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**REMEDIES UNDER
THE NEW EU REGULATION OF THE
COMMUNICATIONS SECTOR**

prepared

for the

**European Telecommunications
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EXECUTIVE SUMMARY

This is an independent study examining the way that regulation of telecommunications operators under the EC Commission's new regulations of the sector should be imposed. Focusing on a crucial part of the new regulatory regime, it offers a clear economic framework to assess *ex ante* obligations and a set of practical guidelines. Key recommendations are suggested in summary form in the next section.

The study develops the notion of efficient obligations and efficient access as key concepts in the application of *ex ante* obligations under the EU's *Framework Directive*. Based on a simple model that views regulation as minimising social costs -- i.e., the costs of market power plus regulatory costs -- it argues that the new regulatory regime may lead to overinclusive or inefficient regulation of telecommunications operators.

This is because the trigger for *ex ante* regulation -- a competition test based on whether an operator has significant market power (SMP) -- does not systematically take into account the supply-side factors listed as objectives under the Framework Directive or regulatory costs. National regulatory authorities (NRAs) must be aware of this possibility in the design of appropriate and proportionate *ex ante* obligations.

The study proposes that NRAs undertake a Regulatory Option Assessment of all regulatory options to deal with a specific competition problem. This should examine the options' costs and benefits to ensure they are likely to generate significant consumer benefits. It also proposes that NRAs be subjected to high evidentiary standards equivalent to those recently set by the Court of First Instance regarding the EU's merger regulation.

The remainder of the study looks at four specific areas where there may be competition concerns.

The first is access obligations. NRAs will be concerned that SMP operators do not unreasonably refuse access or do so on unreasonable terms. However, the *Access Directive* does not set out a clear framework for defining access obligations. This study develops the notion of efficient access and offers a test that can be used to assist NRAs in determining if mandating access is appropriate. *A specific access obligation should only be imposed if it: a) leads to appreciable incremental consumer benefits in the form of price competition and increased choice; and b) does not generate offsetting incremental costs in the form of reduced investment, innovation or other distortions -- either by the SMP operator or by present and future alternative competitive-facility providers.*

The study then examines anticompetitive price squeezes. These can occur when a large operator with SMP raises the price of access to a level that makes it unprofitable

for operators downstream to compete with the SMP operator's own retail activities. Reviewing the evidence, such anticompetitive practice seems rare. Nonetheless, this study puts forward guidelines that NRAs can use to identify when a price squeeze is anticompetitive. *It concludes that this type of practice is best left to competition law rather than to the EC new regulatory regime — unless such behaviour is shown to be persistent and significant.*

This study then examines the control of call termination charges for fixed networks, a future area of concern for NRAs. The European Commission has identified 18 markets susceptible to *ex ante* regulation, including call termination on individual fixed networks. This means that each and every operator will have market power to set termination charges. Hence all network operators will have SMP and be susceptible to *ex ante* price control of their termination tariffs.

However, the Commission has suggested that the “buyer power” of larger operators may be sufficient to exempt smaller network operators from regulation. *This study finds that buyer power is inadequate ground for exempting smaller operators from price controls. If regulation of call termination prices is imposed, it should be imposed on all operators in the form of a price ceiling or so-called reciprocal termination.*

Finally, the study concludes with a short review of the principles for retail price controls. It endorses the general principles that underpin the *Framework Directive*: that price controls should only be applied when an operator has persistent market power on the relevant retail market that cannot be dealt with by competition law. ##

KEY PROPOSALS

1. **Clarifications of Objectives** - Guidelines are needed to clarify the relationship between SMP and the *Framework Directive's* objectives for the practical determination of appropriate *ex ante* obligations. Specifically SMP can trigger inefficient (overinclusive) regulation of the communications sector.
2. **Regulatory Costs** - NRAs should take into account regulatory costs, and particularly error costs when imposing *ex ante* obligations.
3. **Efficient Obligations** - Obligations should only be imposed if they decrease social costs. Where *ex ante* obligations are likely to have a negligible effect or increase social costs they should not be imposed.
4. **High Evidentiary Standards** - NRAs should be subject to the same evidentiary standards as now govern regulation under the EC Merger Regulation.
5. **Regulatory Options Assessment (ROA)** - All proposals for *ex ante* obligations should be accompanied by a Regulatory Options Assessment (ROA) which clearly identifies the source and consequences of the competition concern; and costs, benefits and the proportionality of all alternative *ex ante* and *ex post* remedies.
6. **Efficient Access** - The concept of efficient entry and access should form the guiding principle. Access, or a specific access obligation, should only be imposed if it leads a) to appreciable incremental consumer benefits in the form of price competition and increased choice; and b) does not generate offsetting incremental costs in the form of the likelihood of reduced investment and innovation by the SMP operator, and present and future alternative competitive facility providers.
7. **Price Squeezes** - Price squeezes should be dealt with by *ex post* remedies unless the NRA can establish compelling evidence of widespread systematic abuse over a period. An appropriate imputation test must be set out.
8. **Reciprocal termination** - All fixed networks should be subject to the same (reciprocal) wholesale termination price ceilings. Buyer power is insufficient to exempt smaller operators from *ex ante* obligations.
9. **Limited Retail Price Controls** - Retail price controls should be withdrawn where wholesale price controls are in place unless there is evidence of enduring retail market power which cannot be dealt with by competition law remedies.

I. INTRODUCTION

This is an independent study commissioned by the European Network Telecommunications Operators' Association (ETNO) as a contribution to the deliberations of the EC Commission, European Regulator's Group and National regulatory Authorities (NRAs) over the principles and procedures to be used to impose *ex ante* obligations under the new regulatory package for the EU communications sector.¹

The EC Commission has so far completed consultation of several building blocks of the new regulatory framework. The package of directives setting out the basic framework has been enacted. The notice on market definition and Significant Market Power (SMP) — the *SMP Guidelines*² — which sets out how communications markets are to be defined and SMP determined has been finalized, as has the *Recommendation*³ and associated *Explanatory Memorandum*⁴ which lists those markets which, in the EC Commission's view, are susceptible to *ex ante* regulation. At the time of writing, the National Regulatory Authorities (NRAs) were in the process of undertaking Market Reviews of those markets listed in the *Recommendation*, which must receive EC Commission approval.

The appropriate application of *ex ante* obligations is essential if the new regulatory framework is to be effective. ETNO has retained Case Associates to contribute to the current consultations of the EC Commission and the European Regulatory Group (ERG) on remedies. ETNO has requested that this independent study offer practical guidelines on the way *ex ante* obligations should be imposed. The topics covered have been agreed in discussions with ETNO, and the views of the ETNO Group overseeing the study have been taken into account. Notwithstanding this, the views

¹ *Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities*, 7 March 2002 (*Access Directive*); *Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services*, 24 April 2002 (*Framework Directive*) and *Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services*, 24 April 2002 (*Universal Service Directive*).

² *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, 11 August 2002. (*SMP Guidelines*).

³ *Commission recommendation on relevant product and service markets within the communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and the Council on the common regulatory framework for electronic communications networks and services*, 2003/311/EC, 11 February 2003 (*Recommendation*).

⁴ *Explanatory Memorandum on the Commission's recommendation on relevant product and service markets*, 8 May 2003 (*Explanatory Memorandum*).

and analysis below are those of the author and not necessarily of ETNO or its members.

OVERVIEW OF STUDY

Remedies are a topic as large as the communications regulation itself. In order to make this study manageable, it focuses on the principles which should govern the selection and imposition of *ex ante* obligations under the new regulatory approach, and examines the considerations which NRAs should take into account when determining whether and what type of remedies to impose on operators with SMP in several specific areas.

This study is not concerned with issues that have already been dealt with by the EC Commission in its consultations over the directives and SMP, although it will touch on them where relevant and particularly where they seem to raise questions about the consistency and workability of the new regulatory regime. It will also not question, in most cases, the justification for regulation of incumbent fixed operators.

The report is organised as follows. Section II briefly describes the main elements of the new regulatory framework. Section III develops a simple economic model of efficient obligations, and some of the principles and implications derived from this model are discussed to identify key concerns that require further consideration. This is followed by consideration of *ex ante* obligations in the following areas; access (section III), price squeezes (Section IV), reciprocal termination (section V), and retail price controls (section VI).

II. REGULATORY FRAMEWORK

The new regulatory framework marks a major advance in the EU regulation of the communications sector by adopting competition law principles. This regulatory convergence has led to several significant changes to the present EC *Open Network Provisions* (ONP) regulating the communications sector. Specifically that:

- relevant product and geographical markets are defined according to competition law principles; and
- *ex ante* obligations are to be triggered by Significant Market Power (SMP) defined as equivalent to the competition law concepts of prospective single and collective dominance under the EC Merger Regulation (ECMR).

OBJECTIVES

Article 8 of the *Framework Directive* sets out three general objectives – NRAs have a duty to promote competition; contribute to development of the internal market; and promote the interests of EU citizens.

Article 8(2) sets out the competition (and efficiency) objective of the new regulatory approach:

“The national regulatory authorities shall promote competition in the provision of electronic communications networks, electronic communications services and associated facilities and services by inter alia:

- (a) ensuring that users, including disabled users, derive maximum benefit in terms of choice, price, and quality;*
- (b) ensuring that there is no distortion or restriction of competition in the electronic communications sector;*
- (c) encouraging efficient investment in infrastructure, and promoting innovation; and, finally,*

(d) *encouraging efficient use and ensuring the effective management of radio frequencies and numbering resources.*”

The *Access Directive* (Article 5(1)) states that NRAs shall exercise their responsibilities, *inter alia*, “... in a way that promotes economic efficiency, sustainable competition, and gives maximum benefit to end users”. This is reiterated in Article 13(2) on price controls.

PROCEDURE

NRAs are required to adopt a sequential procedure when imposing *ex ante* obligations – 1) first define the relevant product and geographical markets; 2) then determine which operator or operators have SMP on the relevant market; and 3) impose *appropriate ex ante* obligations on SMP operators.

1) Market Definition

The directives, the *SMP Guidelines*, and *Recommendation On Relevant Markets* together with its *Explanatory Memorandum*, set out the general principles and obligations under the new regulatory framework.

The *Framework Directive* (Article 15) requires NRAs to use competition law principles to define communications markets. The EC Commission is required (Article 15(1)) to set out guidelines to be followed by NRAs. The resultant *SMP Guidelines* (s. 4.1) set out the criteria for market definition.

The *Framework Directive* (Article 14) requires the EC Commission to produce a *Recommendation* which identifies those markets susceptible to *ex ante* regulation. The EC *Recommendation* defines 18 retail and wholesale markets in which *ex ante* obligations are already imposed, and are therefore (as a transitional measure) susceptible to *ex ante* regulation.

Article 7 requires NRAs to undertake and submit a Market Analysis to the EC Commission of the 18 markets listed in the *Recommendation* within their respective Member State, which either endorses these, or where they seek to modify or expand the listed markets to gain EC Commission approval. The NRAs have responsibility to define the relevant geographical markets.

2) The SMP Trigger

The *Framework Directive* sets out a competition-based test to trigger *ex ante* obligations with the exception of interconnection, which is mandatory for all operators. The *Recommendation* makes clear that its listed markets can only be regulated if, on the basis of a competitive analysis, one or more operators have SMP.

Under EC competition law, single-firm dominance, and hence SMP, arises as a rule of thumb when an operator has 40%-50% of a relevant product market, or in the case of collective dominance lower individual market shares. However, SMP is not determined solely on the basis of (these) market shares, but by a competitive analysis which takes into account the future competitive pressures on operators.

The *Framework Directive* (Article 14) defines SMP as prospective or forward-looking dominance to be assessed in terms of the likely future actions of and competitive pressures on an operator. In this regard, it is expressly stated as similar to dominance under the EC Merger Regulation. SMP is also defined as lack of effective competition.

SMP can be either single-firm, collective and/or leveraged dominance (Article 14). Collective dominance arises where there is tacit coordination between firms in an oligopolistic market. Leveraged dominance is where a SMP operator leverages its market power on to an adjacent (vertical or horizontal) market where it does not have SMP. Thus, in principle, *ex ante* obligations can be imposed on operators in markets where they do not have SMP. NRAs are required to forbear from extending *ex ante* regulation to emerging markets in these circumstances.

3) Appropriate Obligations

When an operator, or operators, has been found to have SMP, NRAs are required to impose “*appropriate*” and “*proportionate*” obligations which deal with identified competition concerns. The *Access Directive* lists six main “*obligations*”:

1. transparency (Article 9),
2. accounting separation (Article 11);
3. mandatory interconnection (imposed on all operators irrespective of SMP Article 4);
4. mandatory access (Article 12);
5. price controls (Article 13); and
6. non-discrimination (Article 10).

These obligations are the maximum which can be imposed without direct approval from the EC Commission.⁵

⁵ *Access Directive*, Article 8(3).

The *Access Directive* states that *ex ante* obligations “shall be objective, transparent, proportionate and non-discriminatory”.⁶ NRAs must therefore satisfy a number of requirements in the selection of appropriate remedies. The proposed *ex ante* obligations should be:

1. justified in terms of the objectives laid down in the *Framework Directive*;
2. applied only in the absence of effective competition (the only exception being mandatory interconnection for all operators);
3. when competition rules are ineffective;
4. “...specific to the problem, proportionate and maintained only for as long as necessary”; and
5. removed when a market is effectively competitive.

In addition, NRAs are required to set out an appeal procedure.⁷

CONCLUSION

Two steps in the process of determining *ex ante* obligations in the communications market have been set out by the Commission. These make clear that market definition and SMP are based on a competition test similar to that under the EC Merger Regulation. The only significant difference is that the time frame within markets are defined and competitive pressures assessed. Further, while the specific remedies and general principles governing the imposition of *ex ante* obligations have been set out, the way they are to be applied in practice has not.

⁶ *Access Directive*, Article 5(3).

⁷ *Framework Directive*, Article 4.

III. THE ECONOMICS OF OBLIGATIONS

The administration of the new *ex ante* regulatory system will need to balance a number of potentially conflicting considerations (maximise consumer welfare, allow efficient entry; foster dynamic efficiency), and deal with the subtleties of markets which are vertically and horizontally related. Choices will have to be made over a continuum of rule specificity, severity of penalties and types of enforcement. In achieving this, two considerations emerge – the intricacies and the significant tensions when SMP is used to trigger regulation with the wider objectives of the new regulatory approach; and on the other hand the relationship between *ex ante* and *ex post* remedies when both are similar and based on identical “triggers”.

A SIMPLE MODEL

A simple economic model of efficient regulation does, in our view, assist in the development of guidelines for obligations under the new regulatory framework. This views the choices facing the NRAs in terms of an economic cost minimisation or efficiency model of regulatory enforcement.⁸ It is not suggested that this depicts accurately the principles which should or do govern remedies under the new regulatory framework, only that it can be used to indicate efficient obligations and to highlight some of the complex interrelations between the SMP standard, and the impact and effectiveness of proposed obligations.

The economic objective of a NRA seeking to impose efficient regulation would be to minimise total social costs through the imposition of liability (SMP) and the appropriate *ex ante* obligations.⁹ These social costs consist of primary costs and regulatory costs so that the goal of a NRA would be to minimise the sum of primary and regulatory costs.

⁸ I. Ehrlich & R. A. Posner, “An Economic Analysis of Legal Rulemaking”, (1974) *J Legal Studies* 257; C. G. Veljanovski, “The Economics of Regulatory Enforcement”, in K. Hawkins & J. M. Thomas eds. *Enforcing Regulation* (Kluwer, 1984) Chap. 8.

⁹ The economists’ support for competition law is based on the belief that in most cases a more competitive market is a more efficient one. Competition is a means to an end. The *Framework Directive* expresses the relationship the other way around, implying that the ultimate goal is competition and that greater consumer benefits and efficiency are means to promoting competition. This is confusing text, and while the differences are significant they will be ignored in the text above.

Primary costs are defined as those directly imposed on operators and consumers (users) in the market in question in the absence of regulatory intervention. These are defined as the economic costs that the absence of effective competition imposes on consumers and other producers, coupled with the costs that the SMP operator incurs. Costs here are to be understood in the economist's sense of opportunity costs, that is, the resource cost of lost opportunities rather than pure accounting costs. This, therefore, includes the lost consumer welfare (more technically, consumers' and producers' surplus)¹⁰ from anticompetitive actions/practices undertaken by the SMP operator. Within this framework, the *prima facie* justification (or necessary condition) for intervention would be that an unregulated operator inflicts or generates higher primary cost than it would under conditions of effective competition.

Regulatory costs consist of a number of elements. There will be direct costs to the industry and the regulator, and the costs associated with regulatory-induced distortions and restriction of competition. Specifically:

- **Enforcement costs** – These are the costs borne by the regulator and consist of several components - fixed rulemaking costs where relevant, and variable monitoring and enforcement costs of designating operators as SMP, imposing specific remedies, monitoring their implementation and compliance, and modifying them in the light of experience;
- **Compliance costs** - Operators will also incur direct costs when complying with regulatory obligations. Compliance costs will consist of the direct operational, administrative and managerial costs incurred to comply with regulatory obligations. These would include employees hired to administer regulation and compliance, and the resource, and time and effort costs of management and operational staff in accommodating their business strategy and undertaking efforts or failing to undertake efforts in other areas as a direct response to the imposed regulatory obligations. Some regulations will require direct investment and continuing operational expenditure such as access and Local Loop Unbundling. Compliance costs could be very high, even for remedies which appear quite innocuous such as transparency and supplying accounting information; and
- **Error Costs** – In all regulatory settings there will be uncertainty and lack of information, and therefore there may be significant error costs. Regulatory error is of two types – when a liability/remedy is wrongly imposed (Type 1 error); or the failure to impose a liability/remedy when justified (Type 2 errors). These errors might arise because the rules are imperfectly matched to the market

¹⁰ The economic efficiency approach is based on the standard economist goal of maximising the joint surplus of consumers and producers. The consumers' surplus is defined as the difference between the price paid and the maximum willingness to pay. It measures the additional monetary benefit derived by consumers from consumption of a good or service. Similarly, the producers' surplus is the difference between costs (incorporating a competitive return on investment) and revenues. The fact that the discussion is framed in terms of a cost minimisation is simply done for convenience.

power abuse, either by design or because the regulator lacks sufficient information to apply the appropriate remedy. Errors impose costs. For Type I Errors it is the social losses which arise when the *ex ante* obligations prevent operators doing what is pro-competitive and efficient. In the case of Type II Errors it is the welfare losses due to the exercise of unrestrained market power. A legitimate goal of a NRA is to minimise error costs.

DEVELOPING OPERATIONAL CONCEPTS

This simple model allows several concepts and principles to be elaborated.

Efficient Obligations

Efficient regulation minimises the sum of primary and regulatory costs. Measured against this benchmark, SMP is unlikely to trigger efficient *ex ante* obligations because it:

- (a) is based on a narrow competition test;
- (b) does not take into account efficiency and supply-side goals listed in Article 8(2) of the *Framework Directive* i.e. encouraging efficient investment in infrastructure, promoting innovation, and encouraging efficient use of spectrum; and
- (c) ignores regulatory and error costs.

As a result SMP may trigger *ex ante* obligations when they do not minimise social costs. Even ignoring the economic interpretation, the factors enumerated in Article 8 are not systematically incorporated into market definition and SMP designation. Thus whether interpreted in terms of the economic criterion developed above or in terms of the broader objectives listed in Article 8, SMP is likely to be overinclusive i.e. to trigger *ex ante* obligations when they would not reduce social costs (or when they would promote the objectives of the new regulatory approach). It is therefore important that NRAs take this problem into account and develop measures that identify when SMP is likely to trigger overinclusive regulation.

The potential inefficiency or overinclusiveness of SMP designation has implications for the design and enforcement of *ex ante* obligations. It is possible, and arguably the case in some instances, that the economic cost considerations can best be accommodated in the design of appropriate remedies. This is suggested in some of the directives. For example, the *Access Directive* (Article 12(2)) requires NRAs when “*considering whether to impose the obligations*” to take into account the economic viability of using or installing a competing facility, and the SMP operator’s initial investment, the latter implying a regard for investment (dis)incentives effects. This

would make the procedure, at least as it applies to access, more akin to that under Article 81(3) of the EU Treaty where the EC Commission or National Competition Authorities (NCAs) can exempt an agreement which is anti-competitive where it has offsetting (efficiency) benefits.

However, even here there are obvious difficulties arising from the (apparent) rigidity of the proposed remedies. The remedies themselves may be overinclusive (see below). One in particular is the general non-discrimination requirement. The notion that discriminatory pricing is *per se* anti-competitive is coming under increasing challenge. The UK Office of Fair Trading has recognised that in network industries where common costs must be recovered (and there may also be peak load pricing requirements to manage capacity):

“... there is no presumption that price discrimination by a dominant undertaking is necessarily an abuse of its dominant position. Discrimination, which is clearly aimed at excluding competitors’ will, however, be considered as a potential abuse. Price discrimination issues need to be examined according to the circumstances of each case and the circumstances of each industry.”¹¹

In network industries, efficient recovery of common costs provides a justification for discriminatory pricing in the form of Ramsey Pricing.¹² A set of Ramsey prices, whether applied directly or in terms of a retail price ceiling covering a bundle of products/services, minimises consumption distortions and is efficient and pro-competitive. They differ from anti-competitive price discrimination because they do not generate excess economic profits whereas anti-competitive price discrimination generates monopoly profits. In short, there is no bright line test that can be used to identify exclusionary from non-exclusionary price discrimination.¹³ Only price discrimination that has exclusionary effects should be of concern, and this has not been brought out so far in the directives and associated documents.

In summary, the sequential procedure under the *Framework Directive*, together with the limitation that SMP is to be determined on the basis of a competition test only, will give rise to a) the possibility of mis-regulation because of a systematic failure to incorporate efficiency considerations and regulatory costs; and b) the subsequent inability to offset this at the remedial stage.

¹¹ *Assessment of Individual Agreements and Conduct* OFT 414 (Sept. 1999), para 3.10 (emphasis in original).

¹² Ramsey Pricing (optimal price discrimination) is a system of mark-ups on marginal costs based on the inverse of the price elasticity of demand for groups of consumers subject to a zero excess profit constraint. This minimises the distortion in consumption by making those who have less choice pay more and those with more choice pay less. Clearly, this may raise equity or distributional concerns. Ramsey Pricing was recently rejected by the UK Competition Commission for distributional reasons, cost causation and estimation difficulties. (UK) Competition Commission, *Vodafone, O2, Orange and T-Mobile – Reports on references under section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks*, December 2002.

¹³ M. Furse, “Monopoly Price Discrimination, Article 82, and the Competition Act”, 25 *European Competition Law Review* 148 (2001).

The new regulatory framework may also generate underinclusive standards i.e. Type II errors. The asymmetric regulation of call termination charges provides one example of a potentially under-inclusive regulation. In the past, obligations have been imposed on the incumbent operator based on large absolute market shares of product/service categories. This left smaller operators with potential market power over their termination services arising from the Calling Party Pay (CPP) pricing free to impose excessive termination charges on inbound callers. The new regulatory framework now defines each termination market as a separate relevant market over which operators have SMP. This example and its treatment under the *Access Directive* is discussed in more detail below in section VI.

Proportionality & Forbearance

Under the *Framework Directive* *ex ante* obligations must be proportionate. The *SMP Guidelines* (para 118) in accordance with Community law states that proportionality requires:

“... that the means used to attain a given end should be no more than what is appropriate and necessary to attain that end. ... the action must pursue a legitimate aim, and the means employed to achieve the aim must be both necessary and the least burdensome, i.e. it must be the minimum necessary to achieve the aim.”

A proportionate remedy would, in the economic approach outlined above, be the most cost-effective *ex ante* (or *ex post*) obligation that achieves a reduction in primary costs or at least in regulatory costs. Or, put differently, the remedy which minimised social costs in the least restrictive way.

The principle of proportionality is a partial recognition of the potential for overinclusive regulation. However, as stated the legal principle of proportionality does not go far enough to ensure efficient regulation. This is because where SMP is overinclusive, there may be no remedy which can reduce social costs further, and if one is imposed it is likely to raise social costs. In these cases the efficient remedy would be to impose no obligations on an SMP operator.

The *Framework Directive* recognises the need for such forbearance but in a limited *ad hoc* way. Recital 27 states that in emerging markets where *de facto* the market leader is likely to have SMP, it should not be subject to inappropriate regulation;¹⁴ and the regulatory roll back provision that *ex ante* obligations are to be removed when a market is effectively competitive is another example, albeit in a different sense.

¹⁴ *SMP Guidelines* n. 92 states: “Art. 14 (3) [Leveraging-concept] is not intended to apply in relation to market power leveraged from a “regulated” market into an emerging, “non-regulated” market. In such cases, any abusive conduct in the “emerging” market would normally be dealt with under Art. 82 of the EC Treaty.”

In light of these considerations, one possible proposal is that NRAs should be able not to impose obligations even if an operator has been designated SMP--if it can establish that social costs would not be reduced, and may be increased by imposition of any listed *ex ante* obligations. This proposal would operate in much the same way as Article 81(3) of EC antitrust law. This proposal would appear consistent with the *Framework Directive*, which requires NRAs to impose “*appropriate obligations*”, but not consistent with the *SMP Guidelines*, which require them to impose “*one or more*” *ex ante* obligations.

Ex post and ex ante remedies

Under the *Framework Directive*, *ex ante* obligations should be applied only where competition law remedies are insufficient, and they should complement *ex post* remedies.

The *Recommendation*, while not directly concerned with determining SMP, states that the 18 listed markets “*justify the imposition of ex ante remedies on SMP operators*”. The *Recommendation* states that the listed markets are based on the existence of three cumulative conditions – high durable barriers to entry, lack of dynamic competition and insufficiency of competition law remedies.¹⁵ However, the *Recommendation’s* list is not based on an analysis of the insufficiency of competition law remedies. The only stipulation in the *Framework Directive* is that NRAs are required to cooperate and consult with the NCAs.

In determining the sufficiency or insufficiency of *ex post* remedies, there is a difficulty arising from the convergence of regulatory law and competition law under the *Framework Directive*. Both approaches are triggered by almost identical considerations. Thus, the usual grounds for preferring regulation to competition law are not present – both are enforced by public administrative bodies so that concerns over differences in the length of proceedings, enforcement rates and costs as would arise in, say, a judicial system such as that of the US, are not decisive in the choice; and the detection and enforcement rates can be expected to be similar. On the other hand, there are clear administrative differences. NCAs are reluctant to deal with excessive pricing, and to impose and monitor continuing price controls; while the core of a NRA’s duties is to administer these. On the other hand it is arguable that competition law will tend to be more vigorously enforced because of the ability of firms and individuals to bring private legal actions through the courts claiming damages. The prospect of substantial damage claims would, in turn, act as a great deterrent.

A proposed remedies guidelines should close the gap in the *Recommendation* by delineating the conditions where competition law remedies are insufficient. It is

¹⁵ “*It is considered that criteria for identifying markets for the purpose of the new regulatory framework should include an overall assessment of the effectiveness of competition law in addressing the market failures concerned.*” *Explanatory Memorandum*, p. 9.

suggested here that the key considerations are those missing from the regulatory framework to date – namely regulatory and error costs. It is important, therefore, that the proposed remedies guidelines take account of and assess the regulatory and error costs of (different) *ex ante* and *ex post* remedies. The economic model sketched out above could be developed to identify the parameters of efficient *ex ante* and *ex post* obligations in terms of error costs and regulatory costs. For example, where a market failure problem is persistent and easily detectable, or requires continuous monitoring, *ex ante* regulation may be appropriate. Dynamic markets where there is significant innovation should be left to *ex post* remedies applied on a case-by-case basis. These guidelines are broad and the choice between *ex ante* and *ex post* needs to be developed for specific cases as part of the proposed Regulatory Options Assessment (see below).

The remedies guidelines will need to identify the determining factors in the choice between *ex ante* and *ex post* obligations.

Regulatory Options Assessment (ROA)

Concomitant to the above approach is the notion that the proposed remedies guidelines require NRAs to undertake a ROA that systematically considers both primary and regulatory costs.¹⁶ NRAs are already under an obligation to set out how a proposed remedy is proportionate (*Framework Directive*, Article 8). This should be expanded to the assessment of the primary and regulatory costs of all candidate obligations (and their variants). Without being prescriptive at this stage, the essential elements of such a proposed ROA includes the following where operators have been designated SMP:

- a statement of the alleged market failures;
- a statement of the causes of the alleged market failures;
- estimates or quantification of the net economic losses and competitive distortions causally related to the alleged market failures;
- identification and clear descriptions of the candidate regulatory options;
- the pros and cons of each candidate regulatory option in remedying the alleged market failures;
- the impact, effectiveness and costs and benefits of each candidate regulatory option on the relevant market;
- estimates of the regulatory costs of each candidate regulatory option;

¹⁶ Oftel has recently issued a set of ROA guidelines. Oftel, *Regulatory option appraisal guidelines: assessing the impact of policy proposals*, (28 June 2002).

- identification, together with reasons and evidence, for the selection of the proposed regulatory option which, in the NRA's view, best contributes to the promotion of efficiency and competition; and
- this cost-benefit calculus is to be interpreted in a probabilistic sense – that is, given that data may be incomplete or unreliable, the NRA must set out its estimates and provide grounds of its conclusion that there is a reasonable probability of realising the estimated net gains so that there is a concrete possibility that the regulatory obligations will best promote efficiency and competition.
- the ROA should undertake sensitivity analyses of the impact of various options under different reasonable assumptions of key factors.

Evidentiary Standards

The approach in this section also provides some guidance on the evidentiary standard that should be imposed on NRAs imposing *ex ante* obligations. This should be based on the balancing of the costs of Type I and Type II errors. If these errors impose similar costs and inefficiencies, then a general “*reasonable doubt*” type civil standard might be sufficient. However, where there is reason to believe that the costs of these errors are asymmetrical, then the standard will need to be adjusted accordingly.

It is arguable that the “costs” of Type I errors are often larger than Type II errors. A Type II error, failing to impose regulation when it is efficient to do so, will result in a dead-weight loss (increased social costs) which is less than the redistributive effect from a higher price that an SMP operator will be able to charge. A Type I error, by setting the regulated price below the “competitive” price for some products or services that depress the rate of return below the “break-even” point, may cause the SMP operator to stop offering a service or not introduce a new service. Such a Type I error results in the loss of the entire consumers’ (and producers’) surplus. Under these circumstances an efficient regulatory system should guard against Type I errors more than Type II errors in these circumstances. This is in contrast to the tendency of regulators to see Type II errors as the more serious concern.

In the development of Community law this “bias” is no longer acceptable. This is clearly seen from the recent judgments of the European Court of First Instance (CFI) annulling a series of EC merger decision for failure to meet the necessary evidentiary standards.¹⁷ The CFI’s reasoning is particularly relevant to the new regulatory approach because it is based on the same methodology and liability standard as the EC Merger Regulation.

¹⁷ Case T-342/99 *Airtours v Commission* (2002). Case No. IV.M1524 *Airtours/First Choice* (1999); Case T-310/01 *Schneider Electric v Commission* (2002); Case T-5/02 *Tetra Laval BV v Commission* (2002).

As a result of the CFI decisions it appears that the EC Commission, when applying forward-looking dominance (SMP), must demonstrate a high level of certainty, a "*preuve solide*", before acting against a merger. The CFI stated that, in determining whether there was an infringement of merger law, the EC Commission's analysis must be based on a detailed assessment of the evidence and existing market realities. As regards the likely future consequences of a merger, the regulator has a margin of discretion but this must be based on sound economic analysis that explains how a particular set of anti-competitive consequences is likely to occur, and that the likelihood it would occur was not merely theoretical but substantial.

This standard is required for *ex ante* regulation, given its intrusive nature and the fact that access amounts to an expropriation of private property rights, with other possible obligations intrusive micro-management of operators' business conduct and pricing. The importance of establishing clear guidance on evidentiary standards to be imposed on NRAs (and the EC Commission) is heightened by the requirement, under the *Framework Directive*, that a formal appeal process against NRA decisions must be established in each Member State.

PROPOSED GUIDELINES/PRINCIPLES

Based on the above discussion the proposed remedies guidelines should:

1. provide guidance to NRAs on the interplay between SMP designation and efficiency and other supply-side considerations in both the determination of SMP and the selection of appropriate and proportionate remedies;
2. require that regulatory costs and error costs be taken into account when imposing appropriate *ex ante* obligations;
3. modify the *SMP Guidelines* requirement that one or more obligations be imposed to reflect the *Framework Directive's* requirement that only "*appropriate obligations*" be imposed;
4. spell out and develop the concept of forbearance, which would allow NRAs not to impose *ex ante* obligations on SMP operators where they are likely either not to reduce social costs and to significantly increase social costs;
5. require all proposals for *ex ante* obligations to be accompanied by an ROA;
6. set out criteria and tests to guide the choice between competition law and *ex ante* obligations; and
7. set out an evidentiary standard for NRAs equivalent to that applied under the EC Merger Regulation.

IV. ACCESS

Access is the use of an operator's network infrastructure by service providers who do not have their own networks.¹⁸ The *Access Directive* (and *Recommendation*) makes clear that this covers both wholesale access and Local Loop Unbundling (LLU). This contrasts with interconnection (considered in section IV below), which is reciprocal access supplied between network operators.

EFFICIENT ACCESS

Under the *Access Directive* (Article 12(1)) a NRA may impose access obligations on a SMP operator where it considers “... *that denial of access or unreasonable terms and conditions having a similar effect would hinder the emergence of a sustainable competitive market at the retail level, or would not be in the end-users' interest*”.

The *Access Directive* does not create a blanket right of access. In framing an access regime, NRAs “*need to balance the rights of an infrastructure owner to exploit the infrastructure for its own benefit, and the rights of other service providers to access facilities that are essential for the provision of competing services*” (Recital 19). Further, in imposing *ex ante* obligations, the NRA shall take into account the investment made by the SMP operator, and economic viability of using or installing competing facilities (Article 12(2)).

The qualified nature of access under the new regulatory framework reflects concerns about its impact on competition and investment. In the communication sector opinions are sharply divided over whether access, either in the form of service providers or various forms of network unbundling, does generate real benefits to consumers. The proponents' claim that access facilitates entry and is pro-competitive because it reduces the capital costs and risks associated with entry, and therefore allows local competition that otherwise would not emerge. Others are skeptical about the pro-competitive effects of access. In their view, there is little evidence that it will attract

¹⁸ Article 2(a) of the *Access Directive* defines access as “... *the making available of facilities and/or services to another undertaking, under defined conditions, on either an exclusive or non-exclusive basis, for the purpose of providing electronic communications services.*”

sustainable competitive entry on a significant scale or generate significant long-term consumer benefits. It is seen as unjustified entry assistance, which in the long term will generate inefficiency, under-investment in infrastructure, and degradation in service quality.¹⁹ This view was succinctly captured in the influential words of ECJ Advocate General Jacobs in *Bronner*:

“In the long term it is generally pro-competitive and in the interests of consumers to allow a company to retain for its own use facilities which it has developed for the purpose of its business. For example, if access to a production, purchasing or distribution facility were allowed too easily there would be no incentive for a competitor to develop competing facilities. Thus while competition was increased in the short term it would be reduced in the long term. Moreover, the incentive for a dominant undertaking to invest in efficient facilities would be reduced if its competitors were, upon, request, able to share the benefits.”²⁰

What this discussion shows, and the *Access Directive* reflects, is a concern that access can be both pro-competitive and anti-competitive. Put in terms of the approach developed in Section III above, there may be potentially high error costs associated with access and the danger that anti-competitive access may be granted which constitutes unjustified entry assistance, which raises social costs. The *Access Directive* appears to take this possibility into account, and requires NRAs to balance the costs and benefits of access.

PRINCIPLES OF EFFICIENT ACCESS

It is not the purpose of this study to take a view on whether access, or a particular type of access, should be mandated and/or is inherently pro-competitive. Rather, it is to provide guidance given the approach adopted by the EC Commission as to the factors which should be taken into account.

¹⁹ The empirical evidence on the investment disincentive effects is not as yet strong, although this probably has to do more with the complexity of the issue and the small number of the small number of studies. G. Bittlingmayer & T. W. Hazlett, "Financial Effects of Broadband Regulation" (mimeo 2002). Bittlingmayer's study of 21 major industries in the US covering 1947-1991 investigated the statistical association between antitrust case filings and investment. Each antitrust filing was associated with a significant decline in investment in the respective industry. G. Bittlingmayer, "Regulatory Uncertainty and Investment: Evidence from Antitrust Enforcement" 20 *Cato Journal* (2001); Cf M. Cave, H. Rood, S. Majumdar, T. Valletti & I. Vogelsang, *The Relationship between Access Pricing Regulation and Infrastructure Competition - Report to OPTA and DG Telecommunications & Post*, (March 2001). Oftel has rejected mandatory provision of mobile wholesale airtime to independent service providers (ISP) on grounds that it would deter innovation. (Oftel, *Effective Competition Review: Mobile*, 26 September 2001, para 2.47); and mandating MVNOs because of the disincentive to invest and extend existing infrastructure (Oftel, *Statement on Mobile Virtual Network Operators*, October 1999, para 2.26).

²⁰ Case D-7/97, *Oscar Bronner GmbH & Co. KG v. Mediaprint Zeitungs-und Zietschriftenverlag GmbH & Co. KG and Others*, Opinion of Advocate General Jacobs delivered on 28 May 1998, para 57.

Concept of Efficient Entry/Access

The *Framework Directive* and *Access Directive* are silent as to what constitutes pro-competitive entry.²¹ In economics, the concept of foreclosure and exclusionary practices are tied to the idea of a vertically integrated upstream monopolist blocking or inhibiting more or equally efficient downstream entrants.

The concept of efficient entry or access should be made central to the remedies guidelines. This recognises, as does the *Access Notice*,²² that free entry may not be efficient if it simply leads to “business stealing” (see below) without any benefits accruing to consumers/endusers in the form of more choice or lower prices, or both.

Access obligations should only be imposed, or refusal regarded as unreasonable and anticompetitive, if it can be established that refusal to supply access is reasonably likely to prevent an equally or more efficient service provider from entering the relevant downstream market.

The concept of efficient entry is not solely a cost concept but is evaluated in terms of its competitive impact. As stated above, the objective of access obligations is not to stimulate wholesale competition or entry *per se* but to improve competition in the retail market. This is clearly stated in the *Recommendation* and the *Access Directive*. Therefore, any alleged exclusion of a downstream competitor must be evaluated in terms of its impact on retail competition, retail prices and consumer choice. It is therefore important that a retail market analysis defines upstream (wholesale access) markets to properly determine SMP, and to select appropriate obligations. If there is effective competition between retail services--or the potential for such competition--then there will be weak grounds for mandating access on one delivery network.

The assessment of whether a refusal to grant access and any proposed access obligation is unreasonable (i.e. anti-competitive) must be assessed in terms of its impact on the relevant downstream market.

This requires a balancing of the costs and benefits of access to determine whether an access obligation is pro-competitive. In making this assessment of proposed remedies the guidelines should require NRAs to assess the incremental competitive impact, and the incremental impact on investment and innovation.

Incremental competitive impact

²¹ W. J. Baumol & J. G. Sidak, *Toward Competition in Local Telephony* (American Enterprise Institute, 1994).

²² EC Commission Notice on the application of competition rules to access agreements in the telecommunications sector – *Framework, Relevant Markets and Principles*, OJ C265, 22 August 1998.

NRAs should determine whether specific access obligations will generate incremental benefits in terms of lower prices and/or more choice for end users.

Access may not generate appreciable consumer/end-user benefits.²³ The claim by a rival that it is at a disadvantage does not necessarily imply that real costs have been inflicted and that intervention will generate positive benefits. In assessing the impact on competition and efficiency, and particularly entry and access, caution must be exercised in distinguishing between a real cost or benefit, and a re-distribution between competitors and consumers. Intervention may simply reassign market shares and business between two competitors, with very little gain to final consumers. This is known as “business stealing”. In these cases the entry of more downstream competitors may simply lead to reduction in the market share of existing firms, with few tangible benefits for end users (no output expansion and lower prices). Over time it could even raise costs. In such circumstances access will constitute unjustified entry assistance and be anti-competitive.

Access may result in small consumer gains. The closer access is to the retail level, the more limited the margin for which competition takes place and the smaller the potential gains. These gains will arise from the superior efficiency of entrants in providing billing, marketing, customer care and after-sales services. For example, a number of NRAs have concluded that while mandating Mobile Virtual Network Operators (MVNOs) may increase the number of operators, the impact on price competition is likely to be negligible.

The potential gains from access may be offset by other obligations that accompany mandated access. For example, it would be rare for a NRA to mandate access without imposing a non-discrimination obligation. However, a non-discrimination rule can generate offsetting costs by reducing the willingness and ability of operators to develop innovative wholesale deals with service providers and others,²⁴ deterring price competition (as the EC Commission has suggested may be the case for international roaming),²⁵ and reducing the network operators’ flexibility to provide greater choice to service providers and retail customers.²⁶

²³ For example a study of US cable rate regulation showed that rate controls and access obligation led to reduction in consumer choice. T. W. Hazlett & M. L. Spitzer, *Public Policy Toward Cable Television – The Economics of Rate Controls* (American Enterprise Institute, 1997).

²⁴ This is recognised by Oftel elsewhere: “*There is evidence that commercial strategies of the mobile operators, rather than regulation, are the factors that determine how many ISPs develop a successful relationship with a network operator. Oftel believes that the current regulation may have unduly focused service providers and network operators on the single business model that has grown up around the regulated obligation to supply. It also may be the case that the willingness of operators to develop innovative wholesale deals is being deterred by the prohibition on undue discrimination.*” Oftel, *Effective Competition Review: Mobile* (26 September 2001), para 2.47.

²⁵ Wolf Sauter (DG COMP) commenting on the preliminary findings has stated: “*Wholesale roaming markets are oligopolistic markets that appear to lack competitive pressure. They are characterised by high barriers to entry due to national licensing and spectrum limitations; due to high network infrastructure costs; (...) In addition, there appears to be a general lack of incentives to compete, due to the almost perfect price transparency between operators at the wholesale level and a near complete absence of price transparency for consumers at retail level. (...) Industry-wide non-discrimination obligations reduce competitive pressure...*”. W. Sauter, “The Sector Inquiries into Leased Lines and Mobile Roaming: Findings and follow-up of the competition law investigations in Cases COMP/C1/37.638 and

Also, when determining the incremental competitive gains a NRA should consider pre-existing access obligations. Where a SMP operator already provides access, say through carrier selection or pre-selection, the imposition of further access obligations may generate very small incremental consumer gains. The NRA should, in these circumstances, consider only the *incremental competitive gains* at the retail level generated by the additional access obligations, and not the gains attributed to access as a whole.

Incremental Impact on investment & innovation

The impact of different access regimes on investment and innovation must also be assessed. The *Access Directive* requires NRAs to evaluate the impact on investment in infrastructure. The incentive to invest will be influenced by access and the way it is priced.

In principle NRAs will also need to determine which set of obligations will result in the optimal level of service, direct infrastructure and LLU forms of competition. Promoting entry at one level will affect the attractiveness of entry at other levels. These types of access are in functionally different but interrelated markets where LLU is upstream from wholesale (unbundled) access.²⁷ Thus it may be the case that encouraging wholesale (bundled) access and LLU could easily deter the rollout of alternative infrastructure. Or alternatively, closed networks vertically integration may be necessary to foster an optimal level of network competition so that access *per se* is not a desirable policy.²⁸

COMP/C1/37.639", Presentation to IBC Conference on Communications and EC Competition Law, Brussels, 17 September 2001, pp. 8-9, available at http://europa.eu.int/comm/competition/speeches/text/sp2001_016_en.pdf.

²⁶ A study of the FCC decision to regulate AT&T's prices under pressure from AT&T's rivals, showed that it prevented AT&T from reacting to competitive entry by discounting tariffs and sharply lowering prices result in the prices for long distance services declining significantly less than costs of providing the services. P. MacAvoy, *The Failure of Anti-trust and Regulation in Longdistance Telephone Services*, (MIT Press, 1996) 105-174.

²⁷ Under the *Unbundled Access to Local Loop Directive* (EC2887/2000) (which will be replaced by the *Access Directive* when fully implemented in Member States) a notified operator must publish a "reference offer" and meet "reasonable requests" and charge prices for unbundled access "set on the basis of cost-orientation". "Shared access" is defined in Article 2(g) as "use of non-voice band frequency of twisted metallic pair with the notified operator continuing to use voice band for a public telephone service." Recital 11 sets out that costing and pricing rules should ensure efficiency in investment "cost recovery plus reasonable return to ensure long term development and upgrade of local access infrastructure, and ensure fair and sustainable competition."

²⁸ Recently it concluded that mandatory provision of wholesale airtime to independent service providers (ISP) could provide disincentives to innovate (Ofcom, *Effective Competition Review: Mobile*, 26 September 2001, para 2.47). Similarly, Ofcom refrained from mandating MVNOs because of the disincentive to invest and extend existing infrastructure. Op. cit. footnote 19.

The proposed remedies guidelines should provide a clear statement of the factors to be considered when mandating access and, in particular, the different forms of access, i.e. whether stimulating direct infrastructure competition, or competition via LLU, or wholesale bundled access.

The task confronting NRAs is not likely to be easy. NRAs will have difficulty in determining prospectively the competitive and investment impact of access rules. In establishing the desirable set of obligations that best promotes competition, regulators will need to recognise that regulatory and investment timeframes are mismatched. The investment cycle and market penetration of emerging facilities (and services) may be longer than the time framework of the regulator. There is a danger that the short-termism inherent in the regulatory framework will militate against ensuring that obligations match economic reality, with a dampening effect of facilities-based competition and excessive encouragement of service competition, which may generate fewer long-term benefits to end users. This suggests that a realistic assessment be made of the prospect of facilities-based competition.

Further there will be real difficulties in predicting the consequences of policies designed to encourage competition in network provision. This has recently been graphically illustrated by the unpredicted consequences of very different regulatory approaches to fostering the development of broadband infrastructure. In the UK the development of new broadband cable networks was promoted by asymmetric regulation of British Telecom. The regulatory theory underpinning this was that in order for independent cable operators to establish themselves as competitive alternatives to BT, they required active entry assistance. This led to a regulatory prohibition on BT providing video services on its PSTN, permitting new cable operators to deny access to their networks, and prohibiting alternative video distribution networks from entering cable or to be cabled areas, such as SMATV and MMDS. In contrast the Australian Government licensed another public telecommunications network (Optus) to compete directly with the incumbent PSTN operator (Telstra) including direct competition in the provision of broadband and video services. This produced active competition between the two operators resulting, in the rapid rollout of two new broadband networks (in addition to the established PSTN) in the major metropolitan areas of Australia. This regulatory approach, seen through British eyes, would have appeared a recipe for the foreclosure of the broadband facilities market and the stillbirth of the entrant. In fact, it resulted in a rapid network rollout programme, achieving in several years what took nearly two decades for the protected cable sector to achieve in the UK.²⁹

Direct Costs of Access

NRAs should also take into account the direct costs to SMP operators (and access seekers) when they propose to mandate access. These include the direct costs on operators, such as the efficiency losses from vertical disintegration, administrative

²⁹ C. G. Veljanovski, *Pay TV in Australia – markets and mergers* (Institute of Public Affairs, 1998).

costs, and inefficient arbitrage. If there are significant costs this will “objectively justify” the refusal to supply unbundled components.

PRICE OBLIGATIONS

High access prices can act to foreclose entry; while inappropriate mandated access charges can stimulate inefficient entry and create offsetting distortions. Thus considerable care has to be undertaken in selecting an appropriate price remedy.

A detailed analysis of the range and intricacies of different type of access prices is beyond the scope of this study. However, the selection of the appropriate price control which balances the objectives of the *Framework Directive* is a critical matter on which NRAs will need guidelines and common framework. This is particularly the case because any one approach/methodology for determining access prices controls is unlikely to achieve all regulatory goals simultaneously. The new regulatory framework sets out a number of explicit and implicit goals including effective retail and wholesale competition, efficient entry, productive efficiency, promoting infrastructure investment and innovation and so on. Individual pricing methodologies may be good at achieving some of these objectives but not others.

Further, notwithstanding the theoretical appeal of different pricing approaches, the practical assessment should be based on a careful consideration of their likely error and regulatory costs.

As a result the alternative methods of price control - cost-plus or retail minus – are not likely to be ideal or to fully implement the objectives of the *Access Directive*. They all have attractive and unattractive features.

For example, cost oriented price controls are widely seen as generating efficient prices. This is based on the simple tenet that in a competitive market prices will equal marginal costs. However, it is also recognised that in network industries with high fixed, sunk and common costs the determination of incremental unit costs and the way those costs should be recovered, and indeed the accurate estimation of costs, are by no means straightforward. Further, there are different methods to calculate cost-oriented price controls ranging from Fully Allocated Costs (FAC) to a number of variants of Long Run Increment Costs (LRIC), including a forward-looking basis (FL-LRIC) or with equi-proportionate markups to cover common and overhead costs (LRIC-plus), or both. Each has its relative attractions and disadvantages both in theory and practice.

To illustrate (without in this study commenting on its overall desirability), access prices based on LRIC while in theory they may replicate the competitive outcome, in practice are subject to conceptual and practical difficulties which could make them inappropriate under some circumstances. Among the problems with LRIC-based price regulation which have been identified by commentators are that it:

- can lead to excessive entry by transferring profits and rents to new entrants;
- underestimates the recoverable costs, and, hence, reduces the returns to network investment.³⁰ It does not generally allow the recovery of a) the opportunity costs of developing unsuccessful services or internally developed inputs, including transaction costs such as search and bargaining costs and c) the installation costs of shifting to new technology;
- can significantly mis-estimate costs. It is reported that US LRIC models of the same network components can differ by up to 70 percent,³¹ while in Australia differences of plus/minus 30 per cent have been found,³²
- may, if forward-looking costs (or a reasonably efficient operator) are used, be based on inappropriate timing of network investment and upgrading leading to inadequate returns and lost options value;³³
- substitutes regulation for profits as the key driver for competition, efficiency and pricing of access and networks;
- creates strong incentives for SMP operators to (inefficiently) focus business development on unregulated areas and, specifically, on downstream activities which in turn may create need for additional regulatory intervention;³⁴
- substitutes the regulator's judgments for business judgments on the nature and timing of network investments, based on the regulators' forecasts of capacity,

³⁰ J. G. Sidak & D. F. Spulber, *Deregulatory Takings and the Regulatory Contract* (Cambridge University Press, 1997).

³¹ L. Prosperetti, "Costi Incrementali in Corso di Affondamento, *BelTel*, November 2001.

³² Australian Productivity Commission, *Telecommunications Competition Regulation - Inquiry Report*, (December 2001) 627-630. The Australian Productivity Commission, in a recent assessment of the access regime under Australian competition law, stated that: "A striking premise underlying the TSLRIC is that it presupposes that the regulator knows how to run an efficient network, and may know this even better than the incumbent. This premise is suspect – and the risk of regulatory error is high. NERA's (1999) modelling of TSLRIC costs associated with the PSTN has relatively wide bands of uncertainty. This uncertainty over efficient costs needs to be accommodated in access pricing determinations. [...] Thus, it would be fallacious to conclude that uncertainty was resolved from the fact that recently published estimates no longer include a range (table D.1). The factors that led to these uncertainties remain unresolved. Indeed, taking the three sources of uncertainty together (call conveyancing costs, line costs and the allocation method for the access deficit) it is plausible that the band of uncertainty around the midpoint estimate of PSTN is approximately plus or minus 30 per cent. [...] As shown above, the cost estimates underlying the TSLRIC are imprecise, so that regulatory error is inevitable. Even if over successive judgements, the regulator generates unbiased estimates of the TSLRIC price, the regulator will sometimes set prices that are too high and sometimes too low. However, the impacts of downward errors may be different to that of upward errors, requiring that the regulator adjust the price to take account of the adverse effect of errors". Australian Productivity Commission, *Telecommunications Competition Regulation, Inquiry Report*, (December 2001) 627-630.

³³ A. K. Dixit & R. S. Pindyck, *Investment under Uncertainty* (Princeton University Press, 1994).

³⁴ J. J. Laffont & J. Tirole, *Competition in Telecommunications* (MIT Press, 2000) 7-8.

demand and asset lives, and impact of pricing on demand, all subject to substantial forecasting errors.³⁵

An alternative pricing methodology is retail-minus, or its economic equivalent Efficient Component Pricing (ECP). Under retail minus the access charge is set at the SMP operator's retail price minus the avoidable cost of providing downstream services and any network elements supplied by the access seeker.³⁶

Retail minus has been advocated by a number of academics as the preferred method of pricing access to network industries. Oftel has recently proposed retail minus as the appropriate price for BT's access to BT's wholesale broadband.³⁷ It has a number of attractions. First, it does not require the NRA to calculate the costs of the upstream network or network elements supplied by the network operator – these are not relevant. The NRA merely needs to know the retail price and have some estimate of the avoidable costs of the SMP operator in supplying its downstream services. It thus minimises regulatory and compliance costs and, moreover, has other advantages since it: can lead to efficient entry, minimises distortions of the network's retail tariff structure and inefficient arbitrage, and preserves the network's incentives to invest in their infrastructure.

Others see the attraction of retail-minus as less clearcut and it has been criticized on a number of grounds because it.³⁸

- does not lead to efficient access price if retail prices are not competitive set or regulated at near competitive levels;
- is based on assumptions which may not be met in practice such as homogeneous product, linear prices, and stable and constant returns to scale;
- protects the incumbent from the competitive losses by allowing it to retain the profits of the consumers it loses to entrants;
- sets the access price too high if the entrant gain is not the incumbent's loss either due to product innovation or when the entrant expands the market;
- assumes unrealistically that non-integrated entrants/competitors do not have sunk costs;

³⁵ J. Hausman, "Valuing the Effect of Regulation on New Services in Telecommunications", *Brooking Papers on Economic Activity: Microeconomics* 1 (1997).

³⁶ W. J. Baumol & J. G. Sidak, "The Pricing of Inputs Sold to Competitors" *Yale Journal of Regulation*, 196 (1994).

³⁷ Oftel, *Review of the Wholesale Broadband Access Market – Consultation Document*, 28 April 2003.

³⁸ E. M. Noam, *Interconnecting the Network of Networks*, (MIT Press, 2001).

- ignores the dynamic efficiency gains from competition.

A further difficulty may arise with retail-minus when the retail price is set at a low level to stimulate the take-up of a new service for example to stimulate the demand for a good with a high requirement for customer experience. Under such circumstances the retail-minus formula may be seen as subsidising competitors at the upstream layer, particularly if early losses cannot be recouped in later periods.

PRINCIPLES/GUIDELINES

On the basis of the above discussion, the remedies guidelines should deal with the following matters:

1. access obligations should only be imposed if it can be established that an operator's refusal to supply access is unreasonable and anticompetitive, or likely to prevent an equally or more efficient service provider from entering the relevant downstream market;
2. NRAs must provide evidence that mandating access or a specific *ex ante* obligation leads to: a) appreciable consumer benefits in the form of greater price competition and choice; and b) no offsetting costs in the form of reduced investment and innovation, both by the SMP operators and present and future alternative competitive facilities;
3. NRAs should provide a clear statement of the factors which must be considered when mandating access and, in particular, different forms of access, i.e. whether stimulating direct infrastructure competition, or competition via LLU, or wholesale bundled access; and
4. NRAs should offer clear guidance on the factors to be taken into account when selecting access price controls.

V. PRICE SQUEEZES

A price or margin squeeze occurs when an upstream monopolist charges a wholesale price for an essential input and/or reduces its retail price so that efficient downstream firms cannot make a normal profit. It has the effect of foreclosing the downstream market to efficient rivals, and therefore reduces long-term sustainable competition. It is specifically mentioned in the Article 13(1) of the *Access Directive*,³⁹ and has recently been dealt with under *ex ante* national regulatory law, e.g. Netherlands,⁴⁰ and Canada and under *ex post* competition laws e.g. in the EC⁴¹, UK,⁴² Netherlands,⁴³ and Italy⁴⁴.

The purpose of this section is to provide guidelines for the correct identification and appropriate regulation of a price squeeze.

WHAT IS A PRICE SQUEEZE

In simple terms a price squeeze occurs when the difference between the wholesale and retail price does not give an efficient firm a sufficient profit margin to survive. Two types of price squeezes can be identified, depending on whether they operate on the wholesale or the retail price (or any combination of the two having the same effect).

³⁹ Also Recital 20 and in the earlier EC Commission, *Unbundled Access to the Local Loop*, Regulation No. 2887/2000, 11 (5 December 2000).

⁴⁰ OPTA & NMa, *Price Squeeze Guidelines*, 28 February 2001.

⁴¹ EC Commission's Press Releases: *High-speed Internet access: Commission suspects Wanadoo (France) of abusing its dominant position*, 21 December 2001; *Commission suspects KPN of abusing its dominant position for the termination of calls on its mobile network*, 27 March 2002; *Commission suspects Deutsche Telekom of charging anti-competitive tariffs for access to its local network*, 8 May 2002. Also anti-squeeze undertakings in Case No COMP/M. 1795 - *Vodafone AirTouch/Mannesmann* (2000).

⁴² Oftel, *NTS outpayments from Call & Access customers* (CW/00387/02/01), *Cross subsidy of BT Cellnet Genie* (CW/00368/12/00); *BT Openworld special offers* (CW/00471/10/01), *Competition Bulletin*, 23 December 2001; Oftel, *ADSL margin squeeze* (CW/00304/11/00), *Competition Bulletin*, 24 March 2001; Oftel, *Investigation by the Director General of Telecommunications into the BT Surf Together and BT Talk & Surf Together Pricing Packages under the Competition Act 1998*, 4 May 2001; and OFT, *BSkyB: The Outcome of the OFT's Competition Act Investigation*, December 2002.

⁴³ Nma, *Talkline v KPN*, Case No 1657, 12 March 2001 (complaint rejected).

⁴⁴ AGCM, *Tiscali-Albacom/Telecom Italia*, No. 8482 (A280), 13 July 2000 (Telecom Italia fined for price squeeze on other fixed operators).

1. **wholesale price squeeze.** This involves an operator raising the wholesale price of the essential input to its rivals. This can either be *discriminatory* where the SMP operator charges its downstream rivals a higher upstream price than it explicitly or implicitly charges its own downstream operation, or *non-discriminatory* where the wholesale price is raised to rivals and its downstream operation. In the later case the integrated SMP operator effectively cross-subsidises its downstream operation from its upstream division.
2. **retail price squeeze.** This price pressure occurs when the SMP operator reduces its retail price to make an efficient downstream operator unprofitable. In practice, this type of practice is hard to distinguish from predation but will not necessarily entail pricing below the average costs of the retail product.

Price squeezes are based on the view that a dominant upstream operator - who supplies an essential input to downstream rivals (access to the local loop) and who also competes directly in the retail market - has an incentive and opportunity to manipulate either its wholesale price and/or its retail price to make its rivals' business unprofitable. It can, as it were, squeeze their margins or profits so as to deter the entry of potential rivals; and/or reducing the competitive threat posed by downstream rivals.

The ability of SMP operators to engage in successful price squeezes is a matter of some controversy. Some economists argue that an upstream monopolist would not engage in a price squeeze because it is unprofitable. There is only one monopoly profit, and this is best earned and maximised by charging the monopoly price for the input. To charge a higher input price to squeeze downstream rivals out of business would simply be to substitute lower profits upstream for higher profits downstream, with a net loss to the SMP operator. Further, the upstream monopolist would not foreclose the market to efficient downstream entrants. If these firms are genuinely more efficient (and this cannot be replicated by the SMP operator) the rational strategy is to raise the input price to capture the higher profits from their greater efficiency but still allow them to earn a reasonable margin to survive. To squeeze them out of the market completely would simply be to kill the goose that lays the golden egg. Thus while margins will be "squeezed", there will be no foreclosure effect in the sense that the upstream monopolist pushes the wholesale price above that necessary for the efficient operator to survive.

Most economists agree that this analysis is correct, given the assumption that the downstream market is effectively competitive. If it is not, then the upstream dominant operator may find a price squeeze attractive.

A number of implications can, however, be derived from the above:

- First, a price squeeze entails more than excessive wholesale price. Indeed, as shown above, an excessive wholesale price is not *per se* evidence of a price squeeze nor is even a price higher than the monopoly price where upstream monopolist extracts the additional profits from a more efficient downstream rival.

- Second, evidence that margins are low, or have recently fallen is not necessarily evidence of a price squeeze. Many service providers have low margins, and if the SMP operator improves its efficiency, a lower margin may be consistent with effective competition.
- Third, distinguishing a price squeeze from other exclusionary abuses such as excessive input prices, discriminatory pricing, predation, and/or tie-in sales, will often be difficult. In many cases an effective price squeeze will manifest all these attributes, and thus make it difficult to isolate a separate abuse. On the other hand, the conditions for a price squeeze to be anti-competitive are far more demanding and therefore it is not surprising that a price squeeze has been rarely established.

CONDITIONS FOR PRICE SQUEEZE

The specific circumstances where a price squeeze is anti-competitive demand that the conditions and evidence proving its existence be clearly set out. In light of a survey of the literature and relevant European case law, the following principles for the identification of a price squeeze can be proposed:⁴⁵

- **Condition 1 – Super-SMP/dominance on upstream market.** The vertically integrated undertaking must have dominance (SMP). It would seem that the level of dominance must be that approaching a complete monopoly or super dominance.⁴⁶ However, the determination of dominance must be based on a competitive assessment of competition at the retail level as made clear in the *Framework Directive* (see discussion on essentiality below). An analysis which begins with identifying SMP on the upstream market which is purportedly leveraged on the downstream market (as per *Tetra Pak II*) is clearly inadequate on its own.⁴⁷ If the downstream market is competitive, or there are close substitutes for the downstream product which use the input, then the conditions do not exist for an effective price squeeze;⁴⁸

⁴⁵ The conditions for a price squeeze under EC competition law are extensively discussed in P. Crocioni & C. G. Veljanovski, "Price Squeezes, Foreclosure and Competition Law – principles and guidelines" 4 *Journal of Network Economics* 28 (2003).

⁴⁶ Whish, *op. cit.* 161-163. "position of dominance approaching a monopoly", which requires a market share of 80 percent or more. In the leading EC Commission decision, *Napier Brown - British Sugar*, the EC Commission concluded that British Sugar enjoyed a *de facto* monopoly on the market for the provision of raw sugar.

⁴⁷ EC Commission, *Statement of Objections*, para 106, Case No. COMP/C-1/37.704 - *KPN Mobile Termination Rates*. Case Associates, *Competitive Assessment of GRIP & GRIPNET*, report submitted to EC Commission on behalf of Kononklijke KPN NV (25June 2002).

⁴⁸ For example, in *BT Surf* decision, Oftel found that a dominant network operator cannot commit a price squeeze when its downstream division faces competition from other products. It was alleged, *inter alia*, that BT's dominance in the upstream market for wholesale call origination on fixed networks in the UK enabled it to margin squeeze in its pricing of the Surf element (unmetered tariff for off-peak Internet access) in the "BT Surf Together" and "BT Talk & Surf Together" packages. This was rejected because BT's off peak Internet packages faced competition from other retail Internet products, such as unmetered always-on Internet packages. Oftel, *Investigation by the Director General of Telecommunications into the*

- **Condition 2 - Downstream market not effectively competitive.** The downstream market must not be effectively competitive. However, a wholesale price squeeze does not require the operator to have SMP on the downstream market whereas a retail price squeeze does.
- **Condition 3 - Vertical Integration.** The firm allegedly administering the price squeeze must be vertically integrated or have control over the essential upstream input and be active on the downstream market as well.
- **Condition 4 - Upstream input must be essential.** The “essentially” condition must exist at two levels simultaneously:
 - **4.1 - Essential to downstream competitors.** This has two related facets. First, there must not be inputs that are close substitutes for the essential input supplied by the vertically integrated firm. Second, the input must be “essential” in the downstream production process in the technical sense of being a strict complement to other inputs or used in fixed proportions.
 - **4.2 - Essential to downstream competition.** The input must also be essential for downstream competition (as opposed to production). That is, where the relevant product market is wider than the downstream product that requires the given input, it is unlikely that a price squeeze can be effective.
- **Condition 5 - Unprofitable downstream margins.** The alleged price squeeze must have the likely effect of foreclosing the downstream market to equally or more efficient competitors by making them unprofitable.
- **Condition 6 - Sufficient duration.** A price squeeze must be of sufficiently long duration to have an exclusionary effect.⁴⁹

BT Surf Together and BT Talk & Surf Together Pricing Packages under the Competition Act 1998, 4 May 2000.

⁴⁹ Recoupment is not usually stated as a requirement for a price squeeze. This is because the wholesale price squeeze lowers profits rather than generates outright losses. A retail price squeeze does generate short-term losses. A price squeeze test would require recoupment of these losses at a later date if the firm is to find such an abuse profitable. However, to the extent that *ex ante* tests draw on EC competition law, it would not be necessary to show that the SMP operator had the ability to recoup profits.

IMPUTATION TEST

The key to substantiating a price squeeze abuse is establishing that downstream margins of rival efficient firms are unsustainably low, and that this is causally related to the anti-competitive actions of the SMP operator. A so-called imputation test is used to determine this. It assesses the reasonableness of the (gross) profit margin of an efficient downstream operator.

The EC *Access Notice* discusses two possible imputation tests based on whether the SMP operator could not trade profitably if it had to pay the upstream wholesale/access prices that it charges its downstream rivals⁵⁰ or whether, given the downstream retail price and wholesale/input price, a reasonable efficient downstream firm could not make a normal profit.⁵¹ The first test seeks to assess a price squeeze indirectly by looking at whether the SMP operator is cross-subsidising its downstream operations from upstream revenues; the second assesses the margin of a “*reasonably efficient*” downstream provider. In practice it is likely that the SMP operators’ costs will be used (Test 1).

For a single product case, the imputation test should be applied using the SMP operator’s retail price, the lowest available input price and the lowest of the SMP operator(s) or access seekers’ avoidable costs. This will ensure that only efficient downstream competitors enter and will prevent the SMP operators from engaging in a price squeeze.

The more problematic case is when a number of products are bundled together by the SMP operators. Practically, this will concern cases where a service over which the operator has SMP is sold together with unregulated retail products, and often a new or emerging product such as IP and voice bundled with broadband services, at a bundled price that is lower than the combined price of the two products sold separately, and possibly the wholesale price of the essential input. Those downstream firms supplying a more restricted bundle or just one service then seem to be at a disadvantage, and may allege a price squeeze. Such allegations are increasingly common; two recent examples are the UK’s investigation of BSkyB’s pricing of pay TV packages, and the EC Commission’s on-going Article 82 investigation of KPN termination rates.

Bundling raises a complex set of issues.

First, assuming that one element of the bundle is a regulated product then it is unlikely that bundling will result in a price squeeze (see below).

⁵⁰ *Access Notice*, para 117. Also see UK Office of Fair Trading/Oftel guidelines UK *Competition Act 1998 - The Application in the Telecommunications Sector*, 7.26 (OFT 417).

⁵¹ *Access Notice*, para 118.

The second issue raised by such bundling is the level of aggregation at which the imputation should be applied. That is, whether each product or element of the bundled product should be subject to a separate imputation test, or whether only the aggregate costs and revenues of the bundled product, or whether a combined imputation test should be used where both a component and the bundle should be subject to imputations tests. The appropriate test is not whether each service satisfies the price squeeze test but whether the bundle of services does. For example, the addition of a service could generate increased marginal revenues across the whole bundle even though its implicit price does not cover its (incremental) costs.⁵² Similarly, bundling might generate economies of scope which would not be available to single product suppliers. In these case lower bundled prices are efficient and should be encouraged. The application of a dual test, as recommended by some commentators and in the *OPTA Guidelines*, that the imputation test should be applied to both unit margins (price compared to marginal cost), and total revenues and costs for different ranges of output seems wrong and unduly restrictive.⁵³ Estimating avoidable costs for a range of output becomes an impossible task.

APPROPRIATE OBLIGATIONS

Where the conditions and imputation test reveal an effective price squeeze, then price obligations may be required. Table 2 lists the three types of price squeezes discussed above together with three *ex ante* obligations which can be imposed – retail minus, cost-based and non discriminatory price controls. The evaluation of the impact of these obligations is assessed for each imposed separately, and in fairly broad terms, since in the practical application of each obligation there will be difficulties and error costs.

⁵² In *ADSL margin squeeze*, OfTel dismissed a complaint that BT's wholesale subscription price for ADSL access (£41.13) was higher than its price for the retail subscription (£39.99). BT claimed that it could offer a retail subscription at a price below its wholesale price because it expected additional revenues from e-commerce and advertising.

⁵³ S. P. King & R. Maddock, "Imputation Rules and a Vertical Price Squeeze", 30 *Australian Business Law Review* 43 (2001).

Table 2: Access Price controls & Price Squeeze

Type of Squeeze \ Obligations	Retail Minus	Cost based	non-discrimination
wholesale discriminatory	Prevented	Prevented	Prevented
wholesale non-discriminatory (excessive input pricing)	Prevented	Prevented	Feasible
Retail	Prevented	Feasible (may allow predatory pricing if cost base is set to low)	Feasible

Retail minus is generally singled out as the most appropriate response to a price squeeze as it is equivalent to the imputation test used in competition law. However, even here the obligation may be fully efficient if retail prices are not competitively determined or, alternatively, where there is retail market power not subject to retail price controls. Clearly the appropriate obligation must be one which fits the circumstances on a case-by-case basis. As a result, retail minus has been applied by regulators to price access where it retail prices are competitively set, e.g. by the UK NRA for national roaming and indirect access in the mobile sector,⁵⁴ and specifically to control BT's alleged price squeeze on the market for asymmetric broadband origination and ATM conveyance⁵⁵ and as access price for wholesale broadband for SMP operators.

In some jurisdictions retail-minus is used to screen all tariffs of the dominant operators to determine prospectively whether they allow adequate downstream margins. For example, the Canadian Regulatory Telecommunications Commission (CRTC) requires operators to submit to an imputation test when seeking approval of new regulated tariffs. In the Netherlands, where new price squeeze guidelines have been issued,⁵⁶ a regulated operator is required to demonstrate the profitability of each retail service using its essential inputs, using the same prices it charges its rivals. This appears to be an excessive and overinclusive approach. It would stifle service and tariff

⁵⁴ *Oftel Statement on National Roaming – Revised Version*, October 1999; and *Customer Choice: Oftel's Review of Indirect Access for Mobile Networks*, February 1999.

⁵⁵ Oftel, *Direction to resolve a dispute between BT, Energis and Thus concerning xDSL interconnection at the ATM switch*, 21 June 2002.

⁵⁶ OPTA/NMa, *Price Squeeze Guidelines*, 28 February 2001. Price squeezing is also referred to in EC Commission, *Unbundled Access to the Local Loop*, Regulation No. 2887/2000, 11 (5 December 2000).

innovation, raise compliance costs considerably⁵⁷ and may even have anticompetitive effects by setting price guidelines across the industry. When added to the fact that genuine price squeezes tend to be rare, this approach seems overly intrusive approach. Retail minus may also have adverse effects on operators' willingness to take risks and to innovate (as discussed in Section IV above).

On the other hand, there is little reason to suppose that practice cannot be controlled by competition law. The same consideration and imputation test are applied under Article 82. This is particularly the case when wholesale price controls are already in place. Past experience suggests that price squeezes are rare and, when alleged, rarely proven. In a regulated market they seem especially well suited to competition law intervention on a case-by-case basis, especially when involving unregulated and emerging services.

PRINCIPLES/GUIDELINES

The proposed remedies guidelines should:

1. set out clearly the conditions for an effective price squeeze;
2. set out the cost concepts to be taken into account in applying the imputation test; and
3. establish a general presumption that price squeezes should be left to *ex post* competition law unless there is evidence that the practice is persistent.

⁵⁷ This is because it reduces the firm's flexibility to efficiently set prices based on differences in their elasticity of demand. It also reduces the downstream firm's incentive to differentiate its prices from those of the vertically integrated firm. See J. J. Laffont & J. Tirole, *Competition in Telecommunications* (MIT Press, 2000).

VI. RECIPROCAL TERMINATION

Under the *Access Directive* interconnection⁵⁸ is mandatory so that operators cannot refuse to supply call termination to rival networks. The SMP designation is concerned with the imposition of further obligations, particularly price controls on interconnection and termination rates. This section focuses on the scope of SMP designation rather than the details of any imposed obligations while accepting, but not necessarily endorsing, the European Commission's wholesale market definitions in the *Recommendation*.⁵⁹ Specifically, it is questionable whether there are legitimate grounds for an NRA to exempt smaller operators from SMP designation, given that the *Recommendation* has defined the relevant wholesale call termination market for fixed services as existing separately for each network. Put differently, should price controls be applied by NRAs asymmetrically or uniformly on fixed operators?

THE EUROPEAN COMMISSION'S APPROACH

The *Recommendation* defines a wholesale call termination market for each fixed network. The *Explanatory Memorandum* (p. 20) states that substitution at the wholesale level is not possible, and that substitution possibilities for inbound callers at the retail level “do not appear currently to provide sufficient discipline on call termination at fixed locations or an argument in favour of a wider market definition”.

The reason for this narrow market definition is not discussed in detail. Elsewhere the reasons for the limited competitive constraints on call termination charges are attributed to the Calling Party Pays (CPP) practice of pricing terminating calls.⁶⁰ Under

⁵⁸ The *Access Directive* (Article 2) defines interconnection (including call termination) as: “... the physical and logical linking of public communications networks used by the same or a different undertaking in order to allow the users of one undertaking to communicate with users of the same or another undertaking [...] Interconnection is a specific type of access implemented between public network operators”.

⁵⁹ The use of such narrow “product” specific definitions in network industries characterised by demand and supply-side complementarities and common costs has been criticised. For example, J. Gual, “Market Definition in the Telecom Industry”, *The Economic of Antitrust in the Telecommunications Sector*, ICN Seminar, Brussels, 16 September 2002.

⁶⁰ *Explanatory Memorandum*, p. 32. Oddly the *Explanatory Memorandum* only refers to CCP in relation to mobile services.

CPP, call termination charges are paid by the caller and not the receiver who is the customer of the terminating network. As a result, the terminating network's subscribers have little incentive to consider termination charges, which they do not pay. The different and weaker competitive constraints on call termination charges mean that (wholesale) call termination is a separate relevant market from call origination, and is defined narrowly for each individual network.

In considering call termination rates and their regulation, several factors must be borne in mind. First, as the *Explanatory Memorandum* states, any competitive assessment of a wholesale market derives principally and initially from consideration of the competitive pressures at the retail level. Second, at the wholesale level termination rates are negotiated bilaterally between operators who recognise their interdependence. Third, network operators reciprocally supply complementary inputs (wholesale terminating services) to each other, and compete at the retail level. So they are both buyers and sellers of wholesale call termination. The outcome of negotiations on termination rates will depend on these and other factors such as the tariff structure (linear or two-part tariffs), traffic flows, and the bargaining strategies of each operator.

COUNTERVAILING BUYER POWER

The *Recommendation's* adoption of a narrow network-specific definition of the relevant wholesale market for call termination has implications for remedies under the *Access Directive*. It means that each and every network operator has SMP regardless of size. This radically alters the nature of regulatory intervention from asymmetric regulation of the incumbent fixed operator to the regulation of all fixed network operators regardless of (market) share of all terminating traffic. The *Access Directive*, together with the *Recommendation*, appears to establish a regulatory regime where all operators are designated SMP and subject to the same *ex ante* obligations.

The *Explanatory Memorandum*, however, stops short of this. It notes that even when wholesale call termination markets are defined for each network, this does not necessarily imply that each operator has SMP. This will depend on whether an “effective competition analysis once the relevant market has been defined”⁶¹ shows that there is “countervailing buyer power”. The *Explanatory Memorandum* states: “Absent any regulatory rules on interconnection, a small network may have very little market power relative to a larger one in respect of call termination.” The buyer power of the larger network operator counters the smaller operators' potential market power, and hence (or so it is ostensibly argued in the *Explanatory Memorandum*), the smaller operators should not have any further obligations triggered by SMP designation.

As regards the incumbent operator, the mandatory requirement to negotiate interconnection is claimed to partially redress the imbalance. But the *Explanatory*

⁶¹ *Explanatory Memorandum*, n. 31.

Memorandum then goes on to say that even with mandatory interconnection (but no price controls) a larger operator still has market power to raise or lower rates. This implies that the incumbent fixed operator has SMP, and should be subject to further *ex ante* obligations.

The concept of countervailing buyer power is not spelt out in any detail in the EC Commission's documentation.⁶² It is referred to in the *SMP Guidelines* (para. 78) which require NRAs to “undertake a thorough and overall analysis of the economic characteristics of the relevant market” including the “absence of or low countervailing buying power”. But there is no elaboration of how this is to be applied.

DEFINING COUNTERVAILING BUYER POWER

The concept of countervailing buyer power is not well developed in competition law. One meaning of buyer power is the market power or dominance of a buyer rather than a seller, often referred to by economists as a monopsony. Buyer power can also mean a lower level of market influence where the buyer has bargaining power in the direct bilateral negotiations with the seller. The *Explanatory Memorandum* appears to make a distinction between buyer power, as bargaining power, and market power, with the connotation that buyer bargaining power may moderate seller market power. Countervailing buyer power, however, connotes more than this since it is juxtaposed against the dominance of the seller.

Consider first the operation of countervailing buyer power in the more usual market setting dealt with under competition law. A large seller of a product confronts a buyer who is sufficiently large to exercise (countervailing) bargaining power in its negotiations for price and other terms. In some Member States this consideration is to be taken into account in the competitive assessment of seller market power. The UK Office of Fair Trading's *Market Power Guidelines*⁶³ states that the ability of a buyer to exert a:

“... substantial influence on price requires that a buyer should be large in relation to the relevant market, well informed about alternative sources of supply, and that the buyer could readily, and at little cost to itself, switch from one supplier to another, or even commence production of the item himself.”

Countervailing buyer power, however, does not guarantee that the outcome is desirable. For buyer power to countervail the anti-competitive effects of seller market power it must lead to lower retail prices and/or generate large efficiency gains. But as the OFT *Guidelines* state, such “[C]ountervailing buyer power does not always benefit

⁶² The *Explanatory Memorandum* defines a wholesale market for each mobile network but repeats the proposition that “... whether every operator has market power still depends on whether there is any countervailing buyer power, which would render any non-transitory price increase unprofitable” (p. 34).

⁶³ OFT, *Assessment of Market Power*, OFT 415 (1999).

consumers ...”; as when the buyer has market power in the downstream market or uses its buyer power strategically to foreclose the upstream market and threaten the viability of its suppliers. Thus, the mere existence of countervailing buyer power is no guarantee that it will neutralise the effects of seller market power, and a strong possibility that it will generate its own offsetting anti-competitive effects. Its impact must be assessed case-by-case.

APPLICATION TO NETWORK TERMINATION

The relevance of countervailing bargaining power to the competitive assessment of call termination is not readily apparent. It is subject to the complicating considerations arising from the special features of telecom networks, most obviously that: operators do not form distinct buyers and sellers of terminating services.

Notwithstanding this, the *Explanatory Memorandum’s* discussion turns the concept of countervailing buyer power on its head. The proposition is not, as discussed in the OFT *Guidelines* above, that smaller networks moderate the charges of the larger network, but that the incumbent’s fixed network depresses the termination rates of the smaller networks. While this can act to “regulate” the ability of smaller networks to raise termination rates, it does so because the larger operator exercises its market power.

The flaw in the EC Commission’s analysis is that even if the evidence shows that the larger operator’s buyer power has moderated the smaller operator’s termination rates, this cannot be used to exempt smaller operators from SMP designation. Once the incumbent fixed operator is subject to price controls, the alleged moderating influence on the smaller operators disappears. The imposition of asymmetric regulation eliminates any countervailing bargaining power that the SMP operator previously exercised. This is because the asymmetric regulation of the incumbent operator does not permit it to discipline the smaller operators by retaliatory actions such as refusal to supply or threaten selective increases in its termination rates. An attempt of the SMP operator to threaten other similar tactics would be impossible because it is under an obligation to supply call termination at regulated prices.

We thus have the paradoxical conclusion that the countervailing buyer power, which controls smaller networks in the absence of regulation, disappears when the larger operator is subject to asymmetric price control (and mandatory interconnection obligations). Asymmetric regulation thus allows smaller operators to exercise their hitherto latent market power as recognised, but not developed, in the *Explanatory Memorandum*.⁶⁴

⁶⁴ The *Explanatory Memorandum* states that this would “not endorse any attempt by a small network to set excessive termination charges”.

In summary, under a regime of asymmetric price controls and mandatory interconnection, larger SMP operators would not have countervailing buyer power, and the smaller operators would gain market power with the ability to significantly raise termination rates e.g. in Belgium where Telenet, the second largest operators, recently increased its termination rates by 400%.⁶⁵

ASSESSMENT

Several general and specific implications arise from the above discussion.

First, the concept of countervailing buyer power has no significant role to play in the designation of SMP for call termination. The *Explanatory Memorandum* is mistaken when it suggests that evidence that the incumbent fixed operator has had the effect of neutralising smaller operators market power, is sufficient to exempt the latter from further *ex ante* obligations. If the concept is to be applied, it must go further than assessment of the competitive situation in *status quo ante*. It must encompass a prospective competitive assessment of the actions of smaller unregulated operators when the incumbent fixed operator is constrained by *ex ante* obligations. If this is done it will be shown that smaller operators become free to exercise their hitherto latent market power to raise termination charges.

Second, at the level of basic principles the discussion in the *Explanatory Memorandum* must be rejected. The idea that the sole supplier of terminating services in a relevant product market does not have SMP is a major departure from the principles governing the *Framework Directive* and the *Access Directive*. It implies that the goal of the new framework is not to promote effective competition but to condone ineffective competition if its effect is to cancel out buyer and seller market power. This, in turn, leads to the supposition that the more symmetrically uncompetitive the market situation, the more competitive the outcome.⁶⁶ If this is being put forward by the EC Commission, it requires more elaboration.

Third, asymmetric regulation of the incumbent fixed operator has adverse effects when smaller operators increase their termination rates. If they set higher termination rates this would lead to an imbalance in termination payments for the incumbent network since most calls will terminate on its network. The smaller operators would also be free to pass on both their inefficiencies and higher prices to the incumbent operator's subscribers. Thus, incentives are created for inefficient networks to enter through a subsidy provided by the subscribers of larger networks. Indeed, this would amount to entry assistance, which is not an express objective of the *Framework Directive*.

⁶⁵ Belgacom had lodged a complaint in the Commercial Court (<http://www.belgacom.be/web/proto/press/en/2002/2002-02-21.html>).

⁶⁶ This approach can be derived from the economists' theorem of the "second best". This states that in an imperfect world a policy that is efficient may not, in practice, result in a more efficient position if there continues to be persistent market failures and inefficiencies elsewhere in the sector or in the economy generally.

Furthermore, the larger network might face a price squeeze when retail prices are capped and subject to a non-discrimination obligation. They could face wholesale termination charges that exceed their regulated retail prices for fixed-to-fixed, off-net calls. The larger regulated operators' costs rise, margins are squeezed and consumers do not have the opportunity to select operators/services/calls on the basis of underlying (social) costs.⁶⁷

RECIPROCAL TERMINATION

The discussion above shows that countervailing buyer power does not justify asymmetric regulation of fixed wholesale market for call termination. If the EC Commission maintains that the relevant market is wholesale, then call termination on each fixed network should be designated as SMP and face the same obligations. Furthermore, termination rates should be reciprocal, i.e. the same price control or price cap imposed on incumbent fixed operators should be imposed on all (terminating) network operators. The rates can then be subject to commercial negotiation but if the operators fail to agree, the price cap imposed on the incumbent fixed operator should be imposed as a price ceiling.⁶⁸ This would prevent smaller operators from exercising their market power, while minimising the regulatory burden on operators and NRAs. Finally, it would be fair to encourage entry only by efficient networks.

In practice, application of a uniform wholesale price cap might not be straightforward.

- First, it would have to be decided which costs are used as the basis for the price cap – those of the “reasonably efficient” operator, the incumbent operator, or the differential termination rates based on each network’s actual forward-looking costs.
- Second, reciprocity is open to interpretation as to whether it should refer to the level of overall charges that should be symmetric as such, or the symmetric treatment of network components used to terminate the calls.
- Third, network configuration and hierarchy may differ between operators. Most fixed networks are organised in a hierarchical way that differs across countries and networks. The PSTN tends to be hierarchically complex; a call to and from a customer is often, though not always, routed through a primary switch and often through secondary and tertiary switches. Termination charges reflect this

⁶⁷ R. W. Crandall, J. G. Sidak & H. J. Singer, “The Empirical Case Against Asymmetric Regulation of Broadband Internet Access,” *Berkeley Technology Law Journal*, forthcoming.

⁶⁸ The Australian Competition and Consumer Authority (ACCC) recently decided not to regulate the termination rates of Other Licensed Operators’ (OLOs). These were left to commercial negotiations between the parties, but if these failed to achieve an agreement, the termination rate of the PSTN operator would be used as the ceiling for OLOs’ termination rates. The ACCC would then only permit OLOs to charge prices that do not exceed the incumbents termination rates in order to avoid inefficient entry. ACCC, *Pricing guidelines for access prices of PSTN terminating and originating access services provided by non-dominant or smaller fixed networks*, Position Paper, August 2000.

complexity. Smaller newer networks often have simpler hierarchies that use only one switch. They have a choice whether to interconnect at one of the PSTN's tertiary switches or invest and extend their network to interconnect at a secondary or primary switch. A call terminating in a smaller network will often face a unique termination charge due to the single-network element used. One should bear in mind that while the large networks have scale advantages reflected in termination rates, small/new networks are likely to be equipped with the most efficient technology and configured accordingly, which will bring down termination costs.

PRINCIPLES/GUIDELINES

Rather than offer guidelines, this section challenges the view that countervailing buyer power can be used to exempt smaller operators from *ex ante* obligations on call termination prices and terms. The main conclusions are that:

1. countervailing buyer power cannot be used to exempt smaller dominant operators on the wholesale market for call termination from SMP designation; and
2. all fixed networks should be designated as SMP operators and subject to the same call termination price controls.

VII. RETAIL PRICES CONTROLS

The grounds for retail price controls are well established and form the basic rationale for regulatory intervention. Operators shielded by high barriers to entry and first-mover advantages can charge customers prices above the competitive level. Alternatively an operator with SMP on a relevant retail market can lower its retail price to a level that drives competitors out of business. As referred to in the *USO Directive*,⁶⁹ retail prices may at times be used strategically to fend off or deter entry or force existing competitors to exit. In this case, prices will be excessively low in the short term and, if the strategy is successful, excessively high later. An efficient regulatory (and competition law) regime should guard against retail prices either being too high and too low.

It is not proposed to undertake an extensive discussion of retail price controls other than to draw attention to several principles recognised in the EC Commission approach, which should be reiterated in the proposed remedies guidelines.

RETAIL PRICING PRINCIPLES

A number of principles governing the application and scope of retail price obligations can be identified.

First, as a general principle, a regulatory obligation should be imposed on--or closest to--the source of any market power. Where the source of (apparent) high retail prices can be traced back to market power on the network operator's upstream market, then this should be regulated rather than the retail market. The *USO Directive*⁷⁰ makes clear that retail price controls should only be imposed if wholesale price controls are deemed insufficient to achieve effective retail competition. Given that wholesale price controls exist in all the retail markets identified in the *Recommendation*, there would

⁶⁹ Recital 26 & Article 17.

⁷⁰ Recital 26 and Article 17. The *SMP Guidelines* similarly state: "...it is only where the imposition of *ex-ante* obligations on an undertaking which is dominant in the (access) upstream market would not result in effective competition on the (retail) downstream market that NRAs should examine whether Article 14(3) may apply" (para 84).

appear to be limited scope for additional retail price controls. Where operators offer cost-based access (at non-discriminatory terms) to their retail competitors, the case for additional retail price controls is particularly weak. The UK gas market is an example where all retail price controls have been removed.⁷¹ In the communications sector, despite the presence of price controls on network access, NRAs have implemented price controls on a wide range of fixed telephony retail services. These should be reviewed and rolled back in a consistent fashion with the new regulatory framework's focus on wholesale regulation over retail regulation, abolishing regulation no longer necessary to remedy an identified market failure. This is in line with the conclusion of section 3 above: that competition is not an end in itself.

In cases where market power persists in the retail market, even in presence of wholesale access obligations, there is a *prima facie* case for some form of regulatory intervention. However, the type of intervention depends on the source of the market power and can only be justified if it is likely to bring positive net benefits.

Where retail competition is ineffective due to "impediments to competition" rather than (high) entry barriers, remedies other than retail price controls will be more appropriate. An operator may have SMP on the retail market due to first-mover advantages. There will be consumer inertia and possibly high switching and search costs. Where this is the source of retail market power, retail price controls are simply dealing with the consequences rather than the source of market power; the appropriate remedy is intervention that seeks to reduce search and switching costs. Such remedies would include number portability, carrier pre-selection and tariff publication.

The imposition of remedies should take into account their adverse effects. Retail price controls can depress downstream margins, deter downstream entry, reduce retail competition and increase reliance on regulation. These, for example, were the target of a major complaint by UK cable operators in the 1990s who objected to retail controls on BT local voice telephony, arguing that the latter reduced their operations' profitability.

Switching costs can shelter firms from competition and result in higher retail prices. Among the remedies often proposed to reduce switching costs are transparency and standardisation. Standardisation is often deemed necessary when retail offers are complex. The risk is reduced tariffs and product innovation. Oftel recently found that the presence of dual billing through carrier selection or pre-selection was a "*significant inhibitor of competition and innovation*" and therefore it required BT to provide wholesale access to its line rental, allowing competitors to provide single billing.⁷² Whether this remedy is appropriate, Oftel still retained retail price controls, which are an example of overinclusion. Transparency requires price publication to allow price comparisons. An even more radical example is the Website provided by the UK

⁷¹ The UK energy regulator (Ofgem) removed all retail price caps on gas suppliers in March 2002. Gas and electricity price caps were gradually removed for large and medium customers in 1990 and 1994.

⁷² Oftel, *Protecting consumers by promoting competition: Oftel's conclusions*, 20 June 2002.

energy regulator that displays available gas and electricity tariffs.⁷³ These remedies, and in particular price transparency, suffer from a serious pitfall, however. They facilitate information exchanges between suppliers and can lead to collusion. A revealing example is the imposition of price publication in the Danish cement industry by Denmark's Competition Authority as a "remedy" for collusion. The effect was to strengthen their ability to collude. It therefore eliminated incentives to compete.⁷⁴ Consumer inertia is a vague concept indicating a general reluctance of consumers to switch to alternative suppliers. It may be due to lack of awareness that alternatives exist (but this should largely disappear over time) or to limited savings from doing so. In the latter case, consumer inertia is related to price controls. Tight price controls reduce price differences and provide a disincentive to switch.

In relation to predation, a number of well understood factors need to be taken into account, suggesting that *ex ante* controls in the form of retail price floors are inappropriate. First, the occurrence of predation is unlikely. When network access is subject to price controls the absence of entry barriers will generally frustrate attempts to raise price at a later stage, undermining entry deterrence as a credible strategy.⁷⁵ Second, both remedies have significant regulatory and compliance costs.⁷⁶ Third, while competition law is not well equipped to monitor the application of price controls, its *ad hoc* intervention is effective for sanctioning and preventing anticompetitive strategies. Excessively low prices are part of a short-term strategic action for which market-power firms do not always have the incentive. Its occurrence is therefore occasional, meaning it is best dealt with via competition law.

GUIDELINES ON ANTICOMPETITIVE PRICING

It is important that NRAs have guidance on the identification of excessive or predatory retail prices. In practice, rules of thumb and expediency have been used to identify excessive retail prices, while in theory the issue is somewhat more complex.

The identification of an excessive price is one causally related to the market power of an operator on a retail market. Clearly, retail prices can legitimately exceed marginal or incremental costs with markups to recover common costs and network effects. As the discussion in section IV showed, a cost-oriented approach is not easy and there will be a wide margin of discretion (error) in attributing costs to specific retail products.

⁷³ See <http://www.ofgem.gov.uk/ofgem/shared/template1.jsp?assortment=supplierslists>. It is to be noted that in the UK, intermediaries also emerged to facilitate price comparisons.

⁷⁴ S. Albaek, P. Mollgaard. & P.B. Overgaard, "Government-assisted oligopoly coordination? A concrete example" 45 *Journal of Industrial Economics* 429 (1997).

⁷⁵ In the presence of a cap on a basket of services, entry deterrence is possible and could be used to gain a reputation for aggressively responding to entry.

⁷⁶ In particular, imposing geographically-averaged cost when the costs of provision differ will result in inefficient entry in low-cost urban areas while the dominant operator will be left with high-cost rural customers. As a result, a geographically averaged cost might not cover its total costs.

Little guidance can be had from the approach to excessive pricing in competition law. For example, the UK *Competition Act 1998* states that “... *the revenues of an undertaking significantly and consistently exceeding its stand-alone cost in a particular activity may indicate that excessive prices have been charged*”.⁷⁷ Whereas prices below average variable costs⁷⁸ or avoidable costs⁷⁹ are considered too low (predatory). Thus, anything between stand-alone and avoidable costs will not be deemed excessive.

Other indicators or proxies are commonly used. Benchmarking is often used in competition law investigations when comparing prices across countries (geographical markets).⁸⁰ This is problematic, as only the price differences that can be attributed to different degrees of competition should be considered. High profits are also used frequently as evidence of excessive prices, but again they may be due to other considerations such as superior efficiency or better managerial inputs, or simply different traffic flows and customer profiles. When dynamic competition concerns are taken into account, it is not always clear that high prices are inconsistent with effective competition since they may encourage competition without the need for price controls by attracting entry.

APPROPRIATE RETAIL PRICE CONTROLS

There should be a strong presumption that when wholesale price controls are in place, retail price controls should be imposed only when there is strong evidence that retail market power exists, which cannot be controlled by competition law. Even where wholesale price controls are imposed, in some rare circumstances there may be grounds for imposing retail price controls as a “safeguard” remedy to prevent the possibility of retail price hikes.⁸¹ The latter might occur in the period after deregulation when the incumbent operator may still enjoy some degree of retail market power due to consumers’ lack of familiarity with competitors and the impact of its strong brand.

⁷⁷ OFT, *The 1998 Competition Act: Assessment of Individual Agreements and Conduct*, OFT 414, para 2.16 (1998).

⁷⁸ Recital 26 and Art 17. In *AKZO (Case C-62/86 AKZO v. European Commission [1991] E.C.R.I-3359; [1993] 5 C.M.L.R. 215, ECJ)*.

⁷⁹ W. J. Baumol, “Predation and the Logic of the Variable Cost Test”, 39 *Journal of Law and Economics* 49 (1996).

⁸⁰ M. Martinez, “Some Views on Pricing and EC Competition Policy”, (1998) (http://europa.eu.int/comm/competition/speeches/text/sp1998_060_en.pdf). Also EC Commission Press Release, “Commission successfully closes investigation into mobile and fixed telephony prices following significant reductions throughout the EU”, 4th May 1999, IP/99/298; EC Commission, *Working Document on the Initial Findings of the Sector Inquiry into Mobile Roaming Charges*, 13 December 2000; Oftel, *Protecting consumers by promoting competition: Oftel’s conclusions*, 20 June 2002.

⁸¹ The *USO Directive* (Article 17) lists the following price controls available to NRAs: “*appropriate retail price cap measures, measures to control individual tariffs, or measures to orient tariffs towards costs or prices on comparable markets*”.

However, even these circumstances retail price controls may only be justified for a limited short/medium period after deregulation, or where there is reasonable evidence that the incumbent could increase prices if price controls were removed.

Retail price controls should be seen as a safeguard measure only to protect consumers from temporary price hikes. They should not substitute for competition by seeking to mimic a competitive outcome. The preferred method of control, where required, will be price cap ceilings - e.g. RPI-0 (no real growth) or a stricter RPI-RPI (no nominal growth)⁸² - rather than mandate downwards price trajectories. Direct retail price regulation also can have an adverse effect on entry, especially where it is cost-oriented and designed to mimic short-term pricing outcomes. In these cases the regulated price may leave insufficient profits to encourage entry of competitors and thereby reduce long-term competitive pressures. The deterrent effects of strict retail price controls is increasingly recognised. For example, in UK Office of Electricity Regulation (OFFER) and Office of Gas and Electricity Markets (Ofgem) in retaining price controls for residential electricity and gas customers, both regulators expressly left "scope" in the regulated prices to allow entrants a margin to compete.

The degree of flexibility of retail price controls (ceilings) varies from distinct caps on individual services to a cap on a basket of services.⁸³ In general, the latter is to be preferred to the former because of its greater efficiency in recovering fixed and common costs.⁸⁴ It also makes it easier for the firm to respond to uncertainty in costs. However, it is appropriate to exclude from the basket subject to the cap those markets or services which are already effectively competitive. The six retail markets in the *Recommendation* (excluding leased lines) are all included in the retail cap set by Oftel, despite differences in their degree of competition.⁸⁵ This could lead to overinclusion. Furthermore, it raises the issue of the need for strict correspondence between dominance and remedies, as a price cap on a basket of service is a remedy that spans several markets, some of which might be effectively competitive.

COSTS OF CONTROLS

Compliance costs from retail price controls are not negligible--either for the operator or the regulator. There are two main regulatory costs arising from retail price controls.

⁸² Indeed Oftel used the term "safeguard control" referring to its proposal for a RPI-RPI cap over price controls. See Oftel, *Protecting consumers by promoting competition: Oftel's conclusions*, 20 June 2002, para 4.8.

⁸³ An example of an over-inclusive price cap is the Global Price Cap (GPC) which includes both retail prices and the price of intermediate inputs in the basket. J. J. Laffont & J. Tirole, "Creating Competition through Interconnection: Theory and Practice" *Journal of Regulatory Economics* 227(1996).

⁸⁴ Price caps of a basket of services allow the regulated firm to set its prices according to Ramsey pricing.

⁸⁵ For example in Oct-Dec 2001, BT's market share for local calls by volume was 78.4% and 53.4% for residential and business customers respectively, while for international calls it was 46.9% and 19.3% respectively. See Oftel, *Protecting consumers by promoting competition: Oftel's conclusions*, 20 June 2002, Table 2.3.

First, regulatory errors which may result in the retail regulated price being set too low and thus adversely affect the development of competition and efficiency in the long term. Second, price controls substitute short-term static efficiency gain for long-term competition and dynamic efficiency. In other words, they deter entry more efficiently than any entry deterrence strategy because they commit the incumbent to low prices without any uncertainty that would exist in an unregulated market. These costs should be carefully assessed by NRAs in deciding whether retail price controls should be imposed even as a safeguard.

VIII CONCLUSIONS

The above discussion sets a framework for the identification of efficient regulatory obligations and seeks to apply this framework to several specific areas. The discussion indicates that there are still significant issues to be resolved on the basic principles for imposing *ex ante* obligations on SMP operators and for the selection and choice between *ex ante* and *ex post* obligations. The proposed remedies' guidelines should help NRAs identify the factors for consideration without being too prescriptive. Having said this, there are some areas such as reciprocal termination, where the guidelines can be more definitive.