (which would imply consideration of indirect constraints) or to the direct users of the access service, i.e., the downstream retailers (which would keep the focus on direct constraints).

³³ The criteria referred to in the SMP guidelines are: overall size of the undertaking, control of infrastructure not easily duplicated, technological advantages or superiority, absence of or low countervailing buying power, easy or privileged access to capital markets/ financial resources, product/ services diversification (e.g. bundled products or services), economies of scale, economies of scope, vertical integration, a highly developed distribution and sales network, absence of potential competition and barriers to expansion.

2.4. EUROPEAN ELECTRONIC COMMUNICATIONS RECOMMENDATION AND EXPLANATORY MEMORANDUM

The Recommendation itself provides only limited guidance as to the approach NRAs should take to defining markets in their respective countries. One interesting aspect of the Recommendation and the Explanatory Memorandum is the specification of “three criteria” for “identifying markets in accordance with competition law principles” that the Commission has used to identify in the Recommendation the markets that *may* be subject to ex ante regulation, namely (Recommendation, par. 9; Explanatory Memorandum, page 10):

- 1) the presence of high and non-transitory entry barriers whether of a structural, legal or regulatory nature;
- 2) markets the structure of which does not tend towards effective competition within the relevant time horizon; and
- 3) where application of competition law alone would not adequately address the market failure(s) concerned.

The Commission expects NRAs to apply these same criteria when identifying markets other than those that appear in the Recommendation. The Commission will also use these criteria when making future revisions to the list of markets in the Recommendation.

The Explanatory Memorandum also makes specific comments in regard to each of the markets in the Recommendation. Where these comments relate to indirect constraints or captive sales, these are noted in Section 5 of this report where we review NRA market reviews and Commission comments in regard to the four recommended markets where we consider the issues of indirect constraints and captive sales are most likely to arise (transit services in the fixed network (market 10); wholesale unbundled access to local loops (market 11); wholesale broadband access (market 12); and call access and origination in mobile networks (market 15)).

2.5. EUROPEAN VERTICAL RESTRAINTS GUIDELINES

The Commission’s vertical restraints guidelines defer generally to the European Market Definition Notice on the issue of market definition, but make some comments specific to vertical restraints that are not dealt with in the notice. The vertical restraint guidelines begin with a definition of the relevant product market that is focused on *direct* constraints:

“The relevant product market comprises any goods or services which are regarded by the buyer as interchangeable, by reason of their characteristics, prices and intended use.” (Par. 90.)

The focus on *direct* constraints is retained in a subsequent discussion of the relevant product market for intermediate inputs:

“The product market depends in the first place on substitutability from the buyers’ perspective. When the supplied product is used as an input to produce other products and is generally not recognisable in the final product, the product market

is normally defined by the direct buyers' preferences. The customers of the buyers will normally not have a strong preference concerning the inputs used by the buyers." (Par. 91.)

However, when considering the relevant product market for the distribution of final goods, the vertical restraint guidelines recognise that "what are substitutes for the direct buyers [i.e. for the distributors] will normally be influenced or determined by the preferences of final consumers" and "[a]s different distribution formats usually compete, markets are in general not defined by the form of distribution that is applied" (par. 91).

The vertical restraint guidelines do recognise the importance of indirect constraints in the context of enforcement policy rather than market definition:

"In vertical relationships the product of the one is the input for the other. This means that the exercise of market power by either the upstream or downstream company would normally hurt the demand for the product of the other. The companies involved in the agreement therefore usually have an incentive to prevent the exercise of market power by the other." (Par. 100.)

Also, in relation to the assessment of the competitive effects of the vertical restraint the guidelines acknowledge the following:

"For most vertical restraints competition concerns can only arise if there is insufficient inter-brand competition, i.e. if there exists a certain degree of market power at the level of the supplier or the buyer or both." (Par. 119.)

With regard to the issue of self-supply and captive sales, the vertical restraint guidelines specify a "merchant market rule" for the calculation of market shares under the Block Exemption Regulation for intermediate inputs:

"In-house production, that is production of an intermediate product for own use, may be very important in a competition analysis as one of the competitive constraints or to accentuate the market position of a company. However, for the purpose of market definition and the calculation of market share for intermediate goods and services, in-house production will not be taken into account." (Par. 98.)

These guidelines therefore specify that self-supply that is not captive, and that may act as an effective constraint on behaviour within the defined merchant market, is relevant to a competition assessment, but not at the market definition stage and the calculation of market shares.

In the case of distribution of final goods, the vertical restraint guidelines take a different approach:

"However, in the case of dual distribution of final goods, i.e. where a producer of final goods also acts as a distributor on the market, the market definition and market share calculation need to include the goods sold by the producer and competing producers through their integrated distributors and agents." (Par. 99.)

2.6. CC MERGER GUIDELINES AND MARKET INVESTIGATION GUIDELINES

The CC Merger Guidelines and Market Investigation Guidelines include some discussion of “Upstream and Downstream markets” but no clear reference to indirect effects or captive sales. In the Merger Guidelines, after providing a general description of upstream and downstream markets, the CC states:

“The Commission’s market definition will concentrate on the market or markets supplied by the merging firms, although conditions in upstream and downstream markets may affect the assessment of demand- and supply-side substitution, or competition in the particular market directly affected by the merger.

Where there are upstream and/or downstream markets the Commission will have regard to their impact on market definition and competition more generally. As well as considering which aspects of the supply chain should be included in the definition of the relevant market, the Commission will consider the potential for upstream and downstream markets to impact on the relevant market, and vice versa, in its assessment of the competitive effects of the merger.” (Par. 2.35 and 2.36.)

The second paragraph is repeated in the CC’s Market Investigation Guidelines. If anything, these statements suggest that the CC would consider indirect effects from upstream/downstream markets at the market definition stage, although the precise details and mechanics of how this would be done is left open. The CC also makes clear that it will also consider the impacts of conditions in upstream and downstream markets in its assessment of the competitive effects of the merger (although the CC may have had in mind issues other than indirect effects, such as countervailing buyer power, supplier power and the pro- and anti-competitive effects of vertical integration).³⁴

The CC Merger Guidelines and Market Investigation Guidelines make no references to captive sales.

2.7. OFT MARKET DEFINITION GUIDELINES AND OFT MERGER GUIDELINES

The OFT Market Definition Guidelines explicitly provide that indirect effects (substitution possibilities at the downstream level) should be considered at the market definition stage as part of the consideration of the substitutes for the upstream (wholesale) product:

“When considering the substitutes of a wholesale product, it may be necessary to consider substitution possibilities at the downstream level. For example, suppose a supplier produces a wholesale product A which is a necessary input for supply of a retail product B. Suppose also that a vertically integrated supplier that does not supply a substitute wholesale product supplies a product C which is a substitute for B at the retail level. The ability of customers to substitute to product C from product B at the retail level may constrain the ability to raise the price of the wholesale product A.” (Par. 5.12.)

34

See the discussion in paragraphs 3.37 – 3.45 of the CC Market Investigation Guidelines.

While these guidelines acknowledge that C may act as a constraint on the pricing of A, they provide no guidance as to how the wholesale market should be expanded (considering that there is no clear wholesale product supplied by the vertically integrated firm). Nor is there any guidance as to how market shares should be calculated in this example.

Other than the implicit reference above to the captive sales of C acting as an indirect constraint on A, the OFT Market Definition Guidelines make no reference to the treatment of self-supply or captive sales.

In a section titled "Market definition" the OFT Merger Guidelines state:

"Proper examination of the competitive effects of a merger rests on a sound understanding of the competitive constraints under which the merged firm will operate. *The scope of those constraints, if any, is identified through a market definition analysis.* It is important to emphasise that market definition is not an end in itself. It is a framework for analysing the *direct* competitive pressures faced by the merged firm." (Par. 3.11, emphasis added.)

It is not clear whether, by the word "direct", the OFT meant to distinguish direct from indirect constraints and to exclude the latter from the market definition stage. However, this may be one interpretation.

The OFT Merger Guidelines do explicitly provide that "captive" capacity that may be released onto the open market in the event of a rise in price on the open market will be taken into account at the market definition stage. In a section titled "Testing for market definition", the OFT outlines the hypothetical monopolist test, refers to the need to consider, among other things, "existence of spare capacity (including capacity which could be readily switched)" (par 3.18) and states:

"In some cases, a supplier may be using some of its capacity or production to meet its own internal needs. In the event of a rise in price on the open market, the supplier may decide to divert some or all of its 'captive' capacity or production to the open market if it is profitable to do so, taking into account effects on its downstream business that is now deprived of the captive supply. The extent to which 'captive' capacity or production is likely to be released onto the open market will be taken into account in assessing the competitive constraint." (Par. 3.21.)

In a discussion of "Entry and Expansion" the OFT Merger Guidelines also provide some sensible pragmatic advice on when to consider constraints on the merged entity (at the market definition stage or the assessment of competitive effects). Specifically:

"Analysis of entry conditions includes considering whether the merged entity would face competition from imports or supply-side substitution *to the extent that these have not already been taken into account in market definition.* *What is important is that competitive constraints* posed by imports and possible supply-side substitutes *are counted in the analysis (whether they are counted under the heading of market definition or that of entry).*" (Par. 4.24, emphasis added.)

2.8. US HMG AND COMMENTARY

The US HMG sets out the hypothetical monopolist market definition procedure as follows:

“Absent price discrimination, the Agency will delineate the product market to be a product or group of products such that a hypothetical profit-maximizing firm that was the only present and future seller of those products ("monopolist") likely would impose at least a "small but significant and nontransitory" increase in price. That is, assuming that buyers likely would respond to an increase in price for a tentatively identified product group only by shifting to other products, what would happen? If the alternatives were, in the aggregate, sufficiently attractive at their existing terms of sale, an attempt to raise prices would result in a reduction of sales large enough that the price increase would not prove profitable, and the tentatively identified product group would prove to be too narrow.

Specifically, the Agency will begin with each product (narrowly defined) produced or sold by each merging firm and ask what would happen if a hypothetical monopolist of that product imposed at least a "small but significant and nontransitory" increase in price, but the terms of sale of all other products remained constant. If, in response to the price increase, the reduction in sales of the product would be large enough that a hypothetical monopolist would not find it profitable to impose such an increase in price, then the Agency will add to the product group the product that is the next-best substitute for the merging firm's product.” (Page 6.)

The US HMG appear to provide for indirect constraints from downstream competition to be accounted for in assessment of the relevant product market under this procedure. In the very next paragraph, the US HMG state:

“In considering the likely reaction of buyers to a price increase, the Agency will take into account all relevant evidence, including, but not limited to, the following: ... (3) the influence of downstream competition faced by buyers in their output markets.” (Pages 6-7.)

However, if this is a reference to indirect constraints, it is not clear from this statement exactly how the US authorities would expand the market to reflect these constraints.

With regard to self-supply and captive sales, the US HMG provide that in relation to the calculation of market shares:

“The Agency normally will calculate market shares for all firms (or plants) identified as market participants [...] based on the total sales or capacity currently devoted to the relevant market *together with that which would likely be devoted to the relevant market in response to a ‘small but significant and nontransitory’ price increase.*” (Pages 13 and 14, emphasis added.)

In other words, sales or capacity that may currently be self-supplied but may be diverted to the relevant market in response to a SSNIP will be included in the calculation of market shares. The US HMG also state:

“In measuring a firm’s market share, the Agency will not include sales or capacity to the extent that the firm’s capacity is committed or so profitably employed outside the relevant market that it would not be available to respond to an increase in price in the market.” (Page 14.)

Given that the US HMG earlier appear to provide for the inclusion of indirect constraints in the market (although the mechanics for this are unstated) it is not clear whether captive sales that would have an indirect effect on the upstream market would be included in the market under the US HMG.

The 2006 Commentary on the US HMG provides some important clarifying statements. The DOJ and FTC note that the HMG provide a five part organisational structure (comprising: (1) market definition and concentration; (2) potential adverse competitive effects; (3) entry analysis; (4) efficiencies; and (5) failing and exiting assets) and that these elements are applied in an “integrated approach” to merger review, where the ordering of these elements is not itself analytically significant (page 2). The DOJ and FTC make it clear that their focus is ultimately on competitive effects and the integrated approach is “a tool that allows the Agency to answer the ultimate inquiry in merger analysis: whether the merger is likely to create or enhance market power or facilitate its exercise” (page 2). Moreover, the Commentary notes that if there is direct evidence of the effects on competition of a merger then this may be the starting point for the analysis before determining the relevant boundaries of the market (page 10). The Commentary also notes that a single piece of evidence may be relevant to several of the elements (e.g. to market definition, to competitive effects and to entry analysis) (page 3) and that:

“regarding mergers that raise the concern that the merged firm would be able to exercise unilateral market power, the Agencies often use the same data and information both to define the relevant market and to ascertain whether the merger is likely to have a significant unilateral anticompetitive effect.” (Page 14.)

Most importantly, with regard to market definition, the Commentary notes that under the HMG the DOJ and FTC evaluate a merger’s likely competitive effects, “within the context of *economically significant* markets – i.e., markets that *could be subject to the exercise of market power*” (page 5, emphasis added). In other words, there is an economic purpose to the market definition exercise in the US and relevant markets should be areas within which a hypothetical monopolist could exploit market power. That said, the Commentary notes that “market share and concentration data provide *only the starting point* for analyzing the competitive impact of a merger” (page 15, emphasis added). They continue:

“Indeed, the Agencies do not make enforcement decisions solely on the basis of market shares and concentration, but both measures nevertheless play an important role in the analysis. A merger in an industry in which all participants have low shares – especially low shares in all plausible relevant markets – usually requires no significant investigation, because experience shows that such mergers normally pose no real threat to lessen competition substantially. ... By contrast, mergers occurring in industries characterized by high shares in at least one plausible relevant market usually require additional analysis and consideration of factors in addition to market share.” (Pages 15 and 16.)

This confirms that for the US authorities, while market definition and market shares are not the be all and end all of a competitive effects assessment, they are nonetheless important indicators of economic conditions. This implies that the purpose of the market definition exercise is to reflect important competitive constraints so that some meaningful information on the competitive effects of a merger can be derived from market shares, even though further analysis is in many cases necessary particularly where the identified shares are high.

2.9. CANADIAN MERGER GUIDELINES

The Canadian Merger Guidelines make no reference to indirect effects, but do provide some observations on the treatment of excess capacity and captive sales in calculation of market shares. These guidelines first note that market shares may be measured in terms of dollar sales, unit sales, capacity, or in certain natural resource industries, reserves (par. 4.6). They then note with regard to excess capacity:

“Where firms producing homogenous products have excess capacity, market shares based on capacity may best reflect a firm’s relative market position and competitive influence in the market. Excess capacity may be less relevant in calculating market shares when it is clear that some of a firm’s unused capacity does not have a constraining influence in the relevant market (for example, because the capacity is high-cost capacity or the firm is not effective in marketing its product).” (Par. 4.7.)

Concerning captive sales, the guidelines state:

“The total output or total capacity of current sellers located within the relevant market is generally included in the calculation of the total size of the market and the shares of individual competitors. However, where significant quantities of output or capacity are committed to business outside the relevant market and where they are not likely to be available to the relevant market in response to a five per cent price increase within one year, this output or capacity is generally not included in the calculations.” (Par. 4.9.)

2.10. AUSTRALIAN MERGER GUIDELINES

The Australian Merger Guidelines are more detailed and explicit than any other set of guidelines in regard to the approaches that may be taken to dealing with indirect constraints in market definition assessments. These guidelines allow for either a broadening of the upstream market to include the upstream input that provides the indirect constraint, or a broadening of the functional dimension of the market to include both upstream and downstream levels. The choice depends on the arena of competition that is at issue in the case.

The analysis occurs in a discussion of the relevant “functional” dimension of the market (a third dimension in addition to the product and geographic dimensions):

“Delineation of the relevant functional market requires identification of the vertical stages of production and/or distribution which comprise the relevant arena of

competition. This involves consideration of both the efficiencies of vertical integration, commercial reality and substitution possibilities at adjacent vertical stages.” (Par. 5.64)

The guidelines recognize that “overwhelming efficiencies of vertical integration” (5.65) or simply “the ‘commercial reality’ of current industry practice” (5.66) may make it inappropriate to define separate functional markets. They then state:

“However, where vertical integration or vertical relationships are incomplete, or even non-existent, vertical stages adjacent to the merged firm may still be relevantly included in the same functional market *if close substitution possibilities, either product and/or geographic, at the adjacent level (and occasionally between levels) would constrain the merged firm from imposing a significant increase in price, or equivalent exercise of market power.* For example, in QIW the Tribunal defined a single functional market for the distribution of groceries to the public, including wholesale and retail stages, reflecting the constraint imposed on the conduct of independent wholesalers by downstream competition between their independent retail customers and the vertically integrated chains.” (Par. 5.67, emphasis added.)

This represents a somewhat unique approach to the issue of indirect constraints. The idea is that where the marketing of an upstream input is constrained by downstream competition, rather than try to broaden the definition of the upstream market in some way, the appropriate approach may be to consider explicitly the competitive constraints implied by the structure of the industry as a whole (i.e., including both upstream and downstream levels without trying to draw exact market boundaries between the two)..

The guidelines then continue by explaining that there are in fact two alternative approaches to addressing the indirect constraints issue at the market definition stage (as discussed in the previous section of this survey), and provide examples for when one may be preferred over the other:

“Product substitution primarily requires consideration of the extent to which vertically integrated suppliers constrain the price and output decisions of non-integrated suppliers. If the merged firm supplies an input A to downstream producers of B, and competition between those producers of B and integrated producers of A and B is sufficient to constrain the price and output decisions of the merged firm in relation to product A, the integrated suppliers will be included in the relevant market; either by defining the market to include both A and B, or by including the output of both integrated and non-integrated firms in a market for A. Either approach will incorporate all relevant substitution possibilities. Which approach is preferred will depend on what most accurately describes the arena of competition. For example, in the groceries example above the Tribunal’s approach reflected the retail focus of competition between the independent wholesalers and retailers and the vertically integrated chains. However, when considering a number of mergers between vertically integrated miller-bakers, who compete with both independent millers and bakers, the Commission has defined separate functional markets for flour and bread, reflecting the two distinct arenas of competition (the former including other users of flour), but included internal

sales in the flour market to reflect the constraint they impose through downstream competition in the bread market.” (Par. 5.68.)

3. SURVEY OF RECENT COMPETITION CASE LAW

In this section we provide summaries of the treatment of indirect constraints and captive sales in six competition policy case under the EU jurisdiction, three at the CFI level (Endemol, Schneider and GE/Honeywell) and three at the Commission level (Neste/IVO, Alcoa/Reynolds and Shell/DEA) (see the list in Table 2 below). These cases cover a broad range of industries (media, electrical equipment, aerospace, electricity production, metallurgy and organic chemicals) and we believe them to be representative of the EU case law on the issues of this survey.³⁵

The summaries in this section are based exclusively on the text of the published decisions and are intended to be descriptive only.

Table 2: Summary of Competition Cases

Survey Case #	Case Name	Case Number	Authority	Date
1	Endemol	T-221/95	CFI Judgement	28/04/1999
2	Schneider	T-310/01	CFI Judgement	22/10/2002
3	GE/Honeywell	T-210/01	CFI Judgement	14/12/2005
4	Neste/Ivo	IV/931	Commission Decision	02/06/1998
5	Alcoa/Reynolds	COMP/M.1693	Commission Decision	03/05/2000
6	Shell/DEA	COMP/M.2389	Commission Decision	20/12/2001

3.1. ENDEMOL (CFI, 1999)

CFI Judgement of 28/04/1999 on case T-221/95: *Endemol v. Commission* (Application for the annulment of Commission Decision 96/346/EC of 20.09.1995 on case IV/M.553 – RTL/Veronica/Endemol).³⁶

Indirect Constraints: The issue was not discussed in this case.

Captive Sales: The Commission argued internal production of programs by public broadcasters was captive and thus excluded it from the market. The CFI agreed.

³⁵

To the best of our knowledge, the only other EU competition policy case in which the issue of captive sales was explicitly discussed is the BASF/Eurodiol/Pantochim merger (Commission Decision of 11/07/2001 on case COMP/M.2314), also in the chemical industry. The classification of certain internal production as captive, in some cases based on statements by vertically integrated producers, was not controversial – possibly because the acquisition of Eurodiol and Pantochim by BASF was cleared anyway on a “failing company defence”.

This case is about the creation of the joint venture Holland Media Group (“HMG”) by Compagnie Luxembourgeoise de Télédiffusion SA (“CLT”, a broadcaster), NV Verenigd Bezit VNU (“VNU”, a media and databanks publisher), RTL 4 SA (“RTL”, supplier of programs broadcast by CLT, its controlling shareholder which controlled it), Endemol Entertainment Holding BV (“Endemol”, a producer of television programs and formats), and Veronica Omroep Organisatie (“Veronica”, a television and radio broadcaster).

HMG’s “business was the ‘packaging’ and supply of television and radio programmes broadcast by itself, CLT, Veronica or others to the Netherlands and Luxembourg” (par. 17). HMG acquired all the “radio and television activities of the parties intended for the Netherlands” and entered into a 10-year production agreement with Endemol for 60% of its Dutch-language programming requirements including a right-of-first-refusal clause in its favour (par. 18).

The Commission declared that the creation of HMG was

“incompatible with the common market because the concentration would lead to the creation of a dominant position in the television advertising market in the Netherlands and to the strengthening of Endemol’s dominant position in the market for independent Dutch-language television production in the Netherlands, as a result of which effective competition in the Netherlands would be significantly impeded”. (Par. 22.)

Endemol’s appeal to the CFI relied on four pleas.³⁷ The first three pleas dealt with legal and procedural issues that are not relevant to this survey (e.g., the Commission’s competence to discuss the television production market in this case or the modes of acquisition and sharing of information). In its fourth plea, Endemol disputed “the validity of the conclusion reached by the Commission that its stake in HMG strengthened its dominant position in the market for independent Dutch-language television production in the Netherlands” (par. 97). Endemol argued that the Commission had defined the market too narrowly, that it was not dominant even in the excessively narrow market as defined by the Commission, and that the merger would not create or strengthen a dominant position.

The CFI rejected Endemol’s application to annul the Commission’s Decision. There were no further appeals.

3.1.1. Market definition

The Commission defined downstream markets for Dutch-language television broadcasting and advertising and an upstream market for *independently produced* Dutch-language television programs.

36 Available online from <http://curia.eu.int/jurisp/cgi-bin/form.pl?lang=en&Submit=Submit&alldocs=alldocs&docj=docj&docop=docop&docor=docor&docjo=docjo&nuff=&datefs=&datefe=&nomusuel=endemol&domaine=&mots=&resmax=100>

37 The other parties initially joined in the appeal, but later withdrew.

In particular, the Commission considered the in-house productions of the public broadcasters as *captive* and excluded them from the relevant upstream market. This was strongly contested by Endemol who criticized the Commission's arguments on three grounds.

First, Endemol claimed that "the Commission was wrong in considering that the public broadcasters produce different programmes from the applicant's" (par. 100). This is an empirical question about the degree of product differentiation in the upstream market (and one in which the connection with "captive sales" is merely accidental). The CFI sided with the Commission in saying that in-house productions had a substantially different profile from the independent ones and based this on the fact that the latter had a 42% higher per-hour average cost (par. 108).³⁸

Second, Endemol claimed that "the production of the public broadcasters is not primarily intended for their own use" and Dutch public broadcasters sell many programs on the international markets (par. 101). The CFI again sided with the Commission and noted that Endemol conceded that "so far as concerns the Netherlands market, the in-house production of the public broadcasters is essentially intended for their own use" (par. 109).

Finally, Endemol criticized the Commission's claim that, given the fact that public broadcasters had incurred large sunk and fixed costs to develop in-house production capabilities "it [was] not possible for a public broadcaster to have a free choice to decide whether to produce a programme itself or to commission it to an independent producer" (Commission Decision, par. 89). In effect, this part of the Commission's reasoning is quite unclear. The allegedly high level of sunk costs necessary to establish production capabilities may dissuade broadcasters from entering the production market, but (absent other considerations) those broadcasters who had decided to incur such costs could still use part of their production capacity to serve other broadcasters and, if necessary, satisfy more of their own programming requirements from other producers. Nonetheless, the CFI concluded that Endemol had not refuted the Commission's point.

3.1.2. Market power assessment

Endemol also contested the Commission's claim that it had a dominant position in the market for independent Dutch-language television production in the Netherlands. However, the discussion of this point was about issues that are not relevant to this survey (e.g., whether Endemol had preferential access to foreign formats or the number of Dutch celebrities it had under contract). In particular, there is no mention in the CFI Judgement or in the Commission Decision of the possibility that in-house productions (captive sales) may have imposed any indirect constraint on Endemol or HMG.

³⁸ Public broadcasters tended to produce low-cost, "filler" programs in-house, but buy premium programs from independent producers.

3.2. SCHNEIDER (CFI, 2002)

CFI Judgement of 22/10/2002 on case T-310/01: *Schneider v. Commission* (Application for the annulment of Commission Decision C(2001)3014 of 10.10.2001 on case COMP/M.2283 – Schneider-Legrand).³⁹

Indirect Constraints: The CFI upheld Schneider's plea that the Commission had erred in not considering the indirect constraints posed by the vertically integrated producers in several markets.

Captive Sales: The Commission argued ABB's and Siemens' internal sales were captive because their technical characteristics made them unsuitable for supply on the open market. The CFI argued that such sales could still be considered as competing with Schneider's and Legrand's because of the indirect constraints effects mentioned above.

This case is about the proposed merger of Schneider Electric SA ("Schneider", a producer of products and systems in the electrical distribution, industrial control and automation sectors) and Legrand SA ("Legrand", a producer of electrical equipment for low voltage installations).

The Commission blocked the merger, claiming that it would create a dominant position in several national markets for low-voltage electrical equipment.

Schneider appealed to the CFI. Apart from pleas of procedural irregularities and infringement of the rights of defence, Schneider complained of "manifest errors on the part of the Commission in its appraisal, first, of the impact of the concentration and, second, of the commitments submitted by Schneider in order to render the transaction compatible with the common market". Of particular interest, for the purpose of this survey, is Schneider's plea (upheld by the CFI) that the Commission had erred in not considering the indirect constraints posed by the vertically integrated producers in several markets.

The CFI annulled the Commission's Decision. There were no further appeals.

3.2.1. Market definition

The Commission defined several national upstream markets for a variety of low-voltage electrical equipments (main low-voltage, switchboards, distribution panel-boards, cableways, etc.) used for electrical installations in residential and industrial buildings. The industry has several layers of downstream markets (wholesalers, switchboard assemblers, installation engineers, project managers and end-users) with varying degrees of vertical integration by different manufacturers.

³⁹ Available online from <http://curia.eu.int/jurisp/cgi-bin/form.pl?lang=en&Submit=Submit&alldocs=alldocs&docj=docj&docop=docop&docor=docor&docjo=docjo&numaff=t-310%2F01&datefs=&datefe=&nomusuel=&domaine=&mots=&resmax=100>

A major issue in this case was the treatment of the indirect competitive constraints to the merged entity posed by the internal transactions of vertically integrated producers (e.g., ABB, Siemens).

The parties seemed to agree that such transactions were to be considered as captive sales, due in part to technical considerations (e.g., ABB's and Siemens's components were incorporated into mounted and wired panel-boards or directly installed, hence not immediately available for upstream markets).

The Commission argued from this that “[i]t is not immediately apparent that supply on the open market is substitutable for internal supply, which means that ABB's and Siemens' internal sales cannot be included in the calculation of their market shares” (par. 278). The Commission's reasoning, however, missed an important point advanced by Schneider and accepted by the CFI: even assuming that the vertically integrated producers would not adjust their products to make them available in the upstream market, they could still compete with the merging parties' products by “stealing” downstream business from the merging parties' customers:

“It cannot be denied that, in the context of such competitive procedures, ABB and Siemens, as integrated producers, compete with their non-integrated counterparts such as Schneider, either directly where the non-integrated manufacturers agree with switchboard assemblers or installation engineers to submit their bids or indirectly where those manufacturers sell panel-board components to a switchboard assembler whose bid has been accepted. In both cases, the prices of the non-integrated manufacturers are subject directly to competitive pressure from the parallel bids made by ABB and Siemens in response to the same invitation to tender.” (Par. 282.)

The CFI concluded that “in refusing to include in ABB's and Siemens' market shares their integrated sales of panel-board components, the Commission underestimated the economic power of the merged entity's two main competitors and correspondingly overestimated that entity's strength” on several markets (par. 296)

3.2.2. Market power assessment

The Commission's analysis of market power is rather complex, ranging from simple reliance on market shares, to conglomerate effects, discussions of brand loyalty and other behavioural effects (e.g., the alleged preference of wholesalers for higher priced goods in order to get higher profit margins, arguably because of the use of cost-plus contracts). For the purpose of this survey, we note an interesting (though somewhat confused) discussion of the impact of downstream concentration on upstream market power, hinting at a trade-off between the role of buyer power and indirect constraints. The Commission claimed that increased level of competition among wholesalers would not translate into “significant pressure” on upstream manufacturers (thus implicitly assuming that indirect constraints are weak), but rather into a reduction of buyer power and thus of the wholesalers' ability to “constrain prices in any acceptable way” (par. 195). The CFI discussion on this point is about the extent of buyer power in different markets and does not address the issue of indirect constraints.

3.3. GE/HONEYWELL⁴⁰ (CFI, 2005)

CFI Judgement of 14/12/2005 on case T-210/01 – *GE v. Commission* (application for the annulment of Commission Decision 2004/134/EC of 03/07/2001 on case COMP/M.2220 – *General Electric/Honeywell*).⁴¹

Indirect Constraints: The CFI accepted the Commission's claim that GE's and Honeywell's engines for different large regional aircraft were in the same market because of the indirect constraints from downstream competition between aircraft platforms.

Captive Sales: The CFI accepted the Commission's claim that sales of engine starters within the UTC group were captive because the gains from sales to other engine producers would not compensate the consequent losses in the engine markets. .

This case concerns the proposed merger of General Electric Company ("GE") and Honeywell International Inc. ("Honeywell"), both US-based companies active in a variety of sectors.

The Commission blocked the transaction alleging that it would have created or strengthened a dominant position by GE in several markets for jet aircraft engines, avionics and non-avionics related products because of a variety of vertical, conglomerate and horizontal effects. The Commission's "horizontal" argument relied in part on indirect constraints ("second-level competition") to assert the demand substitutability between some GE and Honeywell engines which could be used in different (competing) aircrafts. The Decision also touched upon the issue of captive sales of engine starters by an industrial group (UTC) competing with Honeywell in the engine starters market and with GE in an engine market.

In its appeal, GE contested a large number of factual and theoretical assertions by the Commission, including the Commission's reliance on indirect constraints.⁴²

The CFI dismissed the Commission's arguments on vertical and conglomerate effects, but accepted those on horizontal effects and confirmed the Commission's decision to block the merger. In particular, the CFI Judgement accepted the Commission's treatments of indirect constraints and captive sales.

No further appeals have been lodged.

3.3.1. Market definition

The Commission defined several aircraft-related markets. For the purpose of this survey, we need to consider only two pairs of them: 1) the downstream market for large regional

⁴⁰ CRA advised GE on this matter before the CFI.

⁴¹ Available online from <http://www.curia.eu.int/jurisp/cgi-bin/gettext.pl?lang=en&num=79948785T19010210&doc=T&ouvert=T&seance=ARRET>

⁴² Honeywell lodged a separate appeal, which was also dismissed by the CFI. Since the judgement on Honeywell's appeal did not make reference to indirect constraints or captive sales, we focus on GE's appeal.

aircrafts and the upstream market for jet engines used in those aircrafts; 2) the downstream market for large commercial aircraft engines and the upstream market for engine starters.⁴³

In this section we discuss the analysis of the large regional aircrafts and engines, since it considers indirect constraints issues (but no captive sales) for the purpose of market definition. The analysis of large commercial aircraft engines and engine starters deals with some captive sales issues related to market power assessment and is thus discussed in the next section.

Indirect constraints from large regional aircrafts to their engines

The Commission defined (par. 21 of its Decision) the large regional aircraft market as including eleven aircraft models (some of them not yet in service) produced by four manufactures: BAe Systems' aircrafts (including the Avro series) were powered only by Honeywell engines, while the aircrafts of Fairchild Dornier, Embraer and Bombardier were powered only by GE engines.

The Commission characterized competition in the jet engine markets as occurring in two stages: first, engine manufacturers "compete in order to be certified in a given airframe platform under development"; secondly, they compete "when airlines buying the aircraft platform select one of the available certified engines or when airlines decide on the acquisition of aircraft with different engines (whether or not the aircraft offers an engine choice)" (Commission, par. 9).

It was common ground that GE's and Honeywell's engines were technically too different to compete with each other on any given aircraft platform (par. 496). Although they may have competed at a previous development stage when the platform was not yet finalized, the Commission did not rely on this form of "first-level competition" (par. 497).

The Commission claimed instead that GE engines were in "second-level" competition with Honeywell's since buyers of the Avro (a BAe Systems' platform powered by Honeywell engines) might purchase other aircrafts powered by GE engines (par. 500).⁴⁴ In other words, the competitive constraints faced by Honeywell on its pricing of Avro engines were mainly, if not exclusively, the indirect constraints from downstream competition between aircraft platforms.

GE contested (unsuccessfully) both the validity of this argument and its compatibility with the Commission's guidelines on market definition. GE's criticisms concerning the application of the market definition guidelines were twofold. First, it claimed that the

43 Large regional aircrafts were defined as those with 70-90+ seats, a range below 2000 nautical miles range and a cost below USD 30 million. Large commercial aircrafts were defined as having more than 100 seats, a range greater than 2000 nautical miles and a cost in excess of USD 35 million.

44 The CFI also noted that this second-level competition may actually feed back into first-level competition, since it affects airframers' decisions about whether to develop platforms suitable to GE or to Honeywell's engines (par. 497).

theory of second-level competition was “outside the ambit of the accepted theory of substitutability” and thus the Commission should have explained and justified this “novel methodology” (par. 499). Secondly, it claimed that the Commission’s Decision had not proved that GE-powered and Honeywell-powered engines were in competition with each other “by reference to empirical evidence or economic studies” (par. 518).

The CFI found that the Commission’s description of the competitive structure of this market was adequate and that engine pricing could be constrained by airlines’ possibility of choosing different aircrafts (par. 500-502). In support of this finding, the CFI also referred to several internal GE documents on the company’s discounting policies to promote sales of the platform/engine package (par. 503-504).

The CFI also affirmed that the market definition guidelines give the Commission sufficient latitude to choose the range of evidence needed to establish substitutability and that its use of “functional interchangeability or similarity in characteristics” may in some cases (including the present one) be used to for that purpose (par. 516-538).⁴⁵

In sum, the CFI accepted the relevance of second-level competition (i.e., indirect constraints) for the definition of relevant markets, both as a general possibility and in the application to this case (par. 510).

3.3.2. Market power assessment

The large commercial aircrafts market included several aircrafts produced by Airbus and Boeing. The main producers of engines for these aircrafts were GE, Rolls-Royce (“RR”) and Pratt & Whitney (“P&W”), sometimes in joint ventures with each other or with other aerospace companies (Commission, par. 15). The Commission found (and CFI affirmed) that GE was dominant in this market.

Honeywell was not present in this market, but was the largest producer of engine starters with a market share of about 50%-60%. Its main competitor in that market, with a share of about 40%-50%, was Hamilton Sundstrand. GE was not present in the engine starters market, so the merging parties had no horizontal overlap in these markets.⁴⁶

The Commission’s concerns in these markets were instead of a vertical nature: “the proposed merger will strengthen GE’s dominant position on the market for large commercial aircraft engines as a result of the vertical foreclosure of the competing engine manufacturers that will result from the vertical relationship between GE’s as an engine manufacturer and Honeywell as a supplier of engine starters to GE and its competitors” (Commission, par. 419).

45 The reference to “functional interchangeability or similarity in characteristics” is from point 36 of the notice on market definition.

46 The Commission briefly mentioned the elimination of Honeywell as a potential innovation partner in the engines market (par. 417-418), but this was a minor point in the economy of the case.

The extent of competition that Honeywell faced from Hamilton Sundstrand in the engine starters market was thus a crucial element of the Commission's theory. The key facts in this respect were that both P&W and Hamilton Sundstrand were owned by United Technology Corporation ("UTC") and Hamilton Sundstrand's starters were placed only in P&W's engines (Commission, par. 338, 421).

The Commission argued that Hamilton Sundstrand's sales were captive and could not be used to constrain the merged entity's ability to foreclose RR by refusing to supply or worsening the terms of supply of engine starters. UTC would not have an incentive to divert its production to the merchant market since this would give an advantage to engine manufacturer Rolls Royce (now buying from Honeywell) at the expense of P&W and the potential profits from the sales of engine starters would be dwarfed by the potential losses from engine sales (par. 294). In other words, both vertically integrated manufacturers would have a unilateral incentive to foreclose RR.

The CFI accepted that Hamilton Sundstrand's sales were captive and that the merger entity would have had the ability to foreclose. Nonetheless, it rejected the Commission's argument on legal grounds: the Commission had "made an error in law by failing to take into account the deterrent effect that [the illegality of the foreclosure behaviour] might have had on the merged entity" (par. 311).

3.4. NESTE/IVO (COMMISSION, 1998)

Commission Decision of 02/06/1998 on case IV/931 *Neste/Ivo*.⁴⁷

Not appealed: The transaction was approved after divestiture commitments.

Indirect Constraints: There is no discussion in the Commission's Decision of why captive electricity production did not pose any significant indirect constraint on the merged entity's market power.

Captive Sales: The Commission concluded that "electricity that is produced mainly by industry and municipalities for their own consumption" is "captive production" that "has no impact on the conditions of competition on the open market" and "it must be excluded from the relevant market for wholesale sales of electricity."

This case concerns the proposed merger of Neste and Imatran Voima Oy ("IVO"), both mainly owned by the Finnish state, into a fully state-owned holding IVO-Neste. Neste was active in the oil, natural gas, liquefied petroleum, heat supply and chemical business. IVO was active in power and heat generation and in the production, distribution and supply of electricity, including power plants operation and maintenance, energy measurement and grid services.

Neste owned 75% of Gasum, the *de facto* natural gas monopolist in Finland.⁴⁸ Although natural gas contributed to only about 10% of electricity production in Finland (par. 33), it was considered "strategically very important" (par. 34) for the electricity industry. IVO was deemed to have a strong position in the wholesale electricity market, especially because electricity production by industry and municipal power companies was considered captive and excluded from the wholesale market. There was no mention of the possibility that captive sales (or other sources) could exert indirect constraints on the market.

The Commission concluded that, by integrating Neste's position in the upstream market for fuels used in power production (via Gazum) and IVO's strong position on the electricity market, "the operation as notified would threaten to create or strengthen a dominant position on the market for wholesale sales of electricity in Finland" (par. 54).

The merger was cleared subject to the merged entity's commitment to reduce its ownership share of Gasum from 75% to 25%.

3.4.1. Market definition

The Commission agreed with the parties that there were separate national markets for natural gas and for electricity. However, it also introduced "a distinction between electricity that is produced for the open market and electricity that is produced mainly by industry and municipalities for their own consumption" and claimed that "[s]ince the latter,

⁴⁷ Available online from http://europa.eu.int/comm/competition/mergers/cases/decisions/m931_en.pdf

⁴⁸ The other 25% was owned by the Russian company Gazprom.

captive production, has no impact on the conditions of competition on the open market, it must be excluded from the relevant market for wholesale sales of electricity” (par. 21).

In support of its exclusion of internal electricity production by industry and municipalities from the wholesale market, the Commission only quoted third parties’ comments that this production had not been traded on the open market and noted that the Finnish Competition Authority had previously defined markets in the same way (par. 39).

3.4.2. Market power assessment

The Commission found that “IVO has a market share of about 40% at the level of electricity production in Finland. The other main electricity producer, Pohjolan Voima (“PVO”), which is owned by a number of large industrial companies, controls about 23% of the production. About 19% of the production is attributed to industry and the remaining 20% to other producers, which include mainly municipal power companies” (par. 38).⁴⁹

The Commission found, however, that IVO’s share of electricity production underestimated its power on the wholesale market because of the extent of captive sales: “industry generates electricity almost exclusively for its own use, the municipal companies generate electricity for local distribution and PVO distributes its electricity mainly to its owners, selling only about 20% of the production to others” (par. 39). The Commission thus attributed IVO a share between 60% and 70% of the “free” wholesale market. Note that this implies that the Commission included in the wholesale market most, if not all, of PVO’s electricity sales to its owners production.

In the Commission’s Decision, there is no discussion of why captive electricity production did not pose any significant indirect constraint on the merged entity’s market power (e.g., because of capacity constraints).

⁴⁹ The shares mentioned by the Commission sum up to 102% instead of 100%, probably because of their approximate nature.

3.5. ALCOA/REYNOLDS (COMMISSION, 2000)

Commission Decision of 03/05/2000 on case COMP/M.1693 *Alcoa/Reynolds*⁵⁰

Indirect Constraints: The issue was not discussed in this case.

Captive Sales: The Commission found the SGA production of vertically integrated aluminium producers should be considered as captive and excluded from the definition of the relevant SGA market, while long term contracts with third parties were included in the SGA market.

This case concerns the proposed merger of Alcoa Inc. ("Alcoa") and Reynolds Metal Company ("Reynolds"), both US corporation "involved in all aspects of the aluminium industry" and with operation in various parts of the world.

The Commission found that "the proposed concentration will lead to the creation of dominant positions in the following markets: smelter-grade alumina (SGA), commodity hydrate (CGA) and high-purity P0404 aluminium" (par. 7). As explained below, CGA is mainly used to produce SGA which, in turn, is mainly used to produce aluminium metal. The part of the Commission's analysis that is most relevant for this survey was the finding that the SGA production of vertically integrated aluminium producers should be considered as captive and excluded from the definition of the relevant SGA market, while long term contracts with third parties were included in the SGA market.

The Commission approved the transaction subject to the parties' commitment to divest some of their assets.

3.5.1. Market definition

The products involved in this case are all derived from the refining of bauxite ore. The first stages of the refining process (so-called Bayer process) produce alumina hydrate, which can be used in chemical applications and is thus known as chemical grade alumina (CGA) or commodity hydrate. About 90% of CGA is further refined (by "calcination", i.e., elimination of water from CGA crystals) to obtain calcinated alumina which is used mainly for the smelting of aluminium metal and is thus known as metallurgical or smelter-grade alumina (SGA). Aluminium metal products are typically classified by their purity level. High-purity P0404 aluminium (about 99.92% aluminium, with less than 0.04% silicon and less than 0.04% iron) is used in aerospace and defence applications. There is no demand side substitutability between these products.

In spite of the fact that SGA is obtained by processing of CGA, the Commission found that "CGA may cost twice as much as SGA" and that "no historical evidence that CGA capacity has ever been shifted in significant quantities to make SGA" (par. 10). It concluded that there is no supply side substitution between the two.

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Available online from http://europa.eu.int/comm/competition/mergers/cases/index/m33.html#m_1693

The rather surprising price difference between CGA and SGA appears to be due to higher storage costs for CGA and to the fact that most existing refiners have integrated production facilities that lack the “mechanical installation necessary to intercept commodity hydrate between filter and calciner” or that produce CGA that would not be pure enough for several chemical applications (par. 65).

Vertical integration, at least at the firm level, extended to the production of aluminium metal: about two-thirds of the world-wide SGA production is consumed by integrated firms (e.g., Alcoa, Reynolds, Kaiser and Alcan) that also own aluminium producing smelters (par. 13).

Internal transactions of SGA by vertically integrated smelters

The Commission’s cost analysis concluded that internal transactions of integrated aluminium producers were to be considered as captive and excluded from the merchant market (par. 13).⁵¹ Aluminium metal was a relatively high-value product and the cost of unutilized smelting capacity (including the cost of scaling production up and down in response to temporary price variations) was substantially higher than what could be gained by diverting some of the internally produced SGA from smelting to the merchant market even if SGA prices were to increase significantly. In fact, the Commission did not find any evidence that such substitution occurred even in times of tight supply of SGA.

Long term contracts for SGA

Against the opposition of the parties, the Commission decided to include in the SGA merchant market also the transactions based on medium term (2-5 years) and long term (5-20 years) contracts. These contracts cover almost the totality of the merchant market as only about 5%-10% of SGA is transacted on the spot market, mainly by Russian and Chinese smelters (par. 14-15). The Commission’s decision on this point was based largely on an analysis of the structure of long term contracts. Such contracts are typically indexed to a percentage of the London Metal Exchange price for primary aluminium, either as fixed rate or (in about 40% of the cases) as a spread in a so-called put/call clause.⁵² In the latter case, the spread is usually subject to yearly renegotiations after an initial period in which the price is set at a fixed rate of the LME reference.

The Commission found that these contracts “do not insulate buyers or sellers from industry price fluctuations. A large amount of price flexibility is built into these contracts” (par. 16). The most obvious source of this flexibility is that put/call spreads are typically renegotiated yearly, hence, the Commission noted, the actual prices under these long

51 The Commission Decision actually uses the terms “captive use” and “captive production” as synonymous with “self-supply” and what we call “internal transactions”. In this survey, we define such internal transactions as “captive” only if the corresponding demand and/or supply cannot be diverted to the merchant market in spite of significant variations in price.

52 For example, the contract may stipulate a spread of 11%-14%, in which case the buyer would be obliged to buy the contracted quantities at a price no lower than 11% of the reference LME price and the seller would be obliged to sell at no more than 14% of the reference price.

term contracts would reflect “the economics of the availability of the merchant market”. The Commission also claimed that aluminium producers could affect the LME aluminium prices (hence, the SGA prices that are indexed to them) by their supply decisions. In the absence of a finding of dominance in the aluminium market, the Commission supported its claim by referring to evidence of asymmetric responses to announcements of changes in aluminium production capacity (the price increases from announced reductions in capacity were larger than the price decreases from announcements of capacity increases).

Leaving aside the somewhat dubious validity of the latter argument, we note that it is used to define the boundary on one market (SGA) on the basis of its (vertically integrated) participants’ power in a market further downstream (primary aluminium). We are not aware of any other case in which a similar argument was made.⁵³

Conclusions on market definition

Eventually, “the Commission has reached the preliminary conclusion that the relevant market for [SGA] is the «merchant market» or market for surplus alumina, including medium and long term contract as well as spot sales” (par. 17).⁵⁴

The Commission also defined an upstream (EEA-wide) market for CGA “used in the production of various industrial chemicals” (par. 76), thus excluding the captive production of CGA for transformation into SGA. Given the technical production constraints mentioned above, this was not controversial. The definition of the downstream (world-wide) markets for aluminium products did not involve captive sales or indirect constraints issues.

3.5.2. Market power assessment

Given the above market definitions, the merged entity would have had a 45%-55% share of the SGA market, while the largest rival (Kaiser) would have had only 5%-15%. The Commission considered the incentives of the merged entity to engage in (possibly temporary) supply withdrawal strategies to raise prices in the SGA merchant market – from which it would benefit directly as a net seller and indirectly as raising the costs of non-integrated competitors in the downstream aluminium markets (par. 28).

In this assessment, the Commission explicitly considered several factors. First, the cost structure of the merged entity’s plant portfolio, which included control of the lowest cost refineries and of some of the highest cost ones, would provide strong incentives to withhold supply by “mothballing” capacity (from the high cost refineries, with little losses) in order to increase prices on the products from lower cost refineries (par. 25-26; 29). Second, the prospects for future entry or capacity expansions by other firms would be

53 The Commission could have probably used a similar, but more direct argument: a reduction in SGA production capacity could lead to an increase in the LME aluminium price and thus, via the indexing clause, and increase in SGA prices.

54 The relevant geographic market was restricted to the production of Western refineries, since “surplus alumina of refineries in Eastern Europe, CIS and China is always sold to local plants” (par. 19).

limited by such a strategy, since “[a]ny expansion would need at least 18 month lead-time. This is sufficient to restart the mothballed capacity, drive prices down again and make the expansion unprofitable (par. 28). The merged entity’s ability to control the timing of several potential expansion projects at existing (“brownfield”) or new (“greenfield”) facilities would have had a similar effect. Thirdly, the Commission noted that the role of some innovative technology that could have helped Reynolds challenge Alcoa’s dominance. Finally, the Commission discussed the structure of bidding processes in the market and concluded that the merger would have eliminated Reynolds’s significant competition to Alcoa.

The Commission also found that the merger would have created a dominant position in the CGA market, but the analysis did not involve considerations of captive sales or indirect constraints.

The Commission mentioned (and briefly dismissed) the possibility that the merged entity’s market power in the high-purity P0404 aluminium market may be indirectly constrained by the entry of other firms in the (further downstream) market for aerospace alloys. Its finding that the merger would have created a dominant position in the P0404 market did not address other concerns of this survey.

3.6. SHELL/DEA (COMMISSION, 2001)

Commission Decision of 20/12/2001 on case COMP/M.2389 – *Shell/DEA*.⁵⁵

Indirect Constraints: The Commission considered (and dismissed) the possibility that indirect constraints arising from the presence of other ethylene producers in further downstream markets for ethylene derivatives.

Captive Sales: The Commission considered ethylene production used internally within the same group for the conversion into products further downstream was captive and excluded it from the calculation of market shares. Market shares were computed by considering only the firms' position as net buyers or net sellers in the merchant market (i.e., excluding swaps)..

This case concerns the creation by Deutsche Shell GmbH ("Deutsche Shell", part of the Dutch-British Shell group) and RWE AG ("RWE") of the joint venture Shell/DEA ("the JV"). The JV, that combined the parties' respective downstream oil and petrochemical business, would eventually be controlled solely by Shell. The Commission's concerns focused on the upstream market for ethylene (within the available ethylene pipeline network operated by ARG+) and the effects on the downstream markets for ethylene derivatives (e.g., PVC). The Commission considered that this concentration, together with another proposed transaction between BP and E.ON would create a position of collective dominance in the ethylene merchant market.

The transaction was cleared subject to the parties' commitments to a set of behavioural remedies.

3.6.1. Market definition

The main product considered in this case is ethylene, an important basic chemical product derived from naphtha (itself a product of crude oil refinery) and used in the production of ethylene derivatives such as polyethylene and PVC.⁵⁶ Ethylene is a highly flammable hazardous gas and logistic considerations limited the relevant market to the locations reached by an existing pipeline (the so-called "ARG+" pipeline network).

The Commission defined as "captive use" the ethylene "production volumes which are used internally within the same group for the conversion into products further downstream" (par. 22). Captive use was excluded from the calculation of market shares and this was not contested by the parties.

The parties objected instead to the Commission's decision to include in the merchant market also the "volumes sold to third parties on the basis of long term, formula based contracts". Their objection was based on the claim that the prices for these transactions were "based on a mechanistic transfer price without further negotiation taking into

⁵⁵ Available online from http://europa.eu.int/comm/competition/mergers/cases/index/m47.html#m_2389

⁵⁶ The Commission also considered the market for another chemical product (toulene), but it found that the transaction did not give rise to competitive concerns in this market.

account the actual market situation” (par. 25). The Commission found that this claim was invalidated by several examples of renegotiations and discounts in formula based contracts (par. 29). Moreover, it argued that it would be “inconsistent and arbitrary” to distinguish between different contracts (and sometimes between different volumes within the same contract) on the basis of their pricing formula (par. 26). Perhaps more importantly, the Commission stated that “[t]he long term character as such cannot justify the exclusion of these contracts” because they are the typical format in the ethylene market and “on the basis of a forward looking analysis of the market which is required by the Merger Regulation, these volumes will be on the market at the time of expiry or re-negotiation of the contract, and therefore reflect the respective producer’s medium and long term market power” (par. 27).

3.6.2. Market power assessment

The calculation of market shares in the merchant market was done on a “net basis”, i.e., consolidating each firm’s sales and purchases on the ARG+ pipeline into a net buyer or seller position. The Commission justified this (not obvious) decision by claiming that its investigation had “shown that swaps among producers as well as sales and purchases on the (spot) market in the same year are mainly carried out for operational reasons and not for the purpose of a systematic and large scale on-sale. Furthermore, swaps do not reflect independent market power on the part of the participating undertaking and cannot be compared to sales” (par. 23).

The merged entity’s market share, thus calculated, was between 25% and 35%. This was a similar share as that of the other proposed concentration between BP and Veba. The two new entities would have had together a share around 55%-65% of the market and the Commission argued that they would have a collective dominant position. The Commission supported this claim with a lengthy discussion of the Shell/DEA and BP/Veba’s incentives to collude, taking into account also the homogeneity of the product, symmetry of market shares, costs and interests, price transparency, retaliation possibilities, high entry barriers, inelastic demand and lack of countervailing buyer power. In particular, the Commission considered the possibility that indirect constraints arising from the presence of other ethylene producers in further downstream markets for ethylene derivatives (par. 59-61), but concluded that these firms would have more incentives to acquiesce to a collusive equilibrium than to disrupt it.

4. SURVEY OF NRA MARKET REVIEWS AND EC ARTICLE 7 COMMENTS UNDER THE NEW REGULATORY FRAMEWORK FOR ELECTRONIC COMMUNICATIONS

In 2002, the Commission established a new regulatory framework (NRF) for the electronic communications sector, to be adopted into national law in EU member states. This framework is comprised of a number of directives. Under the Framework Directive, National Regulatory Authorities (NRAs) are required to conduct “market reviews” in order to determine whether specific telecommunications markets are effectively competitive or not.

These reviews begin by defining national markets based on the Commission’s *Recommendation on Relevant Markets* (Recommendation).⁵⁷ The Recommendation recommends 18 markets in the electronic communications sector for review as potentially susceptible to ex ante regulation.⁵⁸ NRAs must identify the markets that are to be subject to review taking the utmost account of the Recommendation and the Commission’s *Guidelines on Market Analysis and Assessment of Significant Market Power* (SMP Guidelines).⁵⁹ Once the national markets are defined, assessments are then made by the NRAs as to whether any undertaking has Significant Market Power (SMP)⁶⁰ in those markets, again taking into account the Commission’s SMP Guidelines. Wherever SMP is found, NRAs must impose appropriate regulation on the SMP undertakings.

Under Article 7 of the Framework Directive, the Commission (and other NRAs) must be notified of the measures adopted by each NRA on each of the relevant markets, and the Commission has the right to consider whether the market definition, SMP analysis or imposed remedies are appropriate. In cases where the Commission considers that the proposed measures would create a barrier to the single market, or if it has “serious doubts” as to the measures’ compatibility with Community law, it can require that the measure not be adopted for a two month period while the Commission conducts a more detailed investigation. Following this in-depth investigation, the Commission may require the NRA to withdraw the proposed measures (i.e. a “veto” decision may be adopted) or the Commission may make comments which the NRA in turn must take into account.

⁵⁷ Commission’s Recommendation on relevant markets 11 February 2003, Official Journal of the European Communities, 2003/311/EC, 8/5/2003.

⁵⁸ Seven of the 18 markets are retail markets related to the provision of fixed telephony services, seven are wholesale markets related to the provision of fixed telephony and broadband services, three are wholesale markets related to the provision of mobile telephony services, and one is a wholesale market for broadcast transmission services.

⁵⁹ Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, Official Journal of the European Communities, 2002/ C 165/03 11/7/2002.

⁶⁰ This concept is equivalent to “dominance” under competition law.

This section provides a summary of the treatment of indirect constraints and captive sales in NRA market reviews and in the associated Article 7 Commission comments. We have focussed our survey on four of the 18 defined markets, as a preliminary, high-level survey indicated that these markets are where the issues of indirect constraints and captive sales are most likely to arise. These markets are:

- ❑ transit services in the fixed network (market 10);
- ❑ wholesale unbundled access to local loops (market 11);
- ❑ wholesale broadband access (market 12); and
- ❑ call access and origination in mobile networks (market 15).

For each of the selected markets, we have summarised the treatment of indirect constraints and captive sales in Ofcom's market reviews and also the market reviews of one or two other NRAs, along with the associated Article 7 comments of the Commission. In total, we have summarised 11 market reviews and associated Article 7 comments. These are listed in Table 3 below. The summaries in this section are intended to be descriptive only.

Table 3: Summary of NRA precedent

Survey Case #	Country	EC Case #	Market	Date of EC Comments
1	UK	15-16	Market 10, Transit in the fixed network	23.09.03
2	Austria	90	Market 10, Transit in the fixed network	20.08.04
3	Portugal	154	Market 10, Transit in the fixed network	01.04.05
4	UK	94	Market 11, Wholesale unbundled access to local loops	06.10.04
5	Germany	119	Market 11, Wholesale unbundled access to local loops	22.12.04
6	UK	32-33	Market 12, Wholesale broadband access	05.02.04
7	France	175	Market 12, Wholesale broadband access	11.05.05
8	Ireland	93	Market 12, Wholesale broadband access	25.08.04
9	UK	1	Market 15, Call access and origination in mobile networks	29.08.03
10	Ireland	121	Market 15, Call access and origination in mobile networks	20.01.05
11	Spain	330	Market 15, Call access and origination in mobile networks	30.01.06

Note that in several cases, the name of the relevant NRA has changed since it first notified the Commission. In all cases we refer to the NRA's name as it was at the time of the notification.⁶¹

4.1. MARKET 10: TRANSIT IN THE FIXED NETWORK

4.1.1. Description of Market

In its Explanatory Memorandum to the Recommendation, the Commission defines transit services as the (long distance) conveyance of switched calls on the public fixed telephone network (page 18).⁶² According to the Commission, transit services comprise "both conveyance between tandem switches on a given network, between tandem switches on different networks and including pure conveyance across a third network" (page 18). The Commission notes that transit interconnection can be bought directly or the required elements can be bought separately and the services can be self provided (page 19).⁶³ This reference to self-provision suggests that in its Explanatory Memorandum the Commission considers self-supply of transit services to be within its recommended market.

The Commission added that while some parts of this transit service (the busy routes) are likely to become more competitive more quickly than others, there cannot be a presumption that "some switched call conveyance (from an incumbent to an entrant's network) is automatically different from other switched call conveyance (between two entrants' networks)."⁶⁴

The Commission noted that the exact definition of transit services depends on the individual network topologies, and left it to NRAs to define the services. However, the Commission's recommendation also made the point that transit services should be delineated in such a way as to be consistent with the boundaries of the other services required to complete a call; i.e. origination and termination. The three parts are additive, so if call origination and call termination are already defined then so is transit by default.

61 In the UK, Oftel became Ofcom in December 2003. In France, ART became ARCEP in May 2005. In Austria, the Austrian Regulatory Authority for Telecommunications and Broadcasting (RTR) is a convergence regulator, and is the operative arm of the Austrian Communications Authority (KommAustria) as well as the Telekom Control Commission (TKK). Finally, in Germany, RegTP became BNETZA in July 2005.

62 The Commission asserts that although conveyance using interconnected leased lines or dedicated trunk capacity may be an alternative to wholesale call conveyance services, these are distinct products from transit as they only provide interconnection between two fixed points, whereas transit refers to switched calls.

63 European Commission Explanatory Memorandum for the Recommendation (from here on: "EC Explanatory Memorandum"), page 19.

64 EC Explanatory Memorandum, page 18.

4.1.2. Indirect Constraints and Captive Sales Issues

Indirect constraints from downstream competition were not an issue in NRA assessments of the transit market. At issue was the self-supply by transit customers of direct interconnections, which may be important substitutes for transit services that can be purchased on the merchant market.

The first question that arises is whether to include these direct interconnections in the same market as transit services provided on the merchant market. If direct interconnections by transit customers are included in the market, then a further question arises whether to also include the transit supplier's own direct connections (these direct connections being the infrastructure that is used to make up the merchant market transit service). Yet another issue is the scope for supply side substitution into transit services by those who have self-supplied through direct connections, and whether, if the direct connections established by customers are considered "captive" these should or should not be included within the market.

4.1.3. Summary of Selected NRA Approaches

Approaches to the definition of the transit market and the treatment of captive sales varies considerably between regulators.

In the UK, Oftel included self-supply ("conveyance") by both the incumbent and other parties in the same market as third party transit services, but deferred consideration of the realities of supply side substitution into the market to the stage of the market power assessment.

In Austria, TTK did not include self-supply by the incumbent (TA) in its market definition, on the basis that it would not have any impact on the exercise of market power. TTK did, however, include self-supply in the form of direct interconnections by alternative operators, which represented substitutes for supply of transit services by the incumbent. The Commission issued a "serious doubts" letter as it did not consider that TTK had presented sufficient evidence to support its market definition (and its subsequent SMP assessment). In particular, TTK had not provided sufficient evidence of demand side substitutability to direct interconnections given the investments required. On the supply side, TTK had also not shown sufficient evidence of supply side substitutability being a likely development, on the basis that the alternative operators with direct interconnections were not providing transit services on the merchant market to third parties. The Commission therefore considered this self-supply was captive. Although TTK subsequently provided further evidence, the Commission maintained the view that insufficient evidence had been provided for the market definition to be sustained and required TTK to withdraw its draft measure.

In Portugal, Anacom defined the relevant market as covering transit services provided on a merchant basis by fixed operators to *third parties* that connect two other operators. Anacom did not consider direct interconnection at the market definition stage. However, Anacom did consider direct interconnection in its market power assessment and noted "the importance of direct interconnection as a factor conditioning the transit market" and

referred to the fact that the major operators are directly interconnected as one of the three reasons why there is no SMP in the market.

4.1.4. UK, Cases 15, 16

Oftel submitted a notification to the European Commission on 26 August 2003 covering exchange lines, call origination, conveyance and transit markets.⁶⁵ The EC responded on 23 September 2003 and had no comments on Oftel's analysis and conclusions relating to market 10. Two years later, in March 2005, the European Commission received a new notification by Ofcom concerning the wholesale markets for conveyance and transit in the UK. In the 2005 notification Ofcom investigated how the upgrade of BT's PSTN network to "next generation technology" would affect the conveyance and transit markets.⁶⁶ Again the Commission had no comments on Ofcom's analysis or conclusions. For the purpose of this survey, we consider the 2003 market analysis.

Oftel distinguished between local-tandem conveyance and transit (LTC and LTT) conveying traffic between a local and a tandem exchange and inter-tandem conveyance and transit (ITC and ITT) conveying traffic between tandem exchanges. At each level, Oftel distinguished between "conveyance" (self-supply of conveyance of traffic over the same network that originates or terminates the call) and transit (conveyance of traffic provided by a third party when a call originates and terminates on networks other than its own). Oftel considered that at each level "conveyance", is part of the same market as transit services. Oftel therefore included self-supply in the market definition. Oftel considered the practical difficulties for entry into the market including difficulties of supply side substitution only at the stage of the market power assessment where it found that BT had SMP in both markets.

Market Definition

Oftel considered demand side and supply side substitution between transit and conveyance services and found that both demand and supply side substitutability existed between these services at both the local-tandem and inter-tandem levels. Its arguments for substitution at the local-tandem level and the inter-tandem level were similar.

On the demand side, for LTC/LTT Oftel considered that if a hypothetical monopolist raised the price of LTC, LTT would represent a substitute "if the cost of the two services were similar" (par. 5.4). Oftel noted that LTT is likely to involve additional costs but considered that these costs are likely to be less significant with larger volumes of traffic and so LTT could constrain the price of LTC. Conversely, if a hypothetical monopolist tried to raise the price of LTT, an operator could switch to purchasing LTC from the originating or terminating operator or could itself build out to the local exchange and self-provide LTC, although this would be justified only at larger volumes of traffic (par. 5.5).

⁶⁵ Oftel Review of the fixed narrowband, wholesale exchange line, call origination, conveyance and transit markets, 26 August 2003.

⁶⁶ In this decision, Ofcom found that BT no longer had SMP in the market for ITC/ITT based on BT's continued decline in market share to 41.8% in Q2 2005 and network roll out by other operators.

Oftel applied a similar analysis to find demand side substitution between ITC and ITT. Oftel considered a terminating (or originating) operator purchasing ITT would be able to switch to ITC either by purchasing from the originating (or terminating) operator or by building out interconnect links and providing ITC itself (although establishing interconnect links is only justified at larger volumes of traffic). Conversely Oftel noted that “an operator purchasing ITC could easily switch to purchasing ITT, if there was a transit operator present between the originating and terminating operators’ switches” although Oftel acknowledged that ITT involves the cost of an extra switching stage (which again becomes less significant over larger volumes and longer distances) (par. 6.9). Oftel also noted that ITT may be an effective substitute for ITC if it allows a small operator to gain access to the economies of scale of a large operator by sharing switches with other operators (Appendix IV.10).⁶⁷

On the supply side, Oftel considered that if an operator self-supplies a LTC connection to an originating operator’s local exchange, it would be able to provide LTT if it had a connection to the terminating operator (although LTT involves additional costs) and that an operator providing LTT services could self-provide LTC for calls that originate or terminate on its own network (par. 5.6 and 5.7).

Similarly, Oftel found supply side substitution imposes a competitive constraint between ITC and ITT as “an operator who provides ITC to several other operators and has an extensive interconnected network, would easily be able to offer ITT” and “an operator offering ITT would easily be able to provide ITC for calls originating or terminating on its own network” (par. 6.10).⁶⁸ Moreover, Oftel notes that:

“Alternatively, in response to a rise in price of ITT, the originating operator purchasing ITT could decide to provide ITC itself, if the cost of building a direct connection with the terminating operator was justified by the volume of traffic.” (Appendix A.IV.13.)

⁶⁷ In Appendix A, Oftel states:

“Consider, for example, a call originating on operator X’s network in London, and terminating on operator Y’s network in Edinburgh. These operators might interconnect directly, in which case one of them will provide the ITC service. However, the cost of building a link from London to Edinburgh may be too high for the volume of traffic. Therefore, it may be cheaper to buy ITT from a larger operator, such as BT, who is present at those exchanges. In this case, economies of scale offset to a degree the costs associated with the additional switching stage.” (Appendix A .IV.10.)

⁶⁸ In Appendix A, Oftel provided further details:

“It is likely that an operator who provides ITC to several other operators has an extensive interconnected tandem network that would make such substitution feasible. Even if operators had no direct connections between the relevant tandem exchanges at which they provide ITC, they could always provide transit through an indirect routing system. Such an indirect routing system may be less efficient than a direct connection, but the costs associated with this lower efficiency are unlikely to be significant. Supply side substitution is therefore dependent on an operator having a number of direct connections with other operators. If an operator is already providing ITC to a number of different operators, connections will be in place to provide ITT between those operators.” (Appendix A .IV.12.)

The markets defined by Oftel therefore were: (Par. 5.12 and 6.24)

- Local tandem conveyance and local tandem transit on fixed narrowband networks in the UK excluding the Hull Area.
- Inter-tandem conveyance and transit on fixed public narrowband networks in the UK excluding the Hull Area.
- Single transit on fixed narrowband networks in the UK excluding the Hull Area.

The Commission made no comments on Oftel's definition of the transit market.

Market Power Assessment

Oftel assessed market power considering, among other factors, market shares and ease of market entry. On both the local-tandem and inter-tandem markets, BT had a market share above 50%, and Oftel believed that although this share had declined since 2001/02, it was unlikely to decline significantly further.

Market shares at the local-tandem level were based on BT's volume data for LTC and LTC (or the equivalent of) on other networks derived using three assumptions:

- inclusion of the equivalent of LTC provided over Interconnection Extension Circuits;
- inclusion of the equivalent of LTC on other fixed networks; and
- the same proportion of call types using LTC on BT's network will use LTC on other networks (par. 5.22).

Market shares at the inter-tandem level were based in on assumptions of network usage, specifically:

- BT traffic routings were used to estimate network usage for similar traffic carried on other networks; and
- BT data were used to identify where calls are handed over and consequently the usage on the other networks (par. 6.32).

Although Oftel defined broad markets including conveyance and transit services, Oftel noted the difficulties for entry into transit services in its assessment of market power. With regard to LTC/LTT, Oftel noted that there are significant capital costs of building out to BT's local exchanges (which is the investment required to provide alternatives to LTC from BT). With regard to ITC/ITT, Oftel considered that there were fewer entry barriers to the inter-tandem market than to the local-tandem market, because there are fewer of BT's tandem exchanges with which operators have to connect. However, Oftel found that while twelve operators were connected to more than 50 of BT's tandem exchanges, and nineteen operators were connected to more than 30, this was typically to self-provide ITC and achieving the high volumes necessary to offer ITT services was inhibited by the fact that BT originates and terminates the largest volume of calls and these calls do not pass through other operators' networks (par. 6.37). Oftel also noted that while there is some

competition in the market, it does not appear to be at the level where BT's prices have been restrained to cost (par. 6.39). Oftel speculates that this lack of pressure may in part be as purchasers prefer to use BT through a standard contract for interconnection rather than have a number of contracts with different transit operators (par. 6.39).

The Commission made no comments on Oftel's market power assessment.

4.1.5. Austria, Case 90

TKK submitted a notification to the Commission on 20 July 2004 concerning the transit market in Austria. The Commission responded on 20 August 2004 raising "serious doubts" as to TKK's assessment of market definition and its market analysis. On 20 October 2004, the Commission required TKK to withdraw its draft measures.⁶⁹

The Commission's doubts concerned TKK's inclusion in the market of self-supply of transit services (interconnection through direct "joining link transit" between exchanges or networks). TKK argued that these should be included in the relevant market as they exert a competitive constraint on transit services offered by the incumbent Telekom Austria (TA). At the same time, TKK excluded TA's self-supply from the market definition, on the basis that this self-supply was captive and would not constrain TA's market power.

Market Definition

TKK categorised transit services as either unbundled or bundled. Unbundled transit services are for all traffic above the level of local exchange and bundled transit services are offered together with call origination and/or call termination services.

TKK considered that if it excluded self-supply from the market i.e. defined it to only include transit services provided by TA or others to third parties (unbundled and bundled) then TA had a market share of around 90%. However, TKK argued that these market shares are of little relevance for the assessment of actual competition in the market for transit services.

TKK found that both bundled and unbundled transit services have been substituted by self-provision via joining links⁷⁰ and that operators have increasingly interconnected with TA at the local level. TKK also argued that the high number of alternative operators who are interconnected with TA at the local exchange-level are potential providers of transit services.

Consequently, and after investigating other indicators (in particular barriers to entry and pricing of transit services), TKK felt that substitution of transit services (bundled or

⁶⁹ We are not aware of any further notifications or measures concerning this market.

⁷⁰ TKK noted that direct interconnection between networks via joining links for the provision of unbundled transit services occurs predominantly between different mobile networks or between a mobile network and an alternative fixed-line operator. Joining link traffic between alternative fixed networks is negligible.

unbundled) provided a strong disciplining effect on the transit market so that alternative operators have countervailing buyer power.

TKK concluded that the provision of transit services by small operators to themselves via dedicated 'joining links' should be included in the market for bundled and unbundled transit services. Including these internalised transit services by rivals meant TA's market share fell to 25% for bundled transit, 50% for unbundled transit and 45% overall.

TKK did not include the provision of TA's minutes to itself for the calculation of market shares as they were not offered on the market, and were considered to not have any impact on the exercise of market power. TKK therefore treated TA's sales as captive.⁷¹

The Commission raised serious doubts concerning TKK's market definition on both the demand and supply side. On the demand side, the Commission noted that TKK had found that direct interconnection requires network roll-out associated with high investments as well as substantial planning and time (par. 19). While TKK argued that availability of leased lines lowers the barriers for the self-provision of transit services through direct interconnection, the Commission commented that this is inconsistent with 1) TKK's findings that leased lines and transit services are in distinct markets and 2) the fact that leased lines appear to be supplied only by TA in some regions (par. 20). The Commission therefore commented that it was not readily apparent from the notification how network operators could "promptly shift" to direct interconnection, and thus "demand" their self-provided transit services (par. 19).

On the supply side, the Commission found inclusion of self-provision of transit services by small operators was inappropriate because there was no substantiation that small operators' were providing transit services to third parties (on the merchant market) and furthermore, depending on technical and economic factors this may not occur in the future either. The Commission commented that TKK should have provided evidence establishing that a network operator that replaced the purchase of transit services with direct interconnection would actually use its productive assets (i.e. the newly-created capacity) to offer (relevant) transit services to third parties. The Commission commented that mere hypothetical supply side substitution is not sufficient for the purposes of market definition and potential sources of competition should be considered in the SMP assessment (par. 21).

The Commission finally noted that "to the extent that self-provision through direct interconnection may provide a potential source of competition, it should fall to be considered in terms of the SMP assessment and not the market definition" (par. 24).

Market Power Assessment

TKK found that TA no longer had significant market power (SMP) because its market share including self-supply by alternative operators was below 50%. While this indicated that TA had a special position, it also showed that rivals could provide the services

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The word "captive" was used at footnote 9 in the Commission's August response, but not in the original TKK notification.

themselves. TTK also found that while entry barriers are high, they can be overcome as lines that can be used to provide direct interconnections can be leased.

Having suggested a narrower market definition, the Commission noted that TA had a 90% share of this narrower market and pointed to this higher share to suggest that this would not support TTK's finding of absence of SMP (par. 25).

4.1.6. Portugal, Case 154

The Commission registered a notification from Anacom concerning wholesale transit services in the fixed networks in Portugal on 4 March 2005. The Commission responded on 1 April 2005. While the Commission expressed some concern regarding application of the Commission's three criteria test, the Commission found that proper application of this test would have made no difference to the finding that the market is effectively competitive. Anacom notified an amended measure on 13 May 2005.

Anacom approached the definition of the market for transit by ensuring it was consistent with the boundaries of the markets already defined for origination and termination. Given these definitions, transit was defined as the service that one operator provides when it carries calls originated and terminated in a network *other than its own*. Anacom therefore defined transit services as *third party services* that connect two other operators and did not consider direct interconnection (self-supply of transit services) at the market definition stage.⁷² Anacom did, however, consider the competitive constraint imposed on the market by direct interconnection in its market power assessment. This formed part of the basis of Anacom's conclusion that the market was effectively competitive and that no operator has SMP.

Market Definition

According to Anacom, the largest seven operators in Portugal (including the mobile operators) have all directly interconnected among themselves, and have therefore dispensed with purchasing transit services. As a consequence, transit service volumes slumped in 2001 and 2002 (although they have risen again recently due to the entry of a new player with a limited own network). Transit services in 2004 were only about half the volume they were in 1999 and accounted for just 1% of the total volume of interconnection traffic in 2003, so transit has become a largely insignificant market.

Despite this significant substitution from transit services to direct interconnection, Anacom did not even mention direct interconnection in its market definition. Anacom did note that in the course of preparing its notification, it took fully into account the comments of the Commission regarding the transit market in Austria, and in particular, "not including direct interconnection in the definition of the transit market" (par. 31-34). This may explain the absence of any analysis of the issue at the market definition stage.

⁷² Captive sales were not explicitly mentioned in Anacom's decision.

Market Power Assessment

Anacom found that there were at least four providers of transit services including the incumbent Portugal Telecom (PTC). PTC's share of transit services had fallen from more than 80% in 2002 to just 5% in 2004 in terms of traffic (par. 15). This was attributed to the investment that competing operators had made in their infrastructure and their resulting ability to offer "a more complete transit service throughout the territory as a whole" (par. 16). The Portuguese market may therefore be seen as somewhat unique in that there are many alternative providers of third party transit services and the incumbent has been largely displaced from the market in a very short space of time.

Anacom analysed the factors "conditioning market power" on the demand side and the supply side. On the demand side, Anacom found that direct interconnection was an "alternative resource" to the transit services and an "important factor conditioning the transit market" (par. 23). On the supply side, while Anacom noted that there are four distinct operators engaged in the market, Anacom suggested that there is little probability of new entry into transit services as investment costs of building a diffuse network covering the whole country would be substantial. Anacom also found that the countervailing power of the major providers of the service was limited and conditioned by the fact that "the major entities of the PT Group, the biggest economic group providing electronic communications services, have the most complete and diffused network and have SMP in every wholesale and retail narrow-band market" (par. 27).

Anacom concluded that the transit market was effectively competitive and that:

"there are currently forces in the market places that would restrict any hypothetical significant market power, namely:

- "i. the major operators are directly interconnected;
- ii. there are several operators that provide the transit service; and
- iii. the countervailing power of the major providers of the service is limited." (Par. 35.)

4.2. MARKET 11: WHOLESALE UNBUNDLED ACCESS TO LOCAL LOOPS

4.2.1. Description of Market

The Commission's Recommendation proposed the definition of a market for wholesale unbundled access (including shared access) to metallic local loops and sub-loops for the purpose of providing broadband and voice services. This market concerns access to the "last mile" of the public fixed telecommunications network, connecting the subscriber to the local exchange (local loops) and main distribution frame (sub-loops). The connection should be capable of passing data in both directions and at suitable rates.

The Commission's Explanatory Memorandum for the Recommendation discusses this market jointly with the market for wholesale broadband access (WBA, market 12; see section 5.3). However it concludes that the two markets are distinct:

“An operator using unbundled local loops will not normally consider another form of wholesale broadband access service to be a substitute even if the service provided by the broadband service provider allowed the supply of all the same services that were provided over the unbundled loops.” (Page 24).

This is because, on both the supply and demand side, it would require that the DSL technologies or equivalents used over the loops were compatible at every level of the network. Furthermore, the Commission points out that

“even if such a synchronous deployment of technology existed it would require continued synchronous technology deployment in the future making it difficult for service differentiation at a technical level to evolve.” (Page 24).

4.2.2. Indirect Constraints and Captive Sales Issues

For the purpose of this survey, the main issue in this market is whether the retail offers of vertically integrated cable suppliers act as indirect constraints on wholesale ULL offers and whether, in that case, the market should be broadened to include services provided over the infrastructure of cable operators. Wholesale cable service is usually considered captive for technical reasons. The inclusion of cable-based services in the definition of the relevant wholesale market (because of indirect constraints considerations) would then imply the inclusion of captive, self-supplied services. However, the Commission did not consider the possibility of indirect constraints in its Explanatory Memo and has expressed scepticism about such possibility in its comments to NRA's market reviews.

4.2.3. Summary of Selected NRA Approaches

The approach to market definition varies between regulators and we have considered precedents from two national regulators; Ofcom and RegTP (the German regulator).

Ofcom's approach to market 11 differed from that of most other NRAs as it included cable-based local access in its market definition and based its decision on the presence of indirect constraints at the retail level. This was even though there were no merchant market transactions for cable access. BT's sales to its downstream arms were considered effectively captive, as BT's downstream arm would be unlikely to buy from other upstream suppliers. The Commission disagreed with Ofcom's reliance on indirect constraints considerations, emphasizing the fact that wholesale access from cable operators is closed to the merchant market. The Commission considered that indirect pricing constraints should have been taken into account at the stage of assessment of SMP.

In Germany, the regulator included in the ULL market also line sharing and access to the local loops based on a technology (OPAL and ISIS main distribution frame or subloops) that can provide voice functionality, but not broadband functionality. Access through other technologies such as cable networks, pure fibre glass, power line connections and wireless local loop was excluded from the market on the basis of not being covered by the Recommendation and because of their limited role and questionable viability in Germany. The Commission felt that on the supply side RegTP had not adequately considered the feasibility of substitution to glass fibre connections. Captive use of local loops by the

incumbent DT was excluded in the market definition and the emphasis was on access for third parties.

4.2.4. UK, Case 94

Ofcom submitted a notification to the EC on 26 August 2004. The Commission responded on 6 October 2004 and criticized Ofcom's inclusion of cable-based services in the relevant market definition. The Commission noted however that, in this case, a different market definition would not have affected the final SMP finding.

Ofcom considered self-supply of wholesale local access by cable operators to be part of the same market as access through copper loops. The self-supply by cable operators, for technical reasons was captive according to the Commission, although Ofcom felt that cable providers at an intermediary level could have offered a wholesale interconnection product. The self-supply by BT was included in the market share calculations, but the corresponding demand was considered effectively captive as BT's downstream arm would not have an incentive to switch to other suppliers or otherwise put pressure on BT's upstream prices.

Ofcom noted that where the analysis is conducted under an assumption of absence of regulation it is more likely that self-supply is effectively captive (i.e., unregulated vertically integrated may have insufficient incentives to provide unbundled access). This, however, would only mean that the analysis of substitution possibilities for wholesale inputs should be done at the downstream level, i.e., where substitution takes place (par. 3.123).

Market Definition

Ofcom argued that the demand for wholesale local access connections is driven by downstream wholesale demand (wholesale exchange line services or wholesale broadband access) and ultimately by retail demand (for voice and dial up services, for broadband internet access).⁷³ Ofcom considered in turn whether access through cable, fibre, fixed wireless and mobile would be plausible substitutes for local loop access and found that cable access was.

Ofcom's analysis concluded that a hypothetical price increase in BT's copper loop-based access would be largely passed through to the price of the retail service.⁷⁴ The consequent reduction of the final demand for such services (hence of the demand for the corresponding wholesale services) from customers switching to cable-based exchange line products would be sufficient to render the original wholesale price increase unprofitable (par. 3.70). On this basis, Ofcom considered there was sufficient scope for substitution for cable and loop-based products (par. 3.72).

⁷³ Ofcom Review of the wholesale local access market; Explanatory statement and notification (from here on: "Ofcom Review"), 28 August 2004, par. 3.28, 3.31, 3.32, 3.33 3.50.

⁷⁴ Ofcom believed that local access represented a "substantial portion" of the costs of an exchange line service; see Ofcom Review, 28 August 2004, par. 3.71.

On the supply side, Ofcom considered first whether the cable operator could offer access to the metallic loop component of the Siamese cables – i.e. a disaggregated connection to end users, and as this option involved considerable investment (par. 3.73-3.76), Ofcom, secondly considered that cable operators could offer a wholesale interconnection product at the cable headends. Ofcom considered that operators would make this offer under competitive conditions (par. 3.77).

Regarding other technologies, Ofcom found that fibre-based local access (par. 3.84), fixed wireless access (par. 3.86-3.90), and mobile local access (par. 3.96-3.98) would not be sufficiently close substitutes for wholesale loop-based and cable-based local access to pass a SSNIP test.

The Commission acknowledged that Ofcom's approach to market definition was not "in principle inconsistent with the methodology set out in the Recommendations and in the SMP Guidelines", but it showed considerable scepticism about the role of indirect constraints:

"when including cable-based wholesale services in the relevant market, consideration should be given to the technical, practical and economic feasibility for cable operators to offer facilities equivalent to unbundled local loops... it seems that there is no supply side substitutability between copper-based and cable-based wholesale local access, which pleads against the inclusion of cable-based wholesale local access in the relevant market." (EC, case 94, page 3.)

The Commission remained doubtful about whether cable wholesale service was (currently or prospectively) in the relevant market and considered that "the indirect pricing constraint stemming from the substitutability at the retail level and the potential competition of cable-based wholesale local access could have been taken into account at the stage of assessment of SMP" (page 3).

Market Power Assessment

In fact, Ofcom did consider the strength of the indirect constraints from cable in its assessment of market power. It found it insufficient to eliminate BT's SMP in the market. Ofcom also considered other sources of actual or potential competitive constraint: existing competitors, potential competition and countervailing buyer power.

When calculating market shares as part of its assessment of actual competition, Ofcom included operators' self-supply, i.e., supplies to their own downstream operations as well as to other wholesale customers.⁷⁵

Ofcom's preliminary conclusion was that there were no purchasers of wholesale local access services that would exert countervailing buyer power. Most of BT's downstream customers are BT itself and Ofcom thought BT's downstream arm would be unlikely to switch supplier or use any buyer power to "undermine BT's market position at the upstream level" (par. 4.44). This could be interpreted as asserting that the demand

⁷⁵ Ofcom Review, 28 August 2004, par. 4.10.

corresponding to BT's self-supply was effectively captive.⁷⁶ Some wholesale customers such as ISPs could threaten to switch their service provision to cable-based access but the impact would be limited given cable's network reach.

As Ofcom found BT to have SMP anyway, the Commission commented that "the exclusion of cable-based wholesale services from the market definition in this particular case would not have led to a different result in the SMP analysis" (EC, case 94, page 4).

4.2.5. Germany, Case 119

On 1 December 2004 the Commission received a notification from the German regulator, RegTP. The Commission responded on 22 December 2004 and suggested that RegTP had not adequately considered the feasibility of supply side substitution to glass fibre connections. RegTP submitted a draft measure of remedies to the Commission on 25 April and the Commission responded on 23 March 2005. For the purpose of this survey we have considered RegTP's first notification.

The emphasis in RegTP's market definition is on access to the local loop for competitors. RegTP therefore excluded self-supply, which it considered to be captive use of local loops by Deutsche Telekom (DT) from the market definition.

When assessing potential substitution from other technologies, RegTP did not explicitly consider the effect of indirect constraints at the wholesale level. However, RegTP commented on the technical feasibility and likely economic viability of alternatives to wholesale access to the local loop and assessed the use of these alternatives at present. RegTP included line sharing and access to the local loops on the basis of OPAL and ISIS main distribution frame or subloops. The latter are a particularity of the German infrastructure in the geographic area of the former GDR (German Democratic Republic) and do not provide broadband functionality. Access through other technologies such as cable networks, pure fibre glass, power line connections and wireless local loop was excluded from the market. This was justified on the basis of a narrow interpretation of the Recommendation that defines Market 11 as the market for access to "wire" loops and sub loops.

Market Definition

RegTP defined the market to include three forms of access. These were unbundled (and bundled⁷⁷) access to copper loops at the main distribution frame or sub-loops, line sharing and unbundled (and bundled) access to local loops on the basis of OPAL and ISIS at the main distribution frame or sub-loops.

⁷⁶ This does not imply that the supply capacity corresponding to these transactions was captive. In principle, it is possible that BT (or BT's wholesale arm, if given the authority) may decide to stop supplying its downstream arm if it found that it could make more profits by selling on the merchant market. Ofcom's decision did not address this issue.

⁷⁷ The term bundled here refers to exceptional circumstances where unbundled access to the local loop is infeasible and where competitors are granted bundled access which includes further upstream services.

OPAL and ISIS lines are hybrid optical/copper loops installed in the former GDR following German reunification and in some areas provide the only access technology provided by the incumbent operator. They have the same functionality as copper lines for voice telephony, but currently they are not technically suitable to provide broadband access. However, these lines were included in the market definition on the basis of specific national circumstances and on the grounds of their similarities to standard copper loops in terms of bottleneck character, wholesale prices and market structure.

In contrast to Ofcom, RegTP excluded cable networks from the market. RegTP also excluded wireless local loop and power line connections from the market. RegTP argued that in doing so it was following the Commission recommendations which referred only to "wire" loops and sub loops. Furthermore, RegTP felt that these alternatives did not play a significant role in Germany and that their economic viability and technical feasibility was doubtful.

RegTP insisted that pure fibre glass connections did not qualify as part of the relevant product market on the basis that competitive conditions were not homogenous. In contrast to twisted copper loops, glass fibre connections were aimed at a small number of high usage customers with specific requirements. It found that competitors frequently found it profitable to install their own glass fibre loops to these customers. RegTP's reasoning suggests that dedicated pure fibre glass connections were not perceived to exert significant indirect constraints on the provision of access to local loops as a whole.

The Commission commented that RegTP should have considered fibre glass connections as they can offer wholesale unbundled access to local loops and sub-loops and that there were "indications that glass fibre connections have not only been rolled out by DT in cases of specific high capacity demand, but also as a substitute to metallic loops to connect residential end customers. For such glass fibre connections, the competitive conditions may not differ from those existing for metallic and hybrid loops, since self-supply would not be an alternative to access to DT's fibre loops". It concluded that RegTP needed further market analysis to substantiate its claims.

Market Power Assessment

RegTP argued that access to DT's local loop was essential to compete and that regulation was necessary because DT had no incentive to provide access to competitors. This rather broad statement could be construed as implying that, in the absence of regulation, DT's self-supply would be captive.

RegTP considered several factors for its finding of market power by DT: market share; financial power and access to capital markets; entry barriers (which may be declining in the future through alternative technologies); vertical integration; lack of actual or potential competition and lack of buyer power

On vertical integration, RegTP argued that, because of its control of the national network infrastructure and its dominant role in the provision of end customer connections, DT had superior access to up- and downstream markets which could increase its room for manoeuvre. End customer connections are mostly provided by DT via its own local loop

(self-supply) but DT is also a significant buyer of wholesale access of rivals' local loops in the limited number of cases where this is possible.

On potential competition, RegTP recognised that self-supply can be a form of potential competition *to the extent that such services can potentially be offered to third parties*. However, the rivals' share of local loops for self-supply in the total number of local loops is small and that there is no evidence of that these loops would be offered to third parties for wholesale access in the future.

4.3. MARKET 12: WHOLESALE BROADBAND ACCESS

4.3.1. Description of Market

Wholesale broadband access (WBA) covers bitstream access that permits the transmission of broadband data in both directions. The Commission's explanatory memo to the Recommendation notes that defining the market in terms of bitstream services allows NRAs to take account of alternative infrastructures if and when they offer equivalent facilities to bitstream.

In practical terms, WBA enables entrants to "provide broadband access services to end users by relying on their own backbone network in combination with access to the middle and lower parts of the incumbent's network. Bitstream access is generally considered as an essential stepping stone for new entrants towards investment in full-scale own network roll-out on the basis of local-loop unbundling".⁷⁸

This market is closely related to the one for ULL (market 11) and many of the considerations made in the previous section also apply to the present one.

4.3.2. Indirect Constraints and Captive Sales Issues

In this market, where there are vertically integrated companies, many sales are to companies' downstream arms. Nearly all NRAs included internal sales in the relevant market.⁷⁹

As in the case of market 11, the main issue in this market is whether the retail offers of vertically integrated cable suppliers act as indirect constraints on wholesale broadband offers and whether, in that case, the market should be broadened to include both DSL and cable based wholesale services. The Commission has criticized the UK and Irish NRAs for doing so and suggested that market definition should be based on direct constraints from firms selling substitutable products in the wholesale market – even though it has recognized (both in its Comments and in the Explanatory Memorandum to

⁷⁸ Commission Staff Working Document, Annexes accompanying the Communication from the Commission to the Council... on Market reviews under the EU Regulatory Framework – Consolidating the internal market for electronic communications 6.2.2006, page 6.

⁷⁹ The European Regulators Group Report, 15 July 2005 page 36 singled out Ficora, the Finish regulator, as the only NRA out of the 14 that had defined market 12, which had excluded internal sales from the relevant market.

the Recommendation) that cable may offer an alternative method to address the end user market.

4.3.3. Summary of Selected NRA Approaches

We have considered three precedents; from the UK, France and Ireland.

Both Oftel and ComReg, the Irish regulator, included cable as part of the relevant market on the basis of the indirect constraints exerted at the retail and intermediate levels. The two NRAs also included self-supply by both DSL and cable access providers in the market definition.

The French regulator ART/ ARCEP excluded self-supply from the market definition, but considered its impact in the market power assessment stage. ART/ ARCEP did not consider the effect of indirect constraints at the retail level and explicitly excluded cable from the market.

4.3.4. UK, Case 33

Ofcom submitted a notification to the EC on 16 December 2003. The EC responded on 5 February 2004. Oftel made no appeal to the EC's decision and Ofcom's final statement of June 2004 re-emphasised the retail market approach.

Oftel found that the possibility of switching at retail and intermediate levels between DSL and cable broadband access meant that, by reason of indirect constraint, that DSL and cable-based wholesale inputs belong to the same wholesale market for asymmetric broadband origination. Oftel also suggested that in the absence of regulation, wholesale products may not have been provided to third parties. While Oftel did not explicitly mention captive sales, and included self-supply in its market definition, it suggested that BT would have not provided wholesale services in the absence of regulation, thus implying that BT's self-supply would have been captive.

Market Definition

Ofcom distinguished between broadband origination and conveyance services. For the purpose of this survey, we have focused on asymmetric broadband origination in the UK excluding Hull.⁸⁰

Oftel considered, as in other decisions, that retail market definition is prior to the definition of wholesale markets because the demand for the wholesale services is derived from the demand for retail services.⁸¹ To determine the retail market, Oftel considered the

80 Oftel defined two geographical markets: Hull and the UK excluding Hull.

81 Oftel Explanatory Statement and Notification, 16 December 2003 par. 2.17-2.18.

functionality of broadband internet access⁸² and distinguished broadband internet access provided via DSL enabled 'metallic' telephone lines or through cable from narrowband internet or other forms of broadband internet access.⁸³ On this functional basis Oftel found symmetric and asymmetric broadband internet access were in separate markets.

Before moving to defining the wholesale market however, Oftel pointed out that the wholesale and retail markets should be considered in the absence of regulation. Given that under this condition, it was not clear that a wholesale product would have been provided to third parties, Oftel concluded that market analysis should not be conducted assuming that the wholesale product would have been provided, i.e. that it would be supplied exclusively to (BT's) downstream arm.⁸⁴

In the absence of wholesale products, which was Oftel's assumption in a scenario without regulation, there would be no competition between ADSL and cable at the wholesale level, but Oftel found it was still possible to consider the question of market definition at the wholesale level because competition would take place further downstream at intermediate and retail levels.⁸⁵ Oftel analysed the indirect constraint of retail market competition by considering a price increase at the wholesale level that would translate into a price increase at the retail level (assuming prices in the retail market are competitive).

"Using data available from the regulated broadband access markets, the Director considers that wholesale costs constitute around approximately 45% of the retail price of ADSL based broadband. Therefore, a 10% price increase of the wholesale element would translate into a 4.5% price increase at the retail level." (Par. 2.171.)

Oftel considered that such a price increase at the retail level would lead sufficient numbers of customers to switch to cable-based broadband internet access to render the price increase unprofitable. Similarly, Oftel considered that ADSL and cable providers would offer intermediate products and estimated that wholesale costs constituted around 80% of the ADSL based intermediate service. A 10% price increase in ADSL wholesale element would lead to an 8% price increase at the intermediate level and enough switching for the price increase to be unprofitable.⁸⁶

Oftel also considered an alternative approach to market analysis. Rather than explicitly define a wholesale market, one could seek to identify market power at the retail level and

82 Oftel identified three basic features: the service is always on, it is possible to use voice and data services simultaneously and the downstream speed is "fast" (Oftel said that this should be faster than a dial up connection, without specifying an exact speed).

83 See also Oftel Explanatory Statement and Notification, 16 December 2003 par. 2.46-2.88.

84 Oftel, 16 December 2003 par. 2.169.

85 Oftel, 16 December 2003 par. 2.170.

86 Oftel, 16 December 2003 par. 2.174-2.176.

check if any such power is a result of leverage from the wholesale level. This approach, which is quite similar to the one advanced in the Australian Guidelines (see section 3) was primarily set out to aid understanding of leveraging concerns rather than to define the market for the purpose of an assessment of SMP.⁸⁷

Market Power Assessment

Oftel assessed market power assuming that no remedies were in place at the wholesale level being considered. As, in this scenario it would be unlikely that any wholesale products would be provided, Oftel considered that the three vertically integrated operators would compete at the retail level. The market power at the retail level therefore would indicate market power in the implicit wholesale markets.⁸⁸

One of Oftel's most important criteria for the assessment of SMP was market growth and market shares.⁸⁹ As Oftel was considering a situation in the absence of wholesale regulation, it looked at subscriber numbers by *network* (i.e. ADSL or cable shares and *not* ISP retail shares) at the retail level to proxy for the implicit wholesale market shares. Customers supplied by LLU operators were excluded from BT's market shares and included in a residual category ("others").⁹⁰

Oftel also considered future potential market shares, barriers to entry and expansion, economies of scale and scope, countervailing buyer power (which was not present as cable companies are not offering a wholesale broadband origination product as BT's customers have no alternative source of supply) and BT's better access to capital markets.⁹¹ Oftel's Director concluded that BT possessed single firm SMP in the market for wholesale asymmetric broadband origination.

87 Oftel Explanatory Statement and Notification, 16 December 2003 par. 2.179 and 2.177 "It is also possible to analyse this issue from a slightly different perspective, by focusing on the question of whether, absent regulation at the wholesale level, BT would be in a position of market power at the retail level because of implicit leverage from the wholesale level. As before, ADSL competes with cable in the broadband internet access market at the retail level, but the underlying assumption is that absent regulation no wholesale products would be provided. In the absence of wholesale products, it might be assumed that BT's retail market share would correspond to its current wholesale market share. That is, the overall split between DSL and cable at the retail level would be as it is currently, but BT would capture the whole DSL market share at the retail level. The question would then be whether, on the basis of these market shares and other relevant considerations, BT would be in a position of SMP at the retail level (in a market which included both DSL and cable-based retail services). The analysis which is relevant to this question has been conducted in the next chapter which attempts to assess BT's wholesale market position on the basis of retail market share data and the difficulties of replicating or acquiring the underlying wholesale service in the absence of regulation. That analysis implies that BT would have market power at the retail level in the absence of regulation."

88 Oftel, 16 December 2003, par. 3.19.

89 Oftel, 16 December 2003, par. 3.9.

90 Oftel, 16 December 2003, par. 3.28-3.29.

91 Oftel, 16 December 2003, par. 3.38, 3.45, 3.47-3.48, 3.62-3.64, 3.68.

The Commission's Response

The Commission's Response was similar to the one for market 11. It found that Oftel did not focus enough on demand side and supply side substitutability between PSTN-based and cable-based wholesale inputs and pointed out that the definition of wholesale broadband access in the Annex to the Recommendation, covers both (PSTN) bitstream access and "wholesale access provided over other infrastructures, if and when they offer facilities equivalent to bitstream access." The Commission considered that Oftel should have provided evidence of a potential direct constraint and not have merely referred to the indirect pricing constraint based on the assumptions of substitutability at retail level. The Commission considered however that the indirect pricing constraint could have been taken into account at the stage of assessment of SMP and noted that the exclusion of cable-based wholesale services from the market definition in this particular case would not have led to a different result in the SMP analysis.

4.3.5. Ireland, Case 93

On 29 July 2004, the Irish regulator ComReg submitted a notification to the EC. The Commission responded on 25 August 2005.

ComReg considered whether self-supply of broadband using a variety of technologies was part of the wholesale market based on whether it imposed an indirect constraint at the retail level. If it did, ComReg implicitly did not consider the self-supply to be "captive".⁹² ComReg found that the market included the provision of bitstream services through self-supply and supply to third parties. ComReg also concluded that cable and fixed wireless access (FWA) services were part of the wholesale market.

Market Definition

ComReg first analysed the retail market as it viewed wholesale demand as a derived demand. The competitive constraint in the market came from demand substitution at the retail level. ComReg started off by defining a retail market by looking at functional criteria and found that cable, fixed wireless access (FWA) and ADSL broadband services have the same functional characteristics and were interchangeable in terms of price for comparable products. ComReg also considered the opinions of respondents to its consultation before coming to a conclusion.⁹³

On the wholesale market, ComReg considered

- whether cable and FWA access should be included in the wholesale market analysis, given that some retail cable and FWA services compete with ADSL services at the retail level;

⁹² ComReg Market Analysis: Wholesale Broadband Access, 29 July 2004, par. 3.41.

⁹³ ComReg, 29 July 2004, par. 3.38.

- whether self-supplied bitstream services should be included in the wholesale market analysis; and;
- whether functional and pricing differences at the wholesale level suggest that LLU and bitstream services are not in the same relevant market.

For the purpose of this survey, we consider all three wholesale market questions in turn.

First ComReg found that while there was currently no provision in Ireland of wholesale capacity on cable and FWA networks to third parties (and significant investment was required to upgrade existing networks to facilitate the delivery of such services), while there was (limited) provision of retail broadband access on cable and FWA networks. Given ADSL, cable and FWA broadband services were found to be in the same retail relevant product market, ComReg considered whether to include capacity available on cable and FWA networks, not made available to third parties, in its analysis and noted the CFI decision in the Schneider Electric Case.⁹⁴

“ComReg makes the following analysis in this light. Even if cable or FWA capacity is all self-supplied, ComReg considers that the issue is whether such self-supply constrains wholesale behaviour through its impact at the retail level. For example, an increase in the price of bitstream access is highly likely to induce demand side substitution at the retail level. Such an increase will probably lead to ADSL operators that buy bitstream from eircom increasing their retail ADSL prices, thereby providing cable and FWA operators with the opportunity to increase their share of the retail market (assuming that they do not merely follow the retail ADSL price increase). Such cable and FWA operators would be effectively increasing their self-supplied wholesale broadband access. ComReg concludes that the indirect pricing constraint exercised by cable and FWA based services at the retail level has a sufficiently significant impact at the wholesale level to justify its inclusion in the wholesale broadband access market.” (Par. 3.42.)

ComReg noted the Commission's criticisms of Oftel in 2003 and therefore also assessed the potential direct (as opposed to indirect) constraint of wholesale cable and FWA operators. ComReg found there were economic and practical difficulties preventing cable network operators from providing a wholesale service to third parties and capacity restrictions on FWA operators with the same effect. ComReg also noted that the operators of cable and FWA networks do not intend to make the necessary investments to provide a wholesale service within the timeframe of the review.⁹⁵ All this would

⁹⁴ ComReg, 29 July 2004, par. 3.40 - 3.41. “ComReg notes that the recent decision of the Court of First Instance in *Schneider Electric SA v Commission of the European Communities* rejected the European Commission's view that vertically integrated channel sales were not 'sold' in the wholesale market (and, therefore, would not constrain the conduct of the merged entity). As a result of the case, it is now necessary to conduct a market-by-market analysis to determine whether the 'captive' capacity concept should be taken into consideration in the context of the particular circumstances of each market. It appears to ComReg that there is derived demand for both self-supplied products (on cable, FWA and xDSL-enabled networks) and wholesale inputs (over xDSL-enabled networks)”.

⁹⁵ ComReg, 29 July 2004, par. 3.46-3.48.

suggest that cable and FWA do not provide a sufficient direct constraint to wholesale wireline access. However, ComReg claimed that an application of the hypothetical monopolist test as outlined in the SMP Guidelines showed that self-supply by cable and FWA operators should be included in the market on the basis that they are substitutes at the retail level.⁹⁶

Bitstream self-supply

ComReg considered whether eircom's self-supplied bitstream service imposed a competitive constraint on its wholesale bitstream product supplied to third parties. Its analysis was made on the basis that self-supplied bitstream and wholesale bitstream were supplied by different parties and considered that if one operator monopolised externally-supplied bitstream and another operator supplied a vertically-integrated retail broadband service, the ability of the first operator to raise prices would be constrained. ComReg argued that:

“The competitive constraint on the hypothetical monopoly supplier, should it be found to exist, would come from demand substitution at the retail level. As demand substitution at the retail level is likely to be strong, the self-supplied bitstream service provider should be included in the relevant wholesale market.” (Par. 3.77.)

ComReg concluded that self-supplied bitstream and bitstream supplied to third parties are functionally the same product and therefore fall within the same product market. In 2004, approximately 80% of all PSTN bitstream in Ireland was self supplied.

LLU and bitstream services

ComReg considered whether LLU and bitstream were in the same relevant market and used the European Commission view in the Recommendation as a starting point. The EC view was that an operator providing wholesale broadband access will not consider unbundled local loops to be a substitute, even if the same services could be provided over the unbundled loops. ComReg analysed functional substitutability (compared to bitstream, the purchaser of ULL has greater control on the bandwidth, geographic coverage and roll-out of new retail services), pricing comparisons (the differences in prices reflect the functional differences between the services) and development of subscriber numbers (eircom's self-supply is more mature) in coming to its conclusion that bitstream and LLU services are not substitutes.⁹⁷

Conclusion on market definition

After also considering that there are no effective supply side substitutes for wholesale broadband access within the timeframe of the review, ComReg concluded that the market

⁹⁶ ComReg, 29 July 2004, par.3.49. We understand this to mean that, according to ComReg's market analysis, a SSNIP of wireline WBA would lead to higher retail wireline prices, hence substitution to retail cable access and/or FWA, hence a reduction in wireline WBA such as to make the SSNIP unprofitable.

⁹⁷ ComReg, 29 July 2004, par. 3.101.

for wholesale broadband access included self-supply by cable operators, self-supply by FWA operators, externally-supplied bitstream services and; self-supplied bitstream services but not LLU services (fig 3.4 and par. 3.131).

Market Power Assessment

ComReg considered a number of factors including:

- Market share - eircom had a market share of 85% in the defined market for wholesale broadband access.
- Potential competition, barriers to entry and expansion - ComReg did not anticipate medium-term market entry from high bandwidth mobile access or power line platforms (technologies still at an experimental stage). The take-up of satellite and FTTH had so far been low due to limitations in functionality and pricing structures and the extent of expansion was uncertain. Furthermore eircom was thought to be likely to have cost advantages in the market even where the same investments are being made, e.g., economies of scope from investments in broadband equipment and better access to potential retail customers in new downstream services.⁹⁸
- Countervailing bargaining power - ComReg did not believe that any purchaser of wholesale broadband access has credible alternatives to eircom (the only alternative source of supply is self-supply), therefore did not have the buyer power to offset eircom's market power.

ComReg therefore concluded that eircom had SMP.

Grounds of EC objection

The Commission had one main comment on ComReg's analysis which was on the inclusion of self-supply by cable operators and FWA operators in the relevant product market based on an indirect pricing constraint at the retail level. The Commission found that "ComReg does not focus on demand side and supply side substitutability between PSTN-based and cable- or FWA-based wholesale inputs." and ComReg included access through infrastructures (cable and FWA) even though the facilities were not yet available to third parties.

"ComReg explicitly excludes any potential direct constraint exercised by providers of cable- or FWA-based wholesale inputs and bases its conclusions entirely on an assumed indirect pricing constraint derived from substitutability at the retail level. The Commission considers that in the presence of evidence excluding demand side substitutability at the wholesale level, such an indirect competitive constraint could have been taken into account subsequent to the definition of the relevant market, i.e. at the stage of assessment of SMP." (The Commission, case 93).

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ComReg Market Analysis: Wholesale Broadband Access 29 July 2004 par. 4.12-4.14.

4.3.6. France, Cases 175, 206

The French authority ARCEP, previously known as ART, divided the market for wholesale broadband access into three separate markets; wholesale unbundled access to metallic loops and sub-loops (which, as it is also part of market 11, we do not consider here), wholesale broadband access delivered at the regional level (case 175) and wholesale broadband access delivered at a single national point (case 206). ARCEP made this distinction as it considered that there was only partial and asymmetric substitution of wholesale broadband services delivered at national level for those delivered at regional level.

On 12 April 2004 ART notified the EC of its market analysis for the market of wholesale broadband access delivered at the regional level⁹⁹ and the EC replied on 11 May 2005. In May 2005 ART reorganised to manage electronic communications and post and was renamed ARCEP. On 1 July 2005 ARCEP notified the EC of its market analysis for broadband access delivered at a single national point¹⁰⁰ and the EC replied on 26 July 2005.

ARCEP, also based on its interpretation of EU competition case law, excluded self-supply from the market definition, but considered it at the market power assessment stage.

Market definition: Regional Level

ART approached market definition from the supply side first and then from the demand side. In the absence of supply side substitutability and feasible offers, it appeared that demand side substitutability (though an indirect constraint at the retail level) would not be sufficient for ART to broaden the market to include alternative access products.

In order to define the appropriate market boundaries, ART studied the scope for substitutability between different technologies (DSL, cable, etc.), between different forms and levels of access (local loops, regional and national delivery of access), between residential and business users and between different protocols for traffic delivery (ATM and IP).¹⁰¹

Considering substitution between technologies, ART found that the market included only DSL offers. ART first claimed that, due to the high investments involved, cable operators would not start to offer wholesale services in response to a small but non transitory increase in the price of DSL offers. In support of its claim, ART also noted that cable operators had not made wholesale offers when (in the 1999-2002 period) France Telecom was charging much higher prices for its DSL offer (p. 6) and that cable systems reached only 25% of the population against France Telecom's 90% coverage (p. 7). On the demand side, ART stated that substitution between wholesale broadband cable and

99 Decision 278.

100 Decision 281.

101 Draft Decision 278 page 6.

DSL products would be difficult, particularly because of the differences in geographical coverage (p. 7). ART found that alternative technologies like satellite, FWA and WiFi, which accounted for less than one percent of all broadband connections, were not sufficiently developed to be included in the market (p. 7).

Considering substitution with the local loop, ART explained that an alternative operator who wanted to substitute from regionally delivered access to local loop would incur high adaptation costs involving investment in creating a network linking the unbundled local loop.¹⁰² This cost constituted a structural barrier to replication of offers of broadband access offered at the regional level by unbundled local loop.

Considering substitution between wholesale broadband services delivered at national level to services delivered at a regional level, ART noted that only partial and asymmetric substitutability existed between the two (pp. 8-9). For operators with a national network of their own, but lacking a regional POP, the extra costs of substitution to delivery at a local level would not be high and the choice between the two offers could result in arbitrage between tariffs.¹⁰³ Substitution in the opposite direction from regional to national access, however, would not be likely as an operator with a regional network which is already interconnected with France Telecom's regional POPs, would have a high opportunity cost of not using his own network. The Authority concluded that overall, regional and national access offers do not present the same functionality for operators and do not present a sufficient degree of substitutability for them to be included in the same market.

Access through different delivery interfaces were considered part of the same market; and ART referred specifically to the fact that technological neutrality was a regulatory objective.

Market definition: National Level

ARCEP followed the same procedure for defining the market for wholesale broadband access delivered at regional and at national levels, so we will not report the details of the analysis here.

ARCEP stated that while WBA at a regional level corresponds to the EC's defined market 12, WBA delivered at a national level does not correspond to any of the markets listed by the EC. Therefore ARCEP's analysis considers the relevance of ex ante regulation after the market definition stage. As with the decision on WBA at a regional level, ARCEP studied the substitutability between different technologies, between local loop, regional and national delivery of access, and, for regionally delivered access; between access for residential and business users and between different user interfaces, and came to the same conclusions.

102 ART estimated that this would cost in the region of €100-€150million per operator; unaffordable for all but the largest operators (pp. 7-8).

103 On the one hand, national delivery would allow the operators to profit from their own networks, and regional delivery would allow operators to avoid congestion at the single national point of supply.

Market Power: Regional Level

ART included both quantitative and qualitative indicators in its analysis and concluded that France Telecom had SMP, also because of its control of infrastructure, vertical integration, economies of scale and the lack of potential competition in non-unbundled areas.

Market Power: National Level

ARCEP included both quantitative and qualitative indicators in its analysis and also concluded that France Telecom had SMP. ARCEP found that there were three undertakings active on the supply side of the merchant market, namely; France Telecom, Cégétel and 9 Télécom (Cégétel and 9 Télécom have since merged). Consistent with the opinion of the Conseil de Concurrence, ARCEP found that self-supply by operators that were not active in the merchant market was unlikely to suggest potential entry in that market because of entry costs (notably, the costs of adapting the operators' information systems, marketing and customer service).¹⁰⁴ ARCEP found that France Telecom had a market share of 60% in terms value and 40% in terms of lines. The authority considered that the new entity, Neuf Cégétel even with potentially a larger market share in terms of lines than France Telecom, would not have the same leveraging power in the adjacent markets, and would not be in control of the underlying infrastructure.

ARCEP secondly considered several qualitative factors to assess France Telecom's market power, including France Telecom's size, its control of infrastructure and the economies of scale and scope following Wanadoo's reintegration into France Telecom. ARCEP ruled out the likelihood of joint dominance, based on insufficient transparency in the market and that the capacity for punishment was asymmetric.

In terms of potential competition, the Commission commented that ARCEP should have explained in more detail "the obstacles that could limit a self-supplier's ability to enter the market".

4.4. MARKET 15: CALL ACCESS AND ORIGATION ON MOBILE NETWORKS**4.4.1. Description of Market**

Network access and call origination are two of the components required to provide a mobile telephone service. The two services allow entrants to make use of the mobile network infrastructure to provide services to retail customers. They are typically supplied together by a network operator, so the Commission considered that access and origination could be part of the same market at a wholesale level. In its explanatory memo the Commission noted that the level of competition in this market at the retail level indicated that intervention in this market at the wholesale level may not be warranted.

104 Decision 281 p.31 and p. 38.

4.4.2. Indirect Constraints and Captive Sales

The key issue in market 15 is that the Commission has outlined a wholesale market despite the fact that there may be no merchant transactions at all prior to the entry of MVNOs, as in two of the cases (Ireland and Spain) that we have surveyed. The absence of third party access has not excluded the possibility of analysing the market as the structure of supply at the wholesale level can be derived from supply at the retail level. However, the Commission notes in its EU Regulatory Framework Working Document that retail market conditions, although informative, “need not in themselves be conclusive as regards the finding of SMP at the wholesale level” and that, in particular, it is not necessary to find joint SMP at retail level to find joint SMP at the wholesale level.¹⁰⁵

4.4.3. Summary of Selected NRA Approaches

The market structure varies between countries, and so has the NRAs’ approach to the treatment of self-supply and indirect pricing constraints. We have considered in detail precedent from the UK, Ireland, and Spain. In the UK there were third party transactions which were considered part of the market along with self-supply. There were no third party transactions in Ireland and Spain. In Ireland the self-supply was included in the calculation of market shares, while it was excluded in Spain.

In the UK and Ireland, the structure of the retail market was used to inform the analysis of the wholesale market. The regulators considered that a vertically integrated network operator supplying wholesale airtime to its own retail arm would face a competitive constraint at a retail level from an MVNO. On this basis, self-supply by operators was included in the market definition.

In the UK, vertically integrated network operators did sell access to third parties (MVNOs) at the wholesale level. Market shares at the wholesale level were approximated by summing self-supply and third party supply market shares at the retail level. The EC did not comment on Ofcom’s treatment of self-supply or indirect constraints.

In Ireland the lack of third party supply on the wholesale level reinforced the regulator’s view that self-supply should be included in the market definition. ComReg believed the lack of third party supply was a deliberate attempt by the three MNOs to prevent MVNOs entering and competing at the retail level. This link between the retail and wholesale levels of the market reinforced the view that the MNOs’ self-supply should be included in the product market, along with third party supply when it was granted. However, the fact that the MNOs had so far not granted third party access suggested that their self-supply was captive. The Commission commented that the presence of a fringe operator, Meteor, which did not have a strong retail presence, may still exert a constraint at the wholesale level if it is able and willing to be the first party to offer wholesale access to an MVNO.

¹⁰⁵ Commission Staff Working Document, Annexes accompanying the Communication from the Commission to the Council... on Market reviews under the EU Regulatory Framework – Consolidating the internal market for electronic communications 6.2.2006, page 7 The Commission repeated this comment in one of the cases we have surveyed (Ireland).

In Spain there was also no third party supply on the wholesale level, but the Spanish regulator, CMT, defined the market as the supply to access and origination services by the MNOs to operators *without* spectrum resources, allowing the latter to supply voice and data services at the retail level. CMT therefore excluded self-supply in its market definition and no transactions existed on the relevant market since all supply was captive. The EC did not comment on CMT's treatment of self-supply and market definition.

4.4.4. UK, Case 1

Oftel submitted a notification to the European Commission on 4 August 2003. The Commission responded on 29 August; there was no appeal and an adopted measure was made on 3 October 2003.

All wholesale providers were vertically integrated at the retail level and competition at the retail level was therefore assumed to have an effect on competition at the wholesale level. Vertically integrated network operators also sold to third parties (MVNOs) at the wholesale level. Market shares at the wholesale level were approximated by summing self-supply and third party supply shares at the retail level. This seems to indicate that self-supply was not considered captive. The Commission commented that using the retail market to analyse the wholesale market on the basis of retail revenue shares may not translate market shares accurately into the wholesale market, as relative prices at the retail and wholesale level may vary.

Market Definition

There were three parts to Oftel's market definition. First, Oftel felt that consideration of the relevant retail markets logically preceded the analysis of the wholesale markets, since the demand for wholesale services is derived from the demand for retail services.

"The relevant (upstream) wholesale market will then generally be as broad as the demand side substitutes in the relevant retail market provided the wholesale input is a sufficiently large share of total costs. This also means that competitive conditions at the retail level will be relevant to the existence of market power at the wholesale level. For example, it does not follow from the fact that operators are vertically integrated and may not supply wholesale services to third parties that they have market power at the wholesale level. Any such power could be constrained by competition between vertically integrated operators at the retail level. Moreover, if vertical integration is efficient, the adoption by a number of firms of a vertically integrated structure could not then be construed as evidence of co-ordinated conduct."¹⁰⁶

Oftel therefore explicitly referred to indirect constraints in its analysis of the market and also said that self-supply of vertically integrated operators was part of the relevant market.

Secondly, Oftel said that the retail market definition must be undertaken on the basis of no regulation of the wholesale services being considered, therefore demand side and

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Oftel, Mobile access and call origination services market, 4 August 2003, Appendix A.5.

supply side substitution possibilities at the retail level were only considered if they were viable in the absence of regulated wholesale inputs.

The third part of Oftel's approach to market definition was to define markets on the demand side and on the supply side, where supply side substitution would be considered as a low cost form of entry which could take place within a relatively short period of time.

At the retail level Oftel found that access and outgoing calls were part of the same market (based on consumer research,), fixed services were not substitutes for mobile services (based on price differentials and differences in functionality), SMS services are linked to the same market (based on a "common pricing constraint") and that post- and pre-pay services were part of the same market. It also concluded that the market was not mature enough to establish whether 2G and 3G services were in the same market, or whether data services and Internet access were part of the same market.

Based on its retail market definition, Oftel considered that wholesale services comprise the packages of calls and access provided to service providers, call origination for indirect access, international roaming, and domestic roaming for "3", including SMS.¹⁰⁷ Roaming services should instead be part of a separate wholesale market.

The Commission did not comment on Oftel's treatment of captive sales or indirect constraints in its market definition.

Market Power Assessment

Oftel's SMP assessment considered the possibility of both single dominance and collective dominance and concluded that there was neither.

In Oftel's Director's view, one of the most important criteria for assessing SMP was market shares. For each network operator, the share was calculated using the sum of his revenues, retail call minutes, or subscriber numbers plus those of the MVNOs using his network. In terms of revenue, the largest network operator was Vodafone, which still fell comfortably under the Commission's Guideline market share threshold of 40%. Vodafone was also found to not have any significant cost advantages that were unmatchable by other mobile network operators.

With regards to joint dominance, while Vodafone and Orange had higher traffic volumes (lower average cost), they had limited advantage in terms of subscriber numbers. Oftel took Vodafone's greater traffic volumes and lower costs to mean that part of Vodafone's profits were consistent with a competitive market, because they reflected efficiency. Several other factors such as economies of scope, vertical integration and a highly developed distribution and sales network, pricing and profitability, low elasticity of demand, countervailing buyer power, similar cost structures, excess capacity, transparency, and retaliatory mechanisms were also considered in the assessment of joint dominance.

107 Oftel, 4 August 2003, Appendix A. 57.

The Commission commented that Oftel had analysed the wholesale market for mobile network access and call origination on the basis of the retail market. Oftel calculated markets shares in terms of subscriber numbers, volume of call minutes, and revenues (of both the network operator and from ISPs). The Commission considered that revenue data may lead to a distorted assessment of the relative weight of the market players on the *wholesale* market as the price at which access and origination is sold to ISPs/MVNOs may be different to the retail price charged to the end user.

4.4.5. Ireland, Case 121

The Irish regulator, ComReg, submitted a notification to the European Commission on 9 December 2004. The Commission responded on 20 January 2005 and ComReg issued an amended measure on 15 February 2005.

ComReg considered that a vertically integrated network operator supplying wholesale airtime to its own retail arm would face a competitive constraint at a retail level from an MVNO. Demand side substitution at the retail level would therefore exert an indirect constraint at the wholesale level. It was the threat of demand side substitution at the retail level that ComReg believed meant the jointly dominant MNOs had not granted third party access to their networks. This link between the retail and wholesale levels of the market reinforced ComReg's view that self-supply should be included in the product market, along with third party supply when it was granted. However the fact that the MNOs had so far not granted third party access suggested that their self-supply was captive. The Commission commented that the presence of a fringe operator, Meteor, which may not have a strong retail presence, may still exert a constraint at the wholesale level if it is then able and willing to be the first party to offer wholesale access to an MVNO.

Market Definition

Taking a similar approach to Oftel, ComReg used the competitive conditions at the retail level as guides for determining the scope of which types of "access" and "call origination" services are required at the wholesale level.

First, at the retail level, ComReg concluded that the market included pre- and post-pay services on 2G and 3G networks, but not fixed services, WLAN services or advanced data services.

On the wholesale level, ComReg considered the wholesale access and origination services required by MVNOs to be a way of satisfying retail customers' needs and therefore that they were demand substitutable for MNO services. ComReg also looked at whether wholesale services provided over different mobile networks belong to the same relevant product market; and found that from an MVNO's perspective, Vodafone and O2 appeared to be readily substitutable. The third, smaller party, Meteor, before its national roaming agreement with O2, may be perceived as having a more restricted geographic coverage and might only represent a relatively imperfect substitute. Overall, ComReg concluded the relevant market includes all MNOs.

The third strand of ComReg's analysis was to consider whether self-supply should be included in the relevant product market, together with wholesale services provided to third parties. As no wholesale services are currently provided in Ireland, except in the form of self-supply by vertically integrated operators and indirect access via Number Translation codes (NTCs), the issue of substitutability was assessed on the basis of potential market transactions for the provision of wholesale mobile access and call origination services. ComReg analysed the case of a hypothetical monopoly supplier and concluded that the competitive constraint, should it be found to exist, would come from demand substitution at the retail level. As demand substitution at the retail level is likely to be strong, the self-supplied access and call origination of MNOs should be included in the relevant wholesale market.¹⁰⁸

ComReg considered a final issue of whether indirect access operators, independent resellers of airtime, or MVNOs could potentially self-supply access and call origination and concluded this was unlikely given the existence of limited spectrum availability and economies of scale and scope which provide an effective barrier to further mobile market entry.

ComReg noted that:

"the balance of historical administrative practice of the EU Commission has been to exclude self-supply for the purposes of determining market definition,¹⁰⁹ but to take it into account at the level of market analysis.¹¹⁰ Over the years, however, this general principle has been derogated from where the EU Commission has determined that the characteristics of particular markets are such that self-supply could exert competitive pressure on sales to independent third parties."¹¹¹ (Par. 3.56.)

ComReg believed that:

"In considering whether or not the self-supply of access by vertically integrated MNOs should be treated in the same way as the provision of such services to a

108 ComReg noted that: "3.54 The EU Commission in its comments to NHH, the Hungarian NRA, pointed out that "the fact that at the wholesale level no transactions are taking place on the merchant market (i.e. no sales to independent third parties) does not exclude the possibility to analyse the relevant market. In fact, the absence of such transactions merely indicates that all supply on the relevant market, as defined by NHH, is captive, i.e. provided internally by vertically integrated mobile network operators. In such a case the structure of supply at the wholesale level (e.g. market shares of the undertakings active on the relevant market) is derived from supply at the retail level, and the relevant market would need to be analysed on the basis of the competitive conditions at the retail level".

109 See, for example, BASF/Eurodiol/Pantochim, Case No. COMP/M.2314 of 11 July 2001.

110 In the context of distribution agreements, for example, this has been confirmed recently at point 98 of the Commission Guidelines on Vertical restraints, OJ 2000 C291, p.1.

111 See, for example, the compromise position reflected in the "net" merchant market rule: Shell/DEA, Case No. COMP/M. 2389 of 20 December 2001.

third party, one needs to take into account the fact that, in the absence of some form of historical regulatory intervention, there would be few if any "access" markets. This constitutes a clear departure from other non-network based industries. One also needs to take into account whether or not there are any physical or technological limitations on the provision of access. Finally, administrative practice is much more inclined to take into account "captive sales" at the level of market definition where there are no sales being made whatsoever to independent third parties, as opposed to a situation where the market dynamics are sufficiently clear from the existing arm's length transactions (even if these transactions do not constitute the full range of possible transactions)." (Par. 3.57.)

ComReg therefore concluded that not only was it appropriate as a matter of economic principle, but also consistent with emerging Community jurisprudence and EU Commission administrative practice, to take into account self-supply at the level of market definition, for the purposes of determining the scope of the wholesale mobile access and call origination market. ComReg felt that it was particularly appropriate to take into account self-supply at the level of market definition given that there was no third party access being granted.

Market Power Assessment

In the absence of any supply to third parties at the wholesale level, ComReg used information about the closely related retail market as a proxy of the relevant market shares of the parties. Absent access, the relationship between retail and wholesale mobile access and call origination was one-to-one, so retail and wholesale shares were the same. ComReg found that Vodafone's share had exceeded 50% since January 1999. ComReg found that the market share of O2, the second largest operator, had been at or close to 40% since January 2001. ComReg noted the High Court's conclusion of dominance in the Meridian case of 2000, whereby the huge market share of Eircell was greatly diminished in the light of the dramatic decline of its share over a relatively short period. Low barriers to expansion were therefore important in constraining single dominance.

ComReg then investigated the evidence for joint dominance of Vodafone and O2: The factors considered were the degree of market concentration, the incentive to coordinate, the ability to coordinate (the ability to detect cheating and the enforceability of compliance), and actual and/or potential market constraints. ComReg was concerned that the absence of merchant transactions at the wholesale level meant that there was only a notional market at this functional level of competition, and access was only relevant insofar as it can be seen as the basis of delivering downstream retail services.

"The absence of transactions at the wholesale level is arguably itself a legitimate cause for competitive concern in electronic communications markets as regards any assessment of collective dominance, and will be examined separately." (Par. 4.30.)

ComReg found that Vodafone and O2 were jointly dominant and jointly had SMP. The joint dominance was found to be sustained by the refusal to grant access to wholesale airtime or access to an MVNO such that there was "pent up demand". ComReg concluded

that with the evidence of, and the ability of the access seekers to offer innovative services at competitive prices which benefit both the host network and the Irish consumer, it would be rational to allow access, and therefore denial of access by the MNOs sustained the case for tacit collusion.

Grounds of EC objection

The Commission felt that, as with the line adopted in Finland, case 82, a company's performance on the retail market does not automatically mirror its position and conduct upstream, even if there are no market transactions upstream. Although market conditions at the retail level may be informative as to the wholesale market structure, they may not be conclusive as to the finding of SMP at the wholesale level.

One of the reasons given by the Commission was the presence of fringe competitors, who, even if:

“they were not able to exert a competitive constraint at the retail level, may be able to do so at the wholesale level. The Commission felt that as a result of Meteor's national roaming agreement concluded with O2, one of the fundamental conditions to be able to offer national coverage to an MVNO may now have been fulfilled and it could then have the ability to challenge any anticompetitive coordinated outcome. The Commission therefore suggested that ComReg should monitor the behaviour of fringe competitors on the wholesale market for mobile access and call origination.” (Commission, case 121, page 7.)

4.4.6. Spain, Case 330

On 30 December 2005, the Spanish regulatory CMT submitted a notification to the European Commission. The Commission responded on 30 January 2006. The final decision by CMT was adopted on 13 February 2006.

CMT defined the market as the supply to access and origination services by the MNOs to operators *without* spectrum resources, allowing the latter to supply voice and data services at the retail level. CMT therefore excluded self-supply in its market definition and there were no transactions on the relevant market since all supply was captive.

Market Definition

CMT defined the market as the supply to access and origination services to MVNOs (allowing them to supply voice and data services at the retail level) and national roaming services provided to other MNOs using either 2G or 3G networks (pp. 5-6).¹¹² No transactions existed on the relevant market since all services were self-supplied by vertically integrated operators. There had been a national roaming agreements between

112 Page references are relative to Annex 1 of the Final Measure, available at http://forum.europa.eu.int/Public/irc/info/ecctf/library?l=/espaa/adopted_measures/es20050330&vm=detailed&sb=Title.

Vodafone (existing 2G operator) and potential 3G entrant, Xfera, but the latter was not yet active in the market (pp. 7-8).

Market Power Assessment

Given the absence of merchant sales, the competitiveness of the wholesale market was assessed by reference to the three MNOs' shares of minutes and revenues in the retail market. CMT also considered the MNOs' commercial strategies and pricing schemes.

CMT emphasised a number of structural characteristics of the Spanish market which were conducive to coordinated behaviour between the three MNOs; these were the structure of the market (degree of market concentration and barriers to entry, pp. 43-54), the transparency of the wholesale market (ability to detect any deviation from the common conduct, p. 43), thirdly, the symmetry of the cost structure of the MNOs (pp. 57-60) and fourthly lack of actual and/or potential market constraints (actions of outsiders which could jeopardise results from coordination, pp. 54-56). CMT's assessment of joint dominance was reinforced by the fact that there the MNOs persistently refused to grant network access to MVNOs - allegedly in order to maintain high retail market rents. Consequently CMT found there was unsatisfied "pent up" demand of service providers seeking access to MNOs' networks (CMT had granted MVNO licenses to 10 operators and 199 operators had been granted authorization to resell mobile services, but none of these operators had been able to conclude access agreements with any of the three MNOs; p. 45).

CMT felt that the market entry of potential fringe competitor Xfera would not challenge the tacit collusion of the three MNOs and therefore they were not subject to actual and/or potential market constraints. CMT believed that no access seeker would be interested, in signing an MVNO contract with an MNO such as Xfera lacking geographical coverage and relying on a national roaming agreement (pp. 54-55).

The Commission's comments focussed on the analysis required for findings of collective dominance. The Commission noted again that finding of retail SMP was not a necessary condition for wholesale SMP, but did not discuss aspects relevant to indirect constraints or captive sales.

APPENDIX A: SUMMARY OF CASES

Case Name and Reference	Market	Market Definition	Analysis of Captive Sales	Analysis of Indirect Constraints	Outcome of case
Competition Cases					
Endemol T-221/95, CFI Judgement, 28/04/1999	Upstream: production of Dutch-language TV and radio programs. Downstream: broadcasting (mainly advertising for public broadcasting of Dutch-language programs)	The Commission excluded internal production of programs by public broadcasters from the upstream market for (independent) production of Dutch-language television programmes. The CFI sided with the Commission on points of market definition.	The Commission argued that internal production of programs by public broadcasters was captive. The CFI concurred.	In the CFI decision there is no reference to in-house production (captive sales) imposing any indirect constraint on the merged entity.	The Commission blocked the merger and the CFI rejected Endemol's appeal. There were no further appeals.
Schneider T-310/01, CFI Judgement, 22/10/2002	Upstream: national markets for several kinds of low-voltage electrical equipments used for electrical installations in residential and industrial buildings. Downstream: The industry has several layers of downstream markets (wholesalers, switchboard assemblers, installation engineers, project managers and end-users) with varying degrees of vertical integration by different manufacturers.	The Commission defined several upstream and downstream markets. The Commission considered that internal sales were not part of the same market as supply on the open market, and did not include internal sales in the market shares calculation.	The parties agreed that the internal transactions of integrated producers were captive. The Commission excluded such captive sales from the upstream market. The CFI disagreed and held that internal sales were part of the upstream market because of indirect constraints considerations.	The Commission did not consider the indirect competitive constraints to the merged entity posed by the internal transactions of vertically integrated producers (e.g., ABB, Siemens). The CFI upheld Schneider's plea that the Commission had erred in not considering the indirect constraints posed by the vertically integrated producers in several markets..	The Commission blocked the merger and the CFI annulled the Commission's decision. There were no further appeals.

Case Name and Reference	Market	Market Definition	Analysis of Captive Sales	Analysis of Indirect Constraints	Outcome of case
GE/Honeywell T-210/01, CFI Judgement, 14/12/2005	<p>1) Upstream: engines used in large regional aircrafts</p> <p>Downstream: large regional aircrafts.</p> <p>2) Upstream: engine starters</p> <p>Downstream: large commercial aircraft engines</p>	<p>1) engines certified for different large regional aircrafts were deemed to be in the same market (because of indirect constraints considerations).</p>	<p>2) The Commission argued in its market power assessment that the sales of one of GE's competitors in the market for engine starters were captive and could not constraint the merger entity's ability to foreclose downstream players.</p> <p>The CFI accepted the Commission's argument.</p>	<p>1) The Commission argued that GE engines were in indirect ("second-level") competition with Honeywell's engines since buyers of the Avro (a Honeywell powered large regional aircraft) might purchase other aircrafts powered by GE engines. This may, in turn, affect airframers's decisions about whether to adopt platform suitable to GE or Honeywell's engines. GE contested (unsuccessfully) both the validity of this argument and its compatibility with the Commission's guidelines on market definition.</p>	<p>The Commission blocked the merger. The CFI dismissed the Commission's arguments on some aspects but overall agreed with its treatment of indirect constraints and captive sales and confirmed the Commission's decision to block the merger.</p>
Neste/Ivo IV/931, Commission Decision, 02/06/1998	<p>Upstream: natural gas.</p> <p>Intermediate: wholesale electricity</p> <p>Downstream: retail electricity</p>	<p>The Commission thought that there were separate markets for natural gas and electricity. The Commission also introduced a distinction between electricity produced for the open market and that which is for internal consumption.</p>	<p>The Commission concluded that "electricity that is produced mainly by industry and municipalities for their own consumption" is "captive production" that "has no impact on the conditions of competition on the open market" and "it must be excluded from the relevant market for wholesale sales of electricity."</p>	<p>There is no reference to "captive production" posing any indirect constraint on the merged entity's market power.</p>	<p>The Commission concluded that "the operation as notified would threaten to create or strengthen a dominant position on the market for wholesale sales of electricity in Finland.</p> <p>The Commission cleared the merger subject to commitments.</p>

Case Name and Reference	Market	Market Definition	Analysis of Captive Sales	Analysis of Indirect Constraints	Outcome of case
<p>Alcoa/Reynolds</p> <p>COMP/M.1693, Commission Decision, 03/05/2000</p>	<p>Upstream: (merchant) market for smelter-grade alumina (SGA).</p> <p>Downstream: markets for aluminium products derived from SGA.</p>	<p>The Commission defined the market to include all merchant sales of SGA, including those under medium and long term contracts.</p>	<p>The Commission concluded that internal transactions of integrated aluminium producers were "captive" (and excluded from the merchant market), based on an analysis of the profitability of switching sales to the merchant market.</p>	<p>Indirect constraints were not considered in this case.</p>	<p>The Commission found the merger would have created a dominant position in the SGA market.</p> <p>The Commission approved the transaction subject to commitments.</p>
<p>Shell/DEA</p> <p>COMP/M.2389, Commission Decision, 20/12/2001</p>	<p>Upstream: ethylene.</p> <p>Downstream: ethylene derivatives (e.g., PVC)</p>	<p>Merchant sales for ethylene within the ARG+ pipeline network.</p>	<p>The Commission computed market shares using the firms' "net" position in the merchant market.</p> <p>The Commission included "volumes sold to third parties on the basis of long term, formula based contracts" in the market.</p>	<p>The Commission considered the possibility (but found no evidence) of indirect constraints arising from the presence of other ethylene producers in further downstream markets for ethylene derivatives.</p>	<p>The Commission argued the merged entity would have a collective dominant position with the other main player(s), BP/Veba.</p> <p>The Commission approved the transaction subject to commitments.</p>

Case Name and Reference	Market	Market Definition	Analysis of Captive Sales	Analysis of Indirect Constraints	Outcome of case
National Regulatory Authority Cases					
UK Case:15-16, 23.09.03	Market 10, Three markets for transit on the fixed narrowband networks in UK (excluding the Hull Area)	1) Local tandem conveyance and local tandem transit 2) Inter-tandem conveyance and transit 3) Single transit	Oftel considered that at both the local-tandem and inter-tandem levels "conveyance" is part of the same market as "transit" services. Oftel therefore included self-supply in the market definition. Oftel did this for both the incumbent and third parties.	Indirect constraints were not considered in this case.	Oftel found that BT had SMP at both the local-tandem and inter-tandem levels.
Austria Case:90, 20.08.04	Market 10, Transit in the fixed network	In Austria, TKK did not include self-supply by the incumbent (TA) in its market definition, on the basis that it would not have any impact on the exercise of market power. TKK did, however, include self-supply in the form of direct interconnections by alternative operators, which represented substitutes for supply of transit services by the incumbent	TKK concluded that the provision of transit services by small operators to themselves via dedicated 'joining links' should be included in the market for bundled and unbundled transit services. The Commission disagreed and claimed that self-supply by these operators was also captive, on the basis that the alternative operators with direct interconnections were not providing transit services on the merchant market.	Indirect constraints were not considered in this case.	TKK found that TA no longer had significant market power (SMP) because its market share including self-supply by alternative operators was below 50%. The Commission issued a "serious doubts" letter since, using the Commission's narrower market definition (excluding direct interconnections by smaller operators) TA had a 90% share of this narrower market which would not support TKK's finding of absence of SMP.

Case Name and Reference	Market	Market Definition	Analysis of Captive Sales	Analysis of Indirect Constraints	Outcome of case
Portugal Case:154, 01.04.05	Market 10, Transit in the fixed network	Anacom defined the relevant market as covering transit services provided on a merchant basis by fixed operators to third parties that connect two other operators.	Anacom did not consider direct interconnection (self supply) at the market definition stage. Anacom did consider direct interconnection in its market power assessment; noting it as a factor conditioning the transit market and referred to the fact that the major operators are directly interconnected as one of the three reasons why there is no SMP in the market.	Indirect constraints were not considered in this case.	Anacom concluded that the market was effectively competitive and that no operator had SMP.
UK Case:94, 06.10.04	Market 11, Wholesale unbundled access to local loops	Ofcom defined two markets: wholesale local access in the UK excluding the Hull Area; and wholesale local access in the Hull Area. Ofcom included cable-based local access in its market definition.	BT's sales to its downstream arms were considered effectively captive.	Ofcom included cable access in its market definition based on the presence of indirect constraints at the retail level. This was even though there were no merchant market transactions for cable access.	Ofcom found BT had SMP. The Commission commented that an alternative market definition in this particular case would not have led to a different result in the SMP analysis.

Case Name and Reference	Market	Market Definition	Analysis of Captive Sales	Analysis of Indirect Constraints	Outcome of case
Germany Case:119, 22.12.04	Market 11, Wholesale unbundled access to local loops	<p>The regulator, RegTP, included in the ULL market also line sharing and access to the local loops based on a technology (OPAL and ISIS for MDF or subloops) that can provide voice functionality, but not broadband functionality. Access through other technologies such as cable networks, pure fibre glass, power line connections and wireless local loop was excluded from the market.</p> <p>The Commission felt that REGTP had not adequately considered the feasibility of supply-side substitution to glass fibre connections.</p>	<p>Captive use of local loops by the incumbent DT was excluded.</p> <p>The emphasis was on access for third parties.</p>	<p>When assessing potential substitution from other technologies, RegTP did not explicitly consider the effect of indirect constraints at the wholesale level. However, RegTP commented on the technical feasibility and likely economic viability of alternatives to wholesale access to the local loop and assessed the use of these alternatives at present.</p>	<p>RegTP found that DT had SMP in the market.</p>
UK Case:32-33, 05.02.04	Market 12, Wholesale broadband access	<p>Oftel defined the following three markets:</p> <p>Asymmetric broadband origination in the UK excluding the Hull Area,</p> <p>Asymmetric broadband origination in the Hull Area</p> <p>Broadband conveyance in the UK</p> <p>Only the first of these markets is considered in this survey.</p>	<p>While Oftel did not explicitly mention captive sales, and included self-supply in its market definition, it suggested that BT would have not provided wholesale services in the absence of regulation, thus implying that BT's self-supply would have been captive.</p>	<p>Oftel found that the possibility of switching at retail and intermediate levels between DSL and cable broadband access meant that, by reason of indirect constraint, that DSL and cable-based wholesale inputs belong to the same wholesale market for asymmetric broadband origination.</p>	<p>Oftel concluded that BT possessed single firm SMP in the market for wholesale asymmetric broadband origination.</p> <p>The Commission considered that while the indirect pricing constraint could have been taken into account at the stage of assessment of SMP and cable-based wholesale services could have been excluded from the market definition, this would not have led to a different result in the SMP analysis.</p>

Case Name and Reference	Market	Market Definition	Analysis of Captive Sales	Analysis of Indirect Constraints	Outcome of case
France Case:175, 206, 11.05.05, 26.06.05	Market 12, Wholesale broadband access	<p>The French authority ARCEP, divided the market for wholesale broadband access into wholesale broadband access delivered at the regional level and wholesale broadband access delivered at a single national point.</p> <p>At both levels of delivery, ARCEP excluded cable and other technologies such as satellite and WiFi from the market definition. Local loop delivery was also excluded.</p>	Internal production was not included in the quantitative market evaluation stage, but was considered as a factor in the qualitative assessment of market power.	Indirect constraints were not considered in this case.	France Telecom had SMP.
Ireland Case:93, 25.08.04	Market 12, Wholesale broadband access	ComReg concluded that the market for wholesale broadband access included self-supply by cable operators, self-supply by FWA operators, externally-supplied bitstream services and; self-supplied bitstream services.	<p>ComReg concluded that self-supplied bitstream and bitstream supplied to third parties are functionally the same product and therefore fall within the same product market.</p> <p>The Commission criticised ComReg as it found ComReg has not focused on demand side and supply side substitutability between PSTN-based and cable- or FWA-based wholesale inputs.</p>	ComReg claimed that an application of the hypothetical monopolist test as outlined in the SMP Guidelines showed that self-supply by cable and FWA operators should be included in the market on the basis that they are substitutes at the retail level.	<p>ComReg concluded that eircom had SMP.</p> <p>The Commission agreed with this finding.</p>

Case Name and Reference	Market Name	Market Definition	Analysis of Captive Sales	Analysis of Indirect Constraints	Outcome of case
UK Case:1, 29.08.03	Market 15, Call access and origination in mobile networks	Based on its retail market definition, Oftel considered that wholesale services comprise the packages of calls and access provided to service providers, call origination for indirect access, international roaming, and domestic roaming for "3", including SMS. Roaming services should instead be part of a separate wholesale market.	Self supply was included in the market definition. Market shares at the wholesale level were approximated by summing self-supply and third party supply at the retail level.	Ofcom considered that a vertically integrated network operator supplying wholesale airtime to its own retail arm would face a competitive constraint at a retail level from an MVNO.	Oftel concluded that there was no single or collective dominance. The EC did not comment on Ofcom's treatment of self-supply or indirect constraints.
Ireland Case:121, 20.01.05	Market 15, Call access and origination in mobile networks	ComReg concluded the relevant market included access and origination on the networks of all three MNOs even though Meteor (before its roaming agreement with Vodafone) had more limited coverage.	ComReg believed self supply should be included in the market definition. However, the fact that the MNOs had so far not granted third party access suggested that their self-supply was captive.	ComReg considered that a vertically integrated network operator supplying wholesale airtime to its own retail arm would face a competitive constraint at a retail level from an MVNO. The Commission commented that the presence of a fringe operator, Meteor, which did not have a strong retail presence, may still exert a constraint at the wholesale level if it is able and willing to be the first party to offer wholesale access to an MVNO	ComReg found that Vodafone and O2 were jointly dominant and jointly had SMP.
Spain Case:330, 30.01.06	Market 15, Call access and origination in mobile networks	The Spanish regulator, CMT, defined the market as the supply of access and origination services allowing supply voice and data services at the retail level (both to MVNOs and national roaming to other MNOs. .	CMT excluded self-supply in its market definition, hence no transactions existed on the relevant market (since there were no merchant sales).	Given the absence of (merchant) transactions in the wholesale market, the market power assessment relied exclusively on indirect constraints from the retail market.	CMT found the three MNOs were jointly dominant. The EC did not comment on CMT's treatment of self-supply and market definition.