

**THE HASHEMITE KINGDOM OF JORDAN**



**TELECOMMUNICATIONS REGULATORY COMMISSION**

White Paper on  
Market Review Process

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## I. Introduction

Promoting competition is one of the major roles of the Telecommunications Regulatory Commission (“TRC”) that serve to ensure the provision of a variety of high quality telecommunication services at competitive prices. The TRC has been performing this role through the adoption of a combination of remedies which facilitate market entry as a result of mandated network access and interconnection obligations.

While the TRC has been successful in implementing Government Policy regarding market liberalisation, and the degree of competition achieved in the sector has been encouraging, there still remains significant room for improvement. To this end, a comprehensive strategy for creating conditions for effective competition was adopted by the TRC in 2008 and, as part of this strategy, the TRC announced its intention to undertake a number of measures, including the adoption of a new market review process designed to establish the procedures of: market definition and market analysis; the designation of dominance according to economic methodologies; and the adoption of the appropriate remedies to mitigate the effects of market dominance as required by the Government Policy.

The new market review process intends to achieve the following objectives:

- definition of relevant markets susceptible to *ex ante* regulation;
- analysis of those markets to determine whether any operator and/or service provider enjoys a position of “dominance” in a relevant market (*i.e.*, the lack of effective competition); and
- the development and introduction of specific regulatory remedies designed to mitigate the effects of dominance.

At present (since 2003) the TRC regulates the telecommunications sector on the basis of four indicative product markets, namely: the Fixed public telecommunications networks and services market; the Mobile public telecommunications networks and services market; the Interconnection market; and the Leased lines market.

In relation to these indicative markets, the TRC has designated the following Licensees with Significant Market Power (“SMP”):

- ⇒ Jordan Telecommunications Company - JTC (currently Orange-Fixed) is the designated operator in the fixed public telephony network and services market.
- ⇒ Jordan Mobile Telecommunication Services Company – JMTSC (currently Zain, formerly Fastlink) is the designated operator in the mobile public telephony network and services market.

- ⇒ JTC is the designated operator in the market for leased lines services.
- ⇒ JTC and JMTSC are the designated operators in the national market for interconnection.

The implementation of the new market review process is expected to provide several benefits in furtherance of the TRC's goal of achieving more effective regulation, thereby fostering competition in the telecommunications sector. These benefits include:

- providing greater flexibility for operators to adapt to the market impacts generated by convergence;
- improving legal certainty as to the basis upon which an *ex ante* regulation will apply;
- facilitating the greater penetration of advanced telecommunications services, including the wider availability of broadband services, as a result of that climate of greater legal certainty;
- targeting remedies to address identified competition problems; and
- promoting the interests of residential and business customers through greater competition in the quality, range and pricing of telecommunications services.

The forthcoming market reviews are based on the legal powers and policy directions contained in a variety of legal and policy documents, among others:

- the *Telecommunications Law (as amended)*;<sup>1</sup>
- the *Statement of Government Policy 2007 ICT & Postal Services*; and
- the *Instructions on Competition Safeguards*.

Article 6(e) and (o) respectively of the *Telecommunications Law* specifically mandate the TRC to:

*"stimulate competition in the telecommunications and information technology sectors, relying on market forces, and so regulating them as to ensure the effective provision to telecommunications and information technology services and to ensure that its regulation is sufficient and effective to forbid or curtail illegal competitive practices or prevent any*

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<sup>1</sup> *Telecommunications Law* No. 13 of 1995.

*person with a dominant position in the market from abusing his position, and to take all necessary actions in this regard."*

[...]

*" To re-assess the need for the adjustment of the level of regulation of any Telecommunication Services, or a specific type or a group thereof, taking into consideration competition factors and any other reasons, and to escalate the same to the Board for approval".*

Articles 6(a) and (b) of the *Telecommunications Law* also require the TRC to regulate the telecommunications sector in accordance with established general policy directions. In this regard, the need to conduct market reviews is expressly prescribed by the *Statement of Government Policy 2007 ICT & Postal Services* ("the *Policy*"), which encourages the TRC to:

"analyse critically those parts of the market where operators have or maintain dominance and ensure that in each case there are cost-oriented wholesale remedies (that is, interconnection and access arrangements), as well as other appropriate regulatory provisions, in place to mitigate that dominance."

Paragraph 47 of the *Policy* clearly points out the need to base *ex ante* regulation on a prior analysis and definition of relevant retail and wholesale markets, with appropriate levels of specificity. Furthermore, *ex ante* regulation should be no more burdensome than is required to ensure fair competition and should be imposed primarily on dominant operators. Any unjustified regulation of non-dominant operators should be removed in recognition of their lack of dominance.

The forthcoming market reviews also implement the TRC's strategy to foster effective competition laid out in the TRC *Green Paper* of 2008 for mobile markets.<sup>2</sup>

The current market review process is being also conducted by reference to the requirements of Article 6(a) of the 2006 *Instructions on Competition Safeguards in the Telecommunications Sector* ("the *Competition Safeguards*"), where it is stated that the TRC "... shall define products on a case-by-case basis, using the following four product markets as a starting point: (1) Fixed public telecommunications network and services; (2) Mobile public telecommunications network and services; (3) Leased lines; and (4) Interconnection". This "starting point" for market reviews is common to both *ex ante* and *ex post* approaches (Article 5 of the *Competition Safeguards*).

According to Articles 7 and 8 of the *Competition Safeguards*, the TRC also has the responsibility of determining whether a licensee has a "sufficient impact on the relevant

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<sup>2</sup> TRC, *Creating the Conditions for Effective Competition in the Mobile Sector*. Information Document (*Green Paper*).

market" such that it "can control and affect the activity of the relevant market". In performing this test, the TRC will take due account of the market share of the leading operator, as well as of a number of "impact factors" listed in Article 8(3)(c) of the *Competition Safeguards*.

The TRC expects that the new market review process will produce a new set of *ex ante* regulations founded on a robust analysis of the competitive conditions found to exist in individual relevant telecommunications markets, while at the same time ensuring the consistency of regulatory remedies across markets. This may include the "grandfathering" of existing *ex ante* obligations, the modification of existing obligations, or the imposition of new obligations, as is deemed necessary by the results of the individual market reviews.

This *White Paper on the Market Review Process* outlines and clarifies the methodology and the steps to be undertaken by the TRC in achieving its goal of carrying out the first round of market reviews to reassess the scope of existing *ex ante* obligations imposed on licensed telecommunications operators. The subsequent chapters of this *White Paper* are structured as follows:

- ⇒ Chapter II presents the TRC's approach to market reviews. It discusses the guiding principles and the methodology as well as the analytical steps involved, namely: the identification of relevant markets that have characteristics that make them susceptible to *ex ante* regulation; the definition of relevant product markets; where competition is not effective, the designation of operators with dominance; and, finally, the selection of *ex ante* remedies to address the competition problems related to dominance.
- ⇒ Chapter III sets out the way forward over the next year in order for the TRC to be able to achieve its goals in implementing a market review process in Jordan. The Chapter describes the steps involved in the forthcoming market review process that are relevant for the industry, as well as the estimated timeline.

The TRC welcomes comments to the White Paper within one month of its publication. Since this White Paper is not subject to a formal consultation procedure, the TRC will not provide a response to these comments. It will, however, take all comments into consideration when carrying out the individual market reviews.

## II. The Market Review Process

This Chapter sets out the principles and essential elements of the market review process that the TRC will apply in order to re-examine the current framework of *ex ante* obligations in the telecommunications sector. Section 1 describes the guiding principles underlying market reviews, while the methodological building blocks of market reviews are discussed in Sections 2-5.

Market reviews require the definition of relevant markets (Section 2), the assessment of their susceptibility to *ex ante* regulation (Section 3), the analysis of the effectiveness of competition and the identification of operators with dominance (Section 4) and, finally, the selection of appropriate *ex ante* obligations to deal with the competition problems identified (Section 5).

Each of these Sections consists of three sub-sections. The first sub-section describes the approach and methodology for each methodological step. Where relevant, alternative approaches are discussed. The second sub-section sets out the experience and practice in other jurisdictions, most notably in the European Union, which applies market reviews under the regulatory framework it implemented in 2002. The third sub-section sets forth the TRC's conclusions.

### 1. PRINCIPLES

#### 1.1 OVERVIEW OF GUIDING PRINCIPLES

The process of reviewing *ex ante* regulations through market reviews is guided by a number of general principles. Market reviews should be market-based, forward-looking, technologically neutral and based on "modified greenfield" assumptions.

##### (1) Market-based

Market-based reviews make the imposition of *ex ante* obligations dependent on the existence of a dominant position in a relevant market whose characteristics render it susceptible to *ex ante* regulation. Thus, they rely on the use of concepts derived from economic theory and competition law in four important respects:

- *First*, the markets are defined on the basis of short-run "substitutability" analysis. They are thus defined as "relevant markets" in the competition law sense, and are grounded in conventional economic theory.
- *Second*, the susceptibility of a relevant market to *ex ante* regulation is established by a screening process that places economic criteria in the forefront of the analysis, including factors such as barriers to entry and expansion, and the longer-run competitive dynamics of the market.
- *Third*, the need to impose *ex ante* obligations on one or several operators is based on the existence of a "dominant position" (or the lack of "effective

competition") as that concept is understood in economic theory and as it is defined in competition law.<sup>3</sup>

- *Fourth*, the *ex ante* obligations imposed on dominant operators are selected in order to remedy the competition problems (or "market failures") identified on the relevant market that are likely to exist in the absence of *ex ante* regulation.

Given that the process of regulatory market reviews is so firmly based on the adoption of a competition law approach to market definition and on the assessment of market power, the obvious question is whether those two approaches are identical in every respect. The answer is that, whereas the fundamental methodologies used in the market review process are the same as those used in the competition law, the policy perspectives of the two disciplines may nevertheless produce different results. These differences can be seen in the following examples:

- ⇒ *First*, in the market definition stage of a market review, it may be the case that a market defined for *ex ante* purposes needs to be broader in scope, and needs to take greater account of supply-side substitution, especially given its forward-looking approach. By contrast, markets defined for *ex post* competition law purposes might sometimes be narrower in scope, given that they focus on more specific, existing examples of anti-competitive practices. In some competition cases, especially as regards new services or bundled products, it would be legitimate to embrace narrower or even broader product markets, as the case may be, without in any way prejudicing a market definition used for *ex ante* purposes.
- ⇒ *Second*, as regards the market analysis stage of the market review process, the essential qualities of the *ex ante* and *ex post* approaches should in principle be identical, subject to one small exception. Whereas under competition rules one will be measuring market power at that point in time when an alleged abuse occurred, a sector-specific regulator will take into account the possibility of that market power diminishing over time, given the need for it to conduct a forward-looking analysis.
- ⇒ *Third*, with respect to remedy selection, the differences between the two approaches are more pronounced. Whereas in *ex post* cases the remedy is geared towards the termination of a particular practice directed towards a particular party or parties, *ex ante* remedies are modelled with a view

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<sup>3</sup> In the European Union, the regulatory embodiment of a position of "dominance" is the existence of SMP.



towards achieving a much broader understanding of regulatory policy goals.

## (2) Forward Looking

A hallmark of the process of market review lies in the fact that markets must be reviewed in a manner that takes into account the technological and commercial developments that are likely to occur within the timeframe covered by the market review period, at least insofar as these developments may have an impact on the soundness of the conclusions drawn by a regulator with respect to the outer boundaries of a relevant product market, and with respect to the existence or non-existence of dominance. This is expressed in the notion that the task of a regulator under the process of market review must be “forward looking”.

Even the issue of remedy prescription will be affected by a regulator’s ability to adopt a forward looking approach. New technology may either render an existing access obligation easier to perform, or more economically difficult to perform for an access seeker. In the alternative, the innovation may even obviate the need for the existing access obligation or completely undermine the effectiveness of the existing access remedies.

Market reviews are conducted with a forward looking perspective of 2-3 years. Therefore, it is important that these reviews are repeated at such intervals in order to ensure that new technological and market developments that may result in different market definitions and analysis are taken into account, and which may require *ex ante* obligations to be modified, abandoned or new ones introduced.

## (3) Technology Neutrality

Lying at the heart of the process of market review is the principle of “technology neutrality”, which constitutes both a sectoral application of the broader notion of “substitutability” and which is designed to facilitate the process of technological convergence by de-coupling the regulation of certain services or networks based on their technological capabilities.

In relation to remedy selection, the concept provides some security that no particular technological solution is artificially stimulated (or penalised) through unjustifiably inconsistent regulation. To the extent that it is considered appropriate for remedies to differentiate between different technologies, such differentiation must be justified on the ground that the differentiation is proportionate, in light of the specific market failure that the remedy seeks to address.

## (4) "Modified Greenfield" Approach

The assessment of whether a certain market is characterised by a lack of effective competition, and therefore whether the dominant operator(s) should be subject to *ex ante* obligations, has to be conducted under so-called “modified greenfield”

assumptions. The objective of these assumptions is to ensure that *ex ante* regulations are only imposed or maintained if, in their absence, competition problems related to a lack of effective competition would exist. The following assumptions underpin the application of the “modified greenfield” approach:

- ⇒ *First*, the reviewed market is analysed under the assumption that there are no dominance-related *ex ante* obligations currently in place. This may often be a hypothetical assumption, since the reviewed market may be currently the subject of regulation. For example, the market for wholesale broadband access is assessed assuming the absence of any dominance-related obligations that may currently be imposed on an incumbent operator in relation to bitstream services. If this assumption is not made, the relevant product market might be incorrectly characterised as being competitive and bitstream access regulation abandoned, even though the process of deregulating the market might lead to wholesale bitstream access no longer being commercially provided.
- ⇒ *Second*, when analysing a certain market, it is assumed that all dominance-related obligations in wholesale markets that are located further upstream are in place. This follows from the objective of promoting infrastructure competition at the lowest possible level in the network. For example, if regulation of the unbundled local loop is sufficient to create effective competition in retail broadband Internet access, it may not be necessary to impose further obligations downstream (*i.e.*, at the level of wholesale broadband access and at the retail level). This requires a particular sequencing of market reviews across the value chain, with the unbundled local loop being analysed first, followed by wholesale bitstream access and finally, if required, retail broadband Internet access. In other words, when the market for wholesale bitstream access is analysed, the need for an unbundled local loop remedy should already be clarified and factored into the analysis of the wholesale broadband access market.
- ⇒ *Third*, it is assumed that all obligations that are not related to dominance are in place, *i.e.*, “symmetric” obligations imposed for other reasons than remedying market power problems. Such symmetric obligations include matters such as the obligation to negotiate, and to offer, interconnection upon reasonable request, and the obligation to provide co-location and facility sharing. The objective of a market review is to identify whether - under existing symmetrical obligations - an operator that is designated to be dominant and, therefore, must be subject to *ex ante* regulation.

The “modified greenfield” assumptions thus ensure that maintaining or imposing *ex ante* obligations in a given market is justified by market power-related competition problems on that particular relevant product market.

## 1.2 PRACTICE IN OTHER JURISDICTIONS

The market review approach was first introduced in the European Union in the revised framework for telecommunications services that entered into force in 2002. The general principles and elements outlined above also describe the foundations of the EU regulatory framework with regard to the *ex ante* regulation of dominant operators.

Many of these elements can also now be found in other jurisdictions, such as Australia, Canada, Singapore, New Zealand, Malaysia and Bahrain. Even the Federal Communications Commission in the United States uses the general principles outlined above in the application of its concept of "multi-modal" competition. Unlike the other jurisdictions which utilise the market review mechanism, however, the United States utilises market review on a narrower basis – namely, as the basis on which it can withdraw existing regulation which has historically not been based on a market-based approach.

## 1.3 CONCLUSIONS

The TRC considers the market-based approach to reviewing *ex ante* obligations and its underlying principles as constituting "best practice", and as providing an appropriate analytical framework which can be applied in the Jordanian context. A major advantage of the market review process is that it allows the targeting and fine-tuning of remedies to address the competition problems that would exist in the absence of *ex ante* regulation. The process has a built-in mechanism that leads to remedies that are proportionate and justified in the light of the existing competition problems.

In performing this task, the TRC will consider the EU approach to be an important reference point in the light of technological and commercial drivers which are promoting the provision of converged services and which are changing the incentives that have traditionally supported investment in fixed and wireless access infrastructure. Furthermore, the TRC will also take into account important local conditions which may require the adoption of market definitions in accordance with local specificities.

## 2. IDENTIFYING CANDIDATE MARKETS

### 2.1 APPROACHES

It would in theory be possible to identify a very large number of relevant telecommunications "markets". It is therefore important to establish criteria to narrow this set of potential markets down to those key markets which may warrant the imposition of *ex ante* regulation. In other words, a preliminary regulatory "screening" process is required as an essential element of any market review.

#### (1) Legacy Approach

The *legacy approach* begins from existing *ex ante* regulation (at wholesale and retail levels) and maps the current regulation into relevant (wholesale and retail) markets. This allows a regulator to review the *ex ante* regulation currently in force. A legacy approach may take either of the following two forms:

- ⇒ *First*, it can take as its starting point the *ex ante* obligations existing at the time of review in a given jurisdiction. The current *ex ante* obligations are then mapped into the relevant wholesale and retail markets. For example, interconnection obligations are mapped into the markets for wholesale call origination, wholesale transit and wholesale call termination (on individual networks). Retail price controls for access to the public telephone network and publicly available telephony services provided at a fixed location are mapped into the relevant markets for the provision of telephone access (access markets) and telephony services (calls markets). These "markets" are then assessed as to whether they exhibit the sorts of characteristics that justify maintaining, modifying or removing the current *ex ante* regulations.
- ⇒ *Second*, in the alternative (or additionally), the starting point may be regulation based on international best practices. Using international best practices regulation broadens the scope of potential remedies beyond those currently in place. For example, in a jurisdiction where local loop unbundling is not as yet implemented, reference to international best practices will allow a regulator to map wholesale access to the unbundled local loop into a (notional) relevant market and to make it subject to a market review.

#### (2) Greenfield Approach

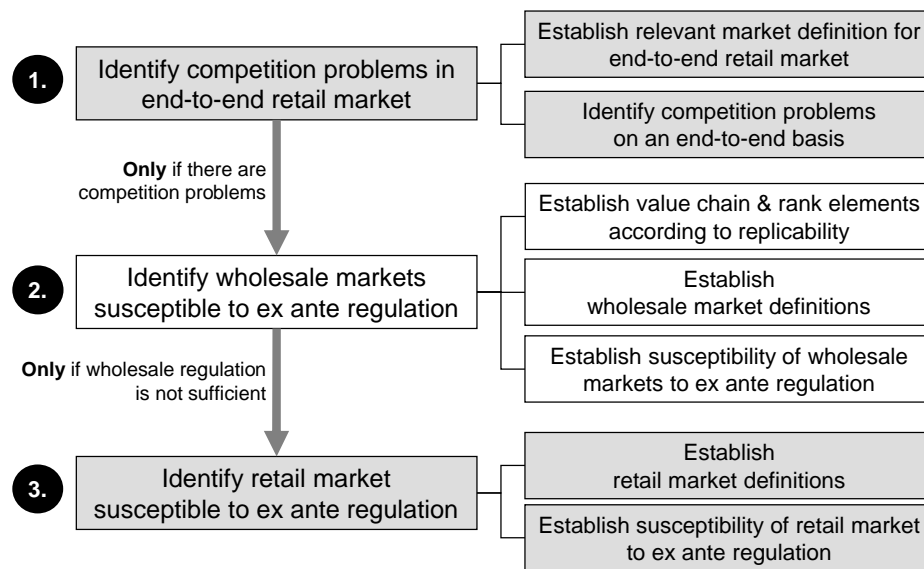
More complex than the legacy approach is the *greenfield approach*, even though it may result in the same conclusions for the identification of candidate markets for *ex ante* regulation. The greenfield approach systematically builds up *ex ante* regulation to the extent needed to render retail markets competitive. It identifies from the outset those relevant retail markets that are characterised by competition problems in the absence of *ex ante* regulation. This ensures that *ex ante* intervention is limited to markets where

there is a serious threat of consumer harm, while the large number of markets where no such problems exist are left untouched by regulation.

For the particular retail markets characterised by competition problems, the possible *ex ante* regulations for remedying competition problems are then identified and ranked according to where they are located in the value chain. The approach begins by assessing remedies at the most upstream level in order to determine whether they can address the market failures occurring at the retail level. If the remedies prove to be insufficient, additional remedies at levels further downstream are introduced until the competition problems are likely to be resolved. Where wholesale remedies are not sufficient to fully address the competition problems identified at the retail level, retail remedies such as retail price controls can also be introduced. The criteria used to assess whether a retail market is susceptible to *ex ante* regulation are the same as those used in the legacy approach. For example, where the retail broadband Internet access market is identified as a market with competition problems absent regulation, local loop unbundling and other physical network infrastructure access are assessed initially as a viable remedy. If the remedies are found to be insufficient, the more downstream remedy – wholesale broadband access – is assessed as to whether it should be imposed as an additional remedy. Retail level remedies are only considered if the full set of wholesale remedies is unlikely to address the market failure(s) identified at the retail level.

In its most advanced form, the greenfield approach, while using the same starting point, will also identify relevant wholesale markets whose characteristics justify the imposition of *ex ante* regulation. In addition to ranking remedies and assessing the impact of remedies on competition in retail markets, relevant markets for the provision of wholesale services are then defined. For example, when dealing with retail broadband Internet access, two related wholesale markets are defined: (i) the market for access to unbundled local loops and other physical network infrastructure access; and (ii) the market for wholesale broadband access. Starting with the most upstream market first, an assessment occurs as to whether the market for access to the unbundled local loop has characteristics which render it susceptible to *ex ante* regulation. Where local loop unbundling is expected not to be sufficient to remedy the competition problems in the retail market, the market for wholesale broadband access is additionally assessed. The advantage of adopting such an approach is that, for each remedy, it can be determined whether the relevant wholesale services are provided under competitive conditions or whether there is a market that has to be regulated. This process is illustrated in Figure 1 below.

**Figure 1: Greenfield approach to identify relevant markets susceptible to *ex ante* regulation**



### (3) The "Three Criteria Test"

Both the respective legacy and greenfield approaches discussed above require that relevant markets are examined as to whether they exhibit characteristics that potentially warrant *ex ante* regulation. The only approach designated to achieve this purpose proposed so far has been developed for,<sup>4</sup> and subsequently adopted by, the European Commission (the "Commission"). In the discussion which follows, the approach is described in the same terms as are used by the Commission.<sup>5</sup> It is known as the "three-criteria test", and requires that the following three threshold criteria are cumulatively fulfilled in order to identify a relevant market as being susceptible to *ex ante* regulation.<sup>6</sup>

⇒ **The *first* criterion** requires that the market be characterised by **high and non-transitory entry barriers**. Its purpose is to identify bottlenecks that block the emergence, or jeopardize the sustainability, of effective competition. Only certain types of entry barriers are considered for this purpose, namely: structural, legal

<sup>4</sup> P. Alexiadis, M. Cave, U. Stumpf, : Market Definitions for Regulatory Obligations in Communications Markets, A study for the European Commission, May 2002.

<sup>5</sup> See also the following Section II.2.2 on international practice.

<sup>6</sup> See also M. Cave, U. Stumpf, T. Valletti, A Review of certain markets included in the Commission's Recommendation on Relevant Markets subject to *ex ante* Regulation, An independent report to the European Commission July 2006, pp. 5-8.

or regulatory, and technological barriers. A *structural barrier to entry* exists when, given the level of demand, the state of the technology and the resulting cost structures, asymmetric conditions between incumbents and new entrants exist that impede or prevent the market entry of the latter. For instance, high structural barriers may be found to exist when the market is characterised by substantial economies of scale, scope and density and by high sunk costs. A specific and different type of barrier can also occur where interconnection is required to enable a calling party to make a call to a specific subscriber number (*i.e., technical*). In turn, *legal or regulatory barriers* result from legislative, administrative or other State measures that have a direct effect on the conditions of entry and/or the positioning of operators on the relevant market.<sup>7</sup>

- ⇒ **The second criterion** looks behind the entry barrier and seeks to assess whether a market has **characteristics such that it will tend over time towards effective competition**. The application of the second criterion involves examining the state of competition behind the barrier to entry, taking account of the fact that even when a market is characterised by high and non-transitory barriers to entry, the existence of other structural factors or market characteristics may mean that the market tends towards effective competition. To be distinct from the first criterion, the second criterion must take into account a longer-run dynamic. For example, in the mobile sector, prices tend to fall in anticipation of the entry of new licensees. New network topographies in the fixed sector may alter investment incentives for alternative network providers. The potential for disruptive technology also helps to contain market power. Firms might also lower prices in advance to render the market less attractive for such entry.
- ⇒ **The third criterion** considers the **adequacy of competition law** (absent *ex ante* regulation) to deal with problems in the development of competition, taking account of the particular characteristics of the telecommunications sector, and the desirability of limiting *ex ante* regulation to cases where it is strictly necessary. Competition law applies generally, and is not disapplied, when there is *ex ante* regulation. It should also be noted that (as is the case in Jordan) telecommunications regulators may have powers to intervene *ex post* in case of abuses of a dominant position. Nonetheless, under many circumstances, *ex ante* regulation has indispensable advantages – for example, those situations where the compliance requirements of an intervention to redress a market failure are extensive (*e.g.*, the need for detailed cost accounting for regulatory purposes, the assessment of costs, the monitoring of terms and conditions, including technical parameters, *etc.*), or where frequent or timely or anticipatory intervention is indispensable, or where creating regulatory certainty (for example, by means of a

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<sup>7</sup> A broader range of factors may be considered to act as an "entry barrier" in economic terms, but these other types of entry barriers will only be considered at the level of market analysis to identify operators with SMP (dominance).

multi-period price cap) is of paramount concern. The third criterion thus requires that *ex post* intervention alone, on the basis of competition law and/or specific *ex post* powers of telecommunications regulators, would not be sufficient to address the competition problems identified.

Only where all three criteria are cumulatively fulfilled can a relevant product market be considered to be appropriate for *ex ante* regulation.

## 2.2 PRACTICE IN OTHER JURISDICTIONS

As noted, the legacy approach maps existing *ex ante* obligations into relevant product markets, and identifies whether those markets exhibit characteristics that justify them being considered as candidate markets for *ex ante* regulation. The adoption of the 2003 EU *Relevant Markets Recommendation*<sup>8</sup> reflects the adoption of such an approach. At the time, the European Commission mapped the regulation existing under the 1998 EU Regulatory Framework into 18 wholesale and retail markets, and based on the working assumption that these markets satisfied the three criteria that rendered them susceptible to *ex ante* regulation.

The initial list of the 18 markets using the Commission's terminology was the following:

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<sup>8</sup> Replaced recently by the Commission Recommendation of 17 December 2007 on relevant product and service markets within the telecommunications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services OJ L 344, 28.12.2007, pp. 65-69.



## Original List of Recommended Markets

Fixed Telephony	<ol style="list-style-type: none"> <li>1. Access to the public telephone network at a fixed location for residential customers.</li> <li>2. Access to the public telephone network at a fixed location for non-residential customers</li> <li>3. Publicly available local and/or national telephone services provided at a fixed location for residential customers</li> <li>4. Publicly available international telephone services provided at a fixed location for residential customers</li> <li>5. Publicly available local and/or national telephone services provided at a fixed location for non-residential customers</li> <li>6. Publicly available international telephone services provided at a fixed location for non-residential customers</li> <li>7. Call origination on the public telephone network provided at a fixed location</li> <li>8. Call termination on individual public telephone networks provided at a fixed location</li> <li>9. Transit services in the fixed public telephone network</li> </ol>
Broadband	<ol style="list-style-type: none"> <li>10. Wholesale unbundled access (including shared access) to metallic loops and sub-loops for the purpose of providing broadband and voice services</li> <li>11. Wholesale broadband access</li> </ol>
Leased Lines	<ol style="list-style-type: none"> <li>12. The minimum set of leased lines (which comprises the specified types of leased lines up to and including 2MB/sec)</li> <li>13. Wholesale terminating segments of leased lines</li> <li>14. Wholesale trunk segments of leased lines</li> </ol>
Mobile	<ol style="list-style-type: none"> <li>15. Access and call origination on public mobile telephone networks</li> <li>16. Voice call termination on individual mobile networks</li> <li>17. The wholesale national market for international roaming on public mobile networks</li> </ol>
Broadcasting	<ol style="list-style-type: none"> <li>18. Broadcasting transmission services, to deliver broadcast content to end-users</li> </ol>

In contrast to the initial *Recommendation*, the revised *Recommendation* issued in 2007 is much more the result of a systematic greenfield assessment. The Commission first identified relevant markets likely to be characterised by competition problems in the absence of any *ex ante* regulation at both wholesale and retail levels. It then went on to identify those wholesale markets, which cumulatively fulfilled the three criteria. Only in one instance did it believe that wholesale regulation alone was likely to be insufficient, and it also identified a retail market for regulation (fixed access to the public telephone network).

The shorter list of markets compared to the initial *Recommendation* reflects the core network roll-out of alternative operators and their decreasing reliance on the purchase of wholesale services at this network level (therefore, wholesale transit and wholesale trunk segments of leased lines were removed from the list of recommended markets). In addition, it reflects the increasing level of competition in retail telephony and retail leased lines markets created by the successful implementation of *ex ante* regulation at the wholesale level (this facilitated the removal of retail telephony markets and retail leased lines from the list).

The current list of EU recommended markets is as follows:

## Current List of Recommended Markets

Fixed Telephony	<ol style="list-style-type: none"> <li>1. Access to the public telephone network at a fixed location for residential and non-residential customers.</li> <li>2. Call origination on the public telephone network provided at a fixed location</li> <li>3. Call termination on individual public telephone networks provided at a fixed location</li> </ol>
Broadband	<ol style="list-style-type: none"> <li>4. Wholesale (physical) network infrastructure access (including shared or fully unbundled access, and access to ducts) for the purpose of providing broadband and/or voice services at a fixed location.</li> <li>5. Wholesale broadband access</li> </ol>
Leased Lines	<ol style="list-style-type: none"> <li>6. Wholesale terminating segments of leased lines</li> </ol>
Mobile	<ol style="list-style-type: none"> <li>15. Voice call termination on individual mobile networks</li> </ol>

### 2.3 CONCLUSIONS

The TRC recognizes that, in the short term, the application in Jordan of the legacy approach, enhanced and cross-checked by reference to international best practices, may lead to the same or similar results as the advanced greenfield approach for identifying markets susceptible to *ex ante* regulation, while being significantly less complex. For example, the scope of regulatory remedies currently applied in the EU could be taken as a starting point. These remedies are already mapped into wholesale and retail markets, which are now in the revised 2007 EU *Relevant Markets Recommendation*.

If the TRC were to take this *Recommendation* as its starting point, it would be also necessary for it to ensure that national circumstances do not require the definition of different relevant product markets than those used in the *Recommendation*. After having reviewed the relevant market definitions, the TRC would also assess whether these markets are susceptible to *ex ante* regulation according to the "three criteria" test, as applied under specific Jordanian circumstances.

Alternatively, the TRC – taking into account that the Jordanian telecommunications sector was liberalised at a later point in time than in most Member States of the EU - could also use a “delayed best practice approach” and adopt the 2002 *EU Relevant Markets Recommendation* as its starting point. This would better reflect the smaller extent of network roll-out of alternative operators in Jordan and the need for a larger number of potential regulated markets.

On balance, the TRC takes the view that applying the **advanced greenfield** approach is the more appropriate methodology to adopt in Jordan. While this approach involves some additional complexity compared to legacy approaches, it is preferable on a methodological basis and is more appropriate to support the TRC in its efforts to promote the creation of effective competition not only at the retail level, but also at the (more downstream) wholesale level. In addition, it more accurately reflects current international best practices, and allows the TRC to directly benchmark market and regulatory developments in Jordan with those of the EU.

### 3. DEFINING RELEVANT MARKETS

#### 3.1 APPROACH

Once a market-based approach is adopted for reviewing *ex ante* obligations, the definition of the relevant product markets should follow a standard methodology. The definition of relevant product markets involves the examination of the degree of substitutability of the products or services under consideration. Products which are substitutes from a demand point of view (and supplemented by a consideration of their short term supply side substitution) are determined to be part of the same relevant product market. A standard test employed for this purpose is the so-called Hypothetical Monopolist Test (HMT) or SSNIP test.

##### (1) Relevant Product Market

In the determination of the scope of a relevant product market, economists generally attach the greatest significance to the phenomenon of **demand-side substitutability**, on the basis that it represents the most immediate and effective disciplinary force on the suppliers of a product or service. Generally speaking, all those products and/or services which are regarded as interchangeable or substitutable by consumers, by reason of the product's functionality and price, fall within the same relevant product market.

To assess demand-side substitutability, evidence of consumer behaviour, functional differences in products, historical price fluctuations in potentially competing products, price movements and relevant tariff information should be taken into account. In addition to price elements, other factors are of relevance, such as the existence of considerable switching costs which may hinder consumers from substituting a particular product or service for another. In the telecommunications sector, these costs might be

represented by important investments in technology, prohibitively high costs of switching, or the existence of long-term contracts.

These standards can be applied alongside, or supplemented by, the "Hypothetical Monopolist" or "SSNIP" test. This economic test requires an analysis of whether consumers of a particular product or service would be likely to switch to readily available substitutes in the short term and at a negligible cost in response to a hypothetical small (in the range of 5 to 10%) but permanent relative price increase (from the competitive price) in the products under consideration.<sup>9</sup> In other words, starting from a competitive price, would it be profitable, over a period of about one year, to implement a hypothetical small (in the range of 5 to 10%) increase in price?. If the answer is "yes", the product under consideration constitutes the relevant product market. If the answer is "no", the test is to be repeated with an expanded set of products under consideration.

It is important to bear in mind that the Hypothetical Monopolist Test is concerned with the response of consumers at the margin, and not with the "average" or "typical" user. It is clear that there will always be consumers that would never switch from one product to another in response to a significant non-transitory price increase. However, these consumers are not the focus of the SSNIP test. The test examines whether there are enough marginal customers willing to switch their subscription, so as to render any attempt by a firm to increase prices for a product unprofitable; this is what is important for market definition purposes.

**Supply-side substitutability** arises when suppliers are able to switch production or other resources to the relevant product market in the short term without incurring significant additional costs or risks in response to a small but permanent increase in the relative price of a product. In particular, supply-side substitutability is seen as an important element for market definition purposes in those situations in which its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy.

On the other hand, supply-side substitutability would not be taken into account for the definition of a relevant market where it would entail the need to redeploy or modify significantly an operator's tangible and intangible assets, the making of additional investments, the taking of strategic decisions, or where it would result in time delays. Supply-side substitutability must be assessed in light of elements such as the overall costs of switching production to the product in question, as well as any legal, statutory or other regulatory requirements which could defeat a time-efficient entry into the relevant market. In the telecommunications sector, such barriers could be represented, for example, by delays and obstacles in concluding agreements for collocation, interconnection or access, or rights of way.

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<sup>9</sup> SSNIP signifies a "small but significant non-transitory increase in price".

In wholesale markets, pricing constraints may also occur as a result of **indirect demand-side substitution**. For example, a price increase for wholesale broadband access would lead to an increase in the retail price for DSL that is based on the bitstream input. The retail price increase for DSL may lead some of the customers to switch to those retail offerings that are provided over another platform (e.g., a BWA or cable) operator. This kind of retail demand substitution may be strong enough to reduce the demand for wholesale broadband access to an extent that would make the price increase for bitstream unprofitable. In this case, the competing platform should be reflected in the relevant product for wholesale broadband access. Strictly speaking, it is the self-supply of “bitstream” for the BWA or cable product that would be included in the relevant product market.

It is important to bear in mind that some services in the telecommunications sector are provided as “**bundles**” or “**clusters**”. Many such bundles represent such a significant saving in terms of, for example, cost and time, that users' purchasing behaviour relates to bundles of services, rather than to individual services. In other words, users recognise the advantages of aggregating the consumption of a number of services into one package and the significant disadvantages in purchasing unbundled services. This behaviour might give rise to "cluster markets", especially where competitors are in a position to match these bundled offerings. The key issue for market definition purposes is whether such aggregated or bundled services constitute relevant product markets, or whether the specific elements of the several packages are subject to their own patterns of supply and demand.

In many cases, the line between an aggregated market and one made up of individually discrete (and non-substitutable) services may turn on the degree of supply-side substitutability. In other cases, it may turn on the extent to which regulation has already opened up competition for discrete services (e.g., CS and CPS). In most cases, it will simply be a question of whether purchasing patterns are primarily demand or supply-led, given the relative maturity of the overall market. In many cases, whether or not a service bundle constitutes an aggregated market may turn on whether the individual elements of the bundle can be replicated at a reasonable cost.

The **functional level at which products and services are traded** is an important element to be taken into account in the market definition exercise. A clear distinction should be drawn between markets for the provision of telecommunications services to end users (*i.e.*, the retail market) and upstream markets for the provision of access to facilities necessary to provide such telecommunications services (*i.e.*, a wholesale market). While it is critical to distinguish between wholesale and retail markets on the basis of the functional level at which products and services are traded, it is also important to take into account the possibility that these markets might interact so as to competitively constrain each other (namely, they might be "associated" with each other). For example, there may be instances where a competitive retail environment prompts price sensitivity which has an effect on upstream wholesale inputs. Thus, for example, there is an issue in the mobile sector as to whether the competitive dynamics of the retail market constrain behaviour at the wholesale level, particularly in relation to mobile termination charges.

**Chain substitutability** occurs where it can be demonstrated that although products A and C are not directly substitutable, product B is a substitute for both product A and product C and therefore products A and C may be in the same product market since their pricing might be constrained by the substitutability of product B. In the telecommunications sector, the clearest instances of chain substitution occurring are in the area of broadband and narrowband Internet access where, at the earlier stages of broadband development, there are numerous trade-offs made by consumers as to their preferred price/speed/capacity combinations across the narrowband/broadband divide.

Telecommunications services are consumed to varying degrees across the entire spectrum of society. Consequently, it is often common to see references to "**residential**" users and "**non-residential**" (or "**business**") users and other market segmentations. These terms need not, however, necessarily result in the conclusion that they will always constitute separate relevant product markets. For that to be the case, it must be possible to price discriminate between the various "segments". It will usually be possible to price discriminate when two conditions are met:

- *first*, where it is possible to identify clearly to which group an individual customer belongs at the time of sale; and
- *second*, where trade among customers or arbitrage by third parties is not feasible.

Although the distinction between residential and non-residential (*i.e.*, small business) customers is relatively straightforward in some jurisdictions, it is relatively elusive in others. In terms of retail services, the distinction is often drawn on the basis of formal legal registrations, tax categorisations, or volume tariff plans (or a combination of these factors). The distinction proves to be particularly difficult to draw when one is analysing retail access markets.

## (2) Relevant Geographic Market

While the concepts of demand and supply substitution are also of relevance to the issue of geographic market definition, their application could result in very narrow markets if one focuses very narrowly on the point at which telecommunications services are "consumed". Customers would usually not move to a home in an adjacent area in the case of a 5-10% price increase in order to obtain a telecommunications service (*i.e.*, there is little demand substitution). Likewise, telecommunications operators would not move their premises to an adjacent area in order to provide services in this area in response to a 5-10% increase by a competitor.

Since narrow market definitions are not practical for regulatory purposes, it is useful to have recourse to another criterion, namely, the "homogeneity of competitive conditions". Applying this criterion, the relevant geographic market comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently

homogeneous, and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different.

When using this criterion for defining the scope of a relevant geographic market, the following approach could be used in relation to fixed telecommunications markets:

- ⇒ *First*, a **geographic unit** is selected for analysis. The boundaries of the geographic unit should be transparent and stable over the lifetime of the market review. One option is to use geographic units based on political or administrative boundaries such as those based on postcodes, political districts, and communities/localities. Another option is to base geographic units on the network topology of the fixed incumbent operator and to identify local exchange areas (MDF areas). In those jurisdictions where local loop unbundling is in place, and the unbundlers are the primary source of competition, the use of MDF areas is the preferred approach. In other cases, reliance on administrative areas may be the better option.
- ⇒ *Second*, **differences/similarities in the conditions of competition** across geographic units are assessed by reference to the following criteria: (i) the number of principle operators and their development (it is preferable to exclude niche operators that do not have an impact on competitive conditions); (ii) the leading operators' market shares and the evolution of those market shares; (iii) barriers to entry and their development (including evidence of new entry and replication of network infrastructure); and (iv) pricing and product strategies and their development (including evidence about differences in pricing and marketing strategies).
- ⇒ *Third*, if there are significant differences in the conditions of competition, it needs to be determined whether a **common pricing constraint** exists that binds all the geographic units together into a national market. For example, a common pricing constraint would exist in the market for retail broadband access if the fixed incumbent operator charges a geographically uniform price across the national territory, and therefore competitive pressure from multi-supplier areas is extended into those geographic areas where the fixed incumbent is the only supplier.

Only where geographical differences in the conditions of competition exist and there is no effective common pricing constraint should the definition of sub-national markets be considered. In turn, where there are no such geographical differences, or where there is an effective common pricing constraint at work, a national market definition would be more appropriate.

### 3.2 PRACTICE IN OTHER JURISDICTIONS

The outlined approach to market definition is the standard approach under the current EU Regulatory Framework implemented since 2002 and, as such, it is applied by all EU National Regulatory Authorities (NRAs). Nevertheless, there are a number of

differences in application and outcome of the market definition exercise at the Member State level which can be observed in the administrative practice of those NRAs in their interactions with the Commission under the power of review exercised by the latter. As regards **product market definition**, some important differences in approach are:

- Member States differ in their view on whether **indirect pricing constraints** should be reflected in the definition of wholesale markets. The Commission itself imposes a high threshold for reflecting indirect constraints in the market definition: "*... when assessing the effect of indirect substitution through a SSNIP (small but significant non-transitory increase in prices) test it needs to be demonstrated that: (i) ISPs would be forced to pass a hypothetical wholesale price increase on to their consumers at the retail level based on the **wholesale/retail price ratio** without been able to absorb it; (ii) there would be sufficient **demand substitution at the retail level** to retail services based on indirect constraints such as to render the wholesale price increase unprofitable; and (iii) the customers of the ISPs would not switch to a significant extent to the **retail arm of the integrated hypothetical monopolist**, in particular if the latter does not raise its own retail prices.*"<sup>10</sup>
- Member States differ in their view on the need to distinguish between **retail markets for residential and non-residential users**. The Commission suggested in its initial *Recommendation* a market segmentation between residential and non-residential customers, but has abandoned this approach in the revised 2007 *Recommendation*, largely because the distinction was difficult to draw in many Member States.
- Various NRAs have taken different views as to whether retail access markets constitute one relevant product market, or should be broken down into more segmented markets based on capacity. In addition, many Member States have struggled to distinguish the "access" component from the retail calls component of the fixed incumbent service packages.
- Depending on the pricing packages in place for retail calls and the nature of consumer demand for those packages, there have been differences between the approaches taken by NRAs in terms of whether retail calls should constitute "local", "national" and "international" markets, or

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<sup>10</sup> See, for example, Serious Doubts letter of the European Commission in relation to the Spanish wholesale broadband access notification (2008) and the Comments letter in relation to the Finnish wholesale broadband access notification (2009). The issue of whether an indirect pricing has been exerted has usually arisen in the context of Wholesale Broadband Access market analyses in those countries which have cable TV networks competing with traditional copper networks for the provision of retail broadband services, but which might be "closed" networks for the purposes of wholesale access.



combinations of these elements. In some cases, international calls markets have been defined by reference to specific bilateral routes.

- There has been universal acceptance of the view that markets for voice call termination are confined to individual fixed and mobile networks. Less certain has been the issue of whether it is also appropriate at this point in time to identify a separate relevant product market for SMS termination on individual mobile networks.
- There has been universal acceptance of the fact that mobile voice calls and fixed voice calls fall into separate relevant product markets, essentially because of the phenomenon of "mobility" which differentiates the functional aspect of mobile calls from their fixed counterparts.
- There has been universal acceptance of the fact that voice-over-broadband ("VoB") calls fall within the same relevant product market as conventional calls over the fixed copper-based network, although the regulatory pattern is less harmonised when one considers whether VoIP also falls within the relevant product market.
- In the context of Mobile Access & Call Origination markets, the issue has arisen in a number of Member States as to whether it is appropriate to include within the scope of the relevant product market SMS and other data-related services in addition to traditional voice services. In addition, there has been speculation as to whether or not the relevant market should include both "captive" sales (*i.e.*, internal transfers within a mobile operator) and/or "merchant" sales.
- There have been differences in approach among NRAs both as to the issue of where the dividing line between "trunk" and "terminating" segments of leased lines can be drawn and, more generally, if that dividing line can be drawn at all where leased lines are only provided on an end-to-end basis.
- The only relevant market which had not been couched in technologically neutral terms across the Member States was, until recently, the market for local loop unbundling, which had been defined originally solely by reference to the existence of traditional copper networks. Under the revised definition introduced in the *2007 Relevant Markets Recommendation*, the concept of the local loop now includes "wholesale (physical) infrastructure access (including shared or fully unbundled access) at a fixed location", which would include Next Generation Access technologies such as fibre to the home. The issue that has arisen recently has been whether these alternative technologies should be included prospectively into the relevant product market or excluded until their take-up is more significant.

Under the EU Regulatory Framework, it is up to NRAs to define the **relevant geographic market** according to national circumstances. While initially markets were usually defined as being national, the roll-out of networks of local loop unbundlers and the upgrade of cable networks has increased competition in broadband markets in high-density areas and motivated NRAs in an increasing number of jurisdictions to identify the existence of sub-national markets.<sup>11</sup>

### 3.3 CONCLUSIONS

As part of a market-based approach for reviewing *ex ante* obligations, the TRC will define relevant markets based on a demand and supply substitutability analysis, supported by appropriate qualitative and/or quantitative evidence, as permitted by practical considerations such as the availability of data.<sup>12</sup> In this regard, the TRC notes that the market definition exercise is not a mechanistic process. It will, in principle, be specific to the facts and the available evidence relevant to each case. It is likely that the TRC will need to address many of the factors discussed in Section 3.2 above that have arisen in other jurisdictions. Given the practical considerations and constraints that it might encounter, the TRC intends to make every effort to apply both quantitative and qualitative analyses to define relevant product markets.

However, in those cases where the TRC must use its judgement in defining relevant markets, and where quantitative thresholds serve only as guidelines (and are adjusted in accordance with the particular circumstances) the TRC has a margin of discretion in identifying the boundaries of the relevant product market. Such a discretion has been recently applied in relation to the market definition process in the EU, allowing an NRA to leave open the question of the precise boundaries of a relevant product market if the effect of such a decision does not alter the NRA's finding of SMP.<sup>13</sup> Of course, insofar as it is unclear whether a particular service falls within the relevant product market, the problematic service(s) would not be the subject of regulatory obligations.

With respect to the issue of the relevant geographic market, the working presumption under existing Jordanian *ex post* practice will be that relevant markets are national in scope. However, in accordance with Article 6(d) of the *Competition Safeguards*, the TRC will re-evaluate such a presumption where circumstances suggest that it is untenable on the available market data. In the alternative, the TRC might also selectively apply remedies to different geographic regions to reflect the levels of

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<sup>11</sup> Most notably, in the United Kingdom.

<sup>12</sup> In applying the SSNIP (or HMT) test, the TRC will apply the definitions of those concepts, as set out in Article 2 and Article 6(c) of the *Competition Safeguards*.

<sup>13</sup> For example, as most recently reflected in the comments of the Commission to the Italian NRA in Cases IT/2009/0890, IT/2009/0891 and IT/2009/0892, Brussels – 14 April 2009.

competitive intensity found in those geographic regions. Such a practice would also be consistent with best practices developed by various EU NRAs, and would achieve the same outcome at the culmination of the market review process.

## 4. MEASURING DOMINANCE

### 4.1 APPROACH

Having identified and defined a relevant product market that is susceptible to *ex ante* regulation, the next analytical step is to identify whether there exists any operator or operators on that relevant market which, by their market power, effectively distort the dynamics of competition in that relevant market. The classic measurement of market power in a relevant product market that is used in a regulatory context is that of dominance (or SMP). A finding that an operator or operators holds individual or collective dominance in any given relevant product market is based on the understanding that the relevant market in question may not be effectively competitive.

#### (1) Individual Dominance

Individual dominance is a legal term used to describe a situation in which a firm has a significant degree of market power. It relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of consumers. It is also generally accepted as being synonymous with the economic theory on the concept of market power. Market power in an *ex ante* analysis is essentially measured by reference of the power of the operator concerned to raise prices or reduce output without incurring a significant loss of sales or revenues.<sup>14</sup>

#### Elements of existing intra-market rivalry

The **number of participants** competing in a relevant market is a factor to be taken into account in assessing whether a particular firm is dominant in that relevant market. Its significance, however, can vary widely from case to case. For example, the significance of a low number of competitors in a relevant market may be diminished by the presence of strong competitors that are well placed to exploit the behaviour of other market participants.

However, a simple counting of the amount of firms existing in a relevant market does not provide much insight into the competitiveness of that market. Regulators are increasingly using economic indices in their analysis of market concentrations, *i.e.*, the extent to which a small number of firms account for a large proportion of output. Such indices include, in particular, the **concentration ratio** and the **Herfindahl-Hirschman Index of market concentration** ("HHI"). The concentration ratio measures the

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<sup>14</sup> The ability to raise prices in the relevant market and the ability to restrict output are equivalent in their net effect to one another. This is because demand slopes down, meaning that a firm cannot raise prices without restricting output. If a firm restricts output, prices will inevitably rise.

aggregated market shares of the largest firms in a relevant market. For example, a four firm concentration ratio is basically the sum of the market shares of the four largest participants in a relevant market. The HHI is used as an additional possible measure of market power or competition amongst firms in a relevant product market. It measures market concentration by summing the squares of the individual market shares of all the participants in the relevant market.

While **market shares**, whether measured in both absolute terms and relative to each other, are often used as a proxy for market power, the precise relationship between the latter concept and market shares does not by itself imply that a firm has a dominant position in the relevant product market. However, very large market shares are in themselves, other than in exceptional circumstances, evidence of the existence of a dominant position.

The temporal aspect associated with market shares is crucial, as **changes in market shares over time** are likely to provide an insight into the dynamics of the relevant market and may be useful in assessing the nature and extent of competition in that market. In addition, the risks associated with adopting a snapshot view of the affected market are avoided. For example, volatile or rapidly decreasing market shares may indicate under certain circumstances the existence of effective competitive constraints.

Consequently, it is important to understand the logic of linking market shares to the existence of market power. The reason why, ignoring for the moment the possibility of market entry, very large market shares are typically equated with a high degree of market power is that smaller competitors may be limited in their ability to increase output sufficiently to constrain the larger operator's behaviour. By contrast, if smaller competitors can easily serve those customers that wish to switch suppliers, a price increase becomes unprofitable. Where **barriers to expansion** are low, the ability of a competitor to take advantage of an anti-competitive price increase or restriction of output by another is greatly increased. Thus, the likelihood of an operator having the ability to act to an appreciable extent independently of competitors and consumers is greatly diminished.

In the particular context of telecommunications, the existence of "**network effects**" means that a significant first mover advantage or the existence of a statutory monopoly over a long period of time will mean that smaller, later market entrants, will be at an ongoing disadvantage against the market "incumbent" unless regulatory intervention is used to simulate conditions of open competition. Markets characterised by network effects may be subject to "tipping", *i.e.*, demand-side economies of scale generate "positive feedback effects" as more users purchase a product or service, thereby ultimately tipping the balance of market power in favour of one firm ("snowballing").

#### Potential competition and barriers to entry

The threat of market entry is amongst the main competitive constraints on incumbent firms in a relevant product market, where such entry is shown to be highly probable, timely and appreciable. **Barriers to entry** concern the difficulties faced by new arrivals

in gaining access to a relevant market, which by their nature may give incumbent firms a decisive advantage over new entrants. Where barriers to entry are low, the likelihood will be greater of a competitor having the ability to take advantage of an anti-competitive price increase or restriction of output by an incumbent, who would therefore not be in a position to act with impunity or to act to an appreciable extent independently of its competitors.

The likelihood of market entry, as well as – importantly – the timescale within which such entry is likely to take place and the scale of such entry, will be affected by, *inter alia*, the commercial and financial risks associated with market entry and the presence of legal or technical barriers, as well as regulatory barriers. Additional factors include economies of scope and scale, production costs and the allocation of production facilities, break-even estimates, the existence of strategic barriers, particularly in relation to customer bases, innovation rates, evidence of historical market entry, exit and sunk costs, and so forth.

### Countervailing buyer power

The competitive pressure on an operator is not only capable of being exercised by its competitors, but can also be applied by an operator's customers at the wholesale and retail levels in respect of certain types of markets. A purchaser's ability to exercise its countervailing bargaining power will depend upon the existence of a number of factors, such as:

- its size and commercial significance to its suppliers;
- the presence of alternative suppliers and/or its ability to sponsor upstream market entry/ expansion (through purchasing commitments);
- the absence of switching costs;
- the credibility of the purchaser's threat;
- the extent to which it can impose costs on suppliers (by, for example, delaying purchases); and, as a related factor; and
- its incentive to exercise its purchasing power.

### Additional evidence

While an assessment of whether an operator has an individual dominant position in a relevant market primarily focuses on the structural characteristics of the operator in question in light of the overall competitive structure of the market, it should also take account of additional market characteristics, including:

**Price rivalry:** An assessment of dominance may be expected to take into account whether the operators competing within a relevant market compete intensely on price in an effort to maintain and expand their user bases. This may be reflected in substantial

price reductions over a period of time, including evidence of "tit-for-tat" price reductions and of the convergence of prices over time (thereby preventing the sustainability of large gaps in the relative prices of products or services).

**Non-price factors:** The non-price indicators of dominance are many and varied in nature. A non-exhaustive list of such non-price factors includes: the number and scale of innovations, as well as technological advantages or superiority; market growth and the extent of user switching; the corporate, institutional and behavioural characteristics of the market leader; persistent and excessive profitability; the degree of vertical integration; the control of infrastructure not easily duplicated; and the presence of a highly developed distribution and sales network. The significance of each of these factors may differ from one part of the telecommunications sector to the other, and they will also need to be evaluated in an all-inclusive manner in conjunction with the assessment of price rivalry.

## (2) Collective Dominance

Several operators could also collectively be dominant. The concept of collective dominance is anchored in economic models that explain how competitors can cancel the ordinary mutual competitive pressure by a coherent system of co-ordinated behaviour reinforced by implicit threats. In doing so, the collectively dominant operators would be tacitly colluding so as to ensure that they could price their services above what would otherwise be the competitive price level. Economists have identified a set of conditions under which such tacit collusive behaviour is likely to occur:

- Tacit co-ordination is more likely to emerge if competitors can easily arrive at a common perception as to how the co-ordination should work and, in particular, the commercial parameters that lend themselves to being a "focal point" of the proposed co-ordination.
- Tacit coordination must be sustainable and the co-ordinating firms must be able to monitor to a sufficient degree whether their co-operation is being adhered to. There must therefore be sufficient market transparency for each firm concerned to be aware, sufficiently precisely and quickly, of the way in which the market conduct of each of the participants in the co-ordination is evolving.
- A credible deterrence mechanism must exist to "discipline" the firm that seeks to diverge from the tacitly collusive behaviour.
- The reactions of outsiders, such as current or future competitors, and also the reactions of customers, should not be such as to jeopardize the results expected from the co-ordination.

The criteria for proving collective dominance have essentially been refined in competition case-law and are very specific to the jurisdictions in which they apply; the current state of collective dominance criteria in the EU is discussed in the below section.

## 4.2 PRACTICE IN OTHER JURISDICTIONS

Under existing EU practice, a finding that an operator or operators holds individual or collective dominance under the EU Regulatory Framework in any given relevant product market is based on the understanding that the relevant market in question is not subject to “effective competition”.

In its *SMP Guidelines*, the Commission considers that the definition of SMP is aligned with the European Court's definition of dominance within the meaning of Article 82 of the EC Treaty.<sup>15</sup> A similar concept of dominance is found under the EU *Merger Regulation*. While the concept of “dominance” remains consistent between these three EU legal instruments, the precise manner in which it is applied differs in each instance. In other words, the EU Regulatory Framework draws on the methodologies for the application of the dominance test under Article 82 EC Treaty and the EU *Merger Regulation*, but its own application of the dominance test remains distinct.

Article 82 EC Treaty is concerned with the dominance of an operator/operators at the time of the alleged abusive behaviour, while the EU *Merger Regulation* is less concerned with the notifying parties' current and/or past market power, focusing instead on whether their concentration results in the *creation or strengthening* of a dominant position in the future (as the merged entity has yet to participate in the relevant market). The concept of dominance under the EU Regulatory Framework utilises elements of both methodologies. While the application of the dominance test under the EU Regulatory Framework is closely aligned with Article 82 EC Treaty, the assessment of dominance under the EU Regulatory Framework adopts the prospective nature of the assessment of dominance which occurs under the EU *Merger Regulation* in order to determine whether an existing dominant position is contestable in the longer term.

The use of the methodology outlined above is acknowledged in the EU's *SMP Guidelines*, which state that the designation of an operator as having SMP in a market identified for the purposes of *ex ante* regulation “*merely implies that, from a structural perspective, and in the short to medium term, the operator has and will have, on the relevant market identified, sufficient market power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers*” (at Paragraph 30). The EU Regulatory Framework requires that, for an operator to be in a dominant position, it must occupy that position *at the time* of the market analysis prior to the imposition of *ex ante* regulatory obligations.

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<sup>15</sup> Paragraph 70 of the *SMP Guidelines* provides that “[T]he new framework has aligned the definition of SMP with the Court's definition of dominance within the meaning of Article 82 of the Treaty”.



## (1) Individual Dominance

Individual dominance is a legal term used to describe a situation in which a firm has a significant degree of market power. In *Hoffmann-La Roche v. Commission*,<sup>16</sup> a case concerning Article 82 EC Treaty, the European Court of Justice stated that a dominant position:

*"relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of the consumers" (at Paragraph 38).*

This language is reflected in the definition of SMP in Article 14(2) of the EU's *Framework Directive*, while it is also generally accepted as being synonymous with the economic theory on the concept of market power. According to the *SMP Guidelines*, market power in an *ex ante* analysis is *"essentially measured by reference of the power of the undertaking concerned to raise prices by reducing output without incurring a significant loss of sales or revenues"* (at Paragraph 73).

According to established EU case-law,<sup>17</sup> very large **market shares** – in excess of 50% – are in themselves, other than in exceptional circumstances, evidence of the existence of a dominant position. A firm with a market share of less than 25% is unlikely to have a (single) dominant position in a relevant market,<sup>18</sup> while a market share of over 40% generally gives rise to dominance concerns in the administrative practice of the Commission.

The *SMP Guidelines* observe that an undertaking with a large market share may be presumed to be in a dominant position if its market share has remained stable over time. However, as noted above, it is also true high and stable market shares do not always indicate that a firm has market power, as such levels will need to be interpreted

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<sup>16</sup> Case 85/76, *Hoffmann-La Roche & Co. AG v. Commission*, [1979] ECR 461.

<sup>17</sup> Case C-62/86, *AKZO Chemie BV v. Commission*, [1991] ECR I-3359 (hereinafter "the AKZO Case"). A market share in excess of 50% is said to create a rebuttable presumption of dominance (or SMP).

<sup>18</sup> See Paragraph 75 of the *SMP Guidelines*, as well as Recital 15 of Council Regulation (EEC) No. 404/89 of 21 December 1989 on the control of concentrations between undertakings, OJ 1989 L395-1. Recital 15 states that "[W]hereas concentrations which, by reason of the limited market share of the undertakings concerned, are not liable to impede effective competition may be presumed to be compatible with the common market; whereas, without prejudice to Articles 81 and 82 of the Treaty, an indication to this effect exists, in particular, where the market share of the undertakings concerned does not exceed 25% either in the common market or in a substantial part of it".

differently depending on the particular commercial and regulatory history by which the market shares came about.

The *SMP Guidelines* acknowledge the impact of **barriers to expansion** on high market shares, stating that "large market shares can become accurate measurements only on the assumption that competitors are unable to expand their output by sufficient volume to meet the shifting demand resulting from a rival's price increase" (at footnote 78).

In relation to **barriers to entry**, the Commission notes in its *Market Definition Notice* that when supply-side substitution would entail the need to adjust significantly existing tangible and intangible assets, additional investments, strategic decisions or time delays, it may be more appropriate to consider it as potential market entry (*i.e.*, likely to affect the market analysis, rather than the market definition, process, and likely to be considered in the timeframe beyond 18 months and stretching up to 3 years).

According to the Commission, **countervailing buyer power** in this context should be understood as "the ability of large customers within a reasonable timeframe to resort to credible alternatives if the supplier decides to increase prices or to deteriorate the conditions of delivery" (at Paragraph 76).<sup>19</sup>

## (2) Collective Dominance

The existence of collective dominance is also envisaged under the EU Regulatory Framework, with remedies being capable of being applied to those operators who are found to hold a position of "collective" or "joint" dominance (*i.e.*, collective or joint SMP). The identification of a collective dominant position is an exercise which is much more complex than a finding of individual dominance.

The EU's *Framework Directive* provides guidance on the assessment of joint dominance. Article 14(2), second paragraph, requires that the assessment of collective dominance be carried out "*in accordance with Community law and take utmost account of the [SMP Guidelines]*"<sup>20</sup> and outlines the criteria to be used in making such an assessment in an Annex II to the Directive, which states that:

*"[T]wo or more undertakings can be found to be in a joint dominant position ... if, even in the absence of structural or other links between them, they operate in a market the structure of which is considered to be conducive to coordinated effects. Without prejudice to the case-law of the Court of Justice on joint dominance, this is likely to be*

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<sup>19</sup> The EU's *Horizontal Mergers Notice*.

<sup>20</sup> Article 14(2), Paragraph 2.

*the case where the market satisfies a number of appropriate characteristics, in particular in terms of market concentration, transparency and other characteristics...*".<sup>21</sup>

Thus, Annex II of the *Framework Directive* provides for a collective dominance test centred on whether the structural characteristics of the relevant market encourage parallel or aligned anti-competitive behaviour.<sup>22</sup> The *SMP Guidelines* effectively align the collective dominance test in Annex II of the *Framework Directive* with the collective dominance test used for the purposes of the *Merger Regulation*, namely, whether the structure of the oligopolistic market alone "*is conducive to co-ordinated effects*" (at Paragraphs 94 and 96).<sup>23</sup> Consistent with the general principles outlined in Section 4.1 above, economic criteria have been specified by the European Courts as forming the basis for the establishment of a collective dominance finding.<sup>24</sup>

The European Courts have emphasized the need for co-ordinated effects analyses to be conducted with care, and based on plausible economic hypotheses. It has also been emphasized that such analyses should avoid a mechanical approach involving the separate verification of each of the criteria in isolation (while taking no account of the overall economic mechanism of hypothetical tacit co-ordination). In essence, the European Courts take the view that there is a need for a co-ordination effects theory to be plausible in the overall economic context in which the parties find themselves operating.

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<sup>21</sup> The "other characteristics" mentioned are: a mature market; stagnant or moderate growth on the demand side; low elasticity of demand; an homogeneous product; similar cost structures; similar market shares; a lack of technical innovation, mature technology; an absence of excess capacity; high barriers to entry; a lack of countervailing buying power; a lack of potential competition; various kinds of informal or other links between the undertakings concerned; retaliatory mechanisms; and a lack or reduced scope for price competition. Annex II clearly provides that this list is by no means exhaustive or cumulative, being rather for illustrative purposes of the sorts of evidence that could be used to support assertions concerning the existence of collective dominance.

<sup>22</sup> Recital 26 of the *Framework Directive* considers that a relevant market whose structure is conducive to coordinated effects means a relevant market that "*encourages parallel or aligned anti-competitive behaviour on the market*". The *SMP Guidelines* provide a similar clarification (at footnote 106).

<sup>23</sup> In the wake of *Airtours v. Commission, Case T-342/99*, the *SMP Guidelines* add that an NRA should analyse whether such form of coordination is sustainable. According to the Commission, the co-ordination will be considered to be sustainable where: (i) none "*of the oligopolists has the incentive to deviate from the co-ordinated outcome, considering the ability and incentives of the non-deviators to retaliate*" (at Paragraph 96); and (ii) no "*buyers/fringe competitors/potential entrants have the ability and incentive to challenge any anti-competitive co-ordinated outcome*" (at Paragraph 96).

<sup>24</sup> See *Airtours Judgment* (above); cf. *Bertelsmann v. Impala, Case T-464/04*; *Kali & Salz, Cases C-64/94 & C-30/95*.

### (3) Administrative Practice

The practice of the European NRAs in the evaluation of individual dominance (as opposed to collective dominance) has not encountered significant divergences in approach, largely because the issue of dominance is governed by clear principles developed in the European case-law and because the Commission exercises a veto power over decision relating to SMP. In addition, the exercise of market power assessment (or determining a "lack of effective competition") is not subject to specific national circumstances which might result in a distinct national approach which is at odds with other precedents. The key lessons learned from the practices of EU NRAs in market analysis are:

- Many NRAs have found that retail calls markets, especially those for international retail calls, had become effectively competitive over time. This meant that the revised *Relevant Markets Recommendation* omitted such markets from the list of candidate markets, although individual NRAs can still examine such markets if the "three criteria test" has been satisfied.
- In a few cases, the Commission took the view that the NRA in question had not taken due account of the rapid decline in market shares of the fixed incumbent.
- The Commission has emphasized on many occasions that, even if the existence of an "indirect pricing constraint" could not be established by an alternative network in terms of the market definition exercise, the presence of that alternative network as a significant retail competitor would be a highly material factor in determining whether SMP exists.
- In the context of mobile termination markets, particularly complex issues have arisen in the context of judicial review as to whether the NRA in question had considered in sufficient detail the issue of whether the SMP-designated mobile operator was subject to "countervailing bargaining power" from other mobile operators and large fixed operators.
- The Commission's practice has increasingly tended to focus on the importance of the SMP determination, even if the outer limits of the market definition are not clear. As long as the SMP exercise is not compromised, certain aspects of the market definition exercise can be left open by an NRA.
- Most of the contentious cases involving SMP have involved those relatively few instances where NRAs have pursued a collective dominance case against either mobile operators in relation to the market for Mobile Access & Call Origination (Ireland, Spain, France, Slovenia, Malta) or against cable and PSTN platforms for their provision of fixed broadband access services (Malta). It is clear from the existing administrative practice

of the Commission and the NRAs that a collective dominance assessment for *ex ante* purposes requires a much more complex economic appraisal than the case of single dominance. Among the criteria that are examined are: whether the downstream retail market is characterised by strong competition; whether the allegedly jointly dominant operators have a common interest in denying upstream access at the wholesale level; whether the economic evidence indicates that the operators in question are likely to coordinate their competitive behaviour; and whether there exists "pent-up demand" for wholesale access from competitors.

- Under existing EU law, it is possible in theory to base *ex ante* regulation on a finding of "leveraged dominance". This concept involves the notion that an operator with SMP on a specific market may also be deemed to have SMP on a closely related market, where the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the operator.<sup>25</sup> In practice, however, no NRA in the European Union has thus far sought to utilise the "leveraged dominance" approach as the basis for *ex ante* regulation. This is because, if an operator has already been designated as having SMP on an upstream market (e.g., one involving a wholesale access relationship), NRAs will normally be in a position to prevent any likely spill-over or leverage effects downstream into the retail or services markets by imposing on that operator any of the foreseen regulatory obligations designed to prevent such effects. It is only where such upstream remedies are unlikely to generate effective competition in retail downstream markets that NRAs will examine whether the additional concept of "leveraged dominance" should apply.<sup>26</sup> In addition, *ex post* powers can also be utilised to address this type of competition problem.

### 4.3 CONCLUSIONS

The TRC takes the view that the economic model of "dominance" (or SMP) developed in the European Union is equivalent in an *ex ante* context to the concept of a "lack of effective competition", as that latter expression is described in the *2008 Green Paper*. This concept supports any designation of dominance pursuant to Article 8(d) of the *Competition Safeguards* for *ex ante* purposes. It also extends to the concept of collective dominance, which is described in Article 19(a) of the *Competition Safeguards* in terms consistent with the idea of tacit co-ordination. To secure and promote effective competition, the TRC takes the view that operators who are designated as being

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<sup>25</sup> See Article 14(3) of the *Framework Directive*.

<sup>26</sup> Refer to Paragraphs 83-84 of the *SMP Guidelines*, EC O.J. C 165/6.

dominant should be subject to appropriate *ex ante* remedies, the specific forms of which are discussed in Section 5.

In assessing dominance, the TRC will consider the various quantitative thresholds established by economic theory, to be complemented by an analysis of the additional impact factors listed in the *Competition Safeguards*. The application of those factors in individual market reviews will be supported by reference to a strong body of international experience in the application of comparable criteria. While the *Competition Safeguards* provide for a market share of 25% as an initial benchmark of potential dominance, it is clear that a market share of this order of magnitude is indicative and must be carefully evaluated together with the Impact factors.

## 5. SELECTING REMEDIES

### 5.1 APPROACHES TO REMEDY SELECTION

The final key element of the market review process is the selection of remedies. Under a market-based approach, remedies should be targeted at the competition problems likely to exist in the absence of *ex ante* regulation. At the same time, the remedies should be selected in a way that strikes the right balance between service and infrastructure competition.

#### (1) Primary and Secondary Remedies

It is useful to distinguish between primary and secondary remedies. Secondary remedies support the implementation of primary remedies. While a primary remedy can be selected alone, it would usually not be appropriate to impose a secondary remedy without the corresponding primary remedy being put in place.

The following obligations can be regarded as being **primary remedies** for addressing competition problems on wholesale markets:

- The obligation to *provide access on reasonable request* obliges a dominant operator to offer access to certain elements of its network to alternative operators enables the latter to compete on retail markets or downstream wholesale markets. For example, access to the unbundled local loop enables an alternative operator to provide broadband Internet access and voice services to end-users. Once this operator has built out its network to a sufficient number of MDFs of the fixed incumbent, it would

also be able to offer wholesale bitstream access to other operators, using the unbundled local loops as inputs to this service offering.<sup>27</sup>

- The obligation to offer access on *non-discriminatory terms and conditions* ensures a level playing field for all operators providing retail and wholesale services on the basis of the mandated access product. It means that, if circumstances are equivalent, the dominant operator treats external wholesale customers in the same manner as its internal downstream unit. It also means that different external customers are treated in an equivalent way in equivalent circumstances.
- The obligation of price control requires the dominant operator to *set prices in a way as if the market is competitive*. Prices must not be excessive or predatory. Depending on the particular market circumstances, this could mean either of the following standards to be followed: cost-orientation, retail-minus or the setting of “reasonable” prices.

**Secondary remedies** are those that support and facilitate the implementation of primary remedies. The secondary remedies that correspond to the primary remedies described above are the following:

- The obligation to provide access on reasonable request is supported by an obligation that requires the dominant operator to *publish terms and conditions in a transparent way*. The most important part of a transparency obligation is the requirement to publish a Reference Offer that sets out the terms and conditions of the mandated wholesale service in a sufficiently unbundled way.
- The obligation of non-discrimination can be supported by an obligation of *accounting separation* that requires the dominant operator to reflect the performance of its business on the market in which it has dominance as if it is operated as a separate business, and to make transparent the internal transfer prices. The obligation to provide separate accounts supports the non-discrimination obligation in relation to pricing and prevents anti-competitive cross-subsidies from the market in which it is dominant to competitive markets. The obligation not to discriminate in relation to quality of service (e.g., delivery terms) is more difficult to implement. Some of the supporting instruments are included in Reference Offers and include Key Performance Indicators (KPIs) and Service Level Agreements (SLAs) with penalty payments.

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<sup>27</sup> An obligation to provide wholesale call origination would need to be combined with an obligation to offer carrier selection and carrier pre-selection to retail customers. The latter could be directly imposed together with the wholesale call origination remedy. Alternatively, it could also be imposed as a remedy to competition problems in the relevant retail market.

- The obligation of price control can be supported by an obligation of *cost accounting*. Such an obligation is indispensable if the price control takes the form of cost-oriented prices, namely, if the dominant operator is required to orientate its prices towards a certain standard such as long-run incremental costs (LRIC) / current costs (CC). A cost accounting obligation requires the dominant operator to calculate the costs of a particular wholesale service according to a set of accounting rules imposed by the regulator (e.g., LRIC-CC).

A secondary remedy facilitates the implementation of the corresponding primary remedy; as noted above, it should therefore only be imposed in combination with the former. In other words, an accounting separation obligation would be redundant without the prior imposition of a non-discrimination obligation. Similarly, a cost accounting obligation without a price control obligation would not be appropriate. In contrast, a primary remedy need not always be accompanied by a secondary remedy. In circumstances where competition problems are less serious, for example, it might be proportionate to only impose a primary remedy. For example, in a relevant product market not characterised by severe competition bottlenecks, it may be sufficient to impose an obligation to set reasonable prices and to not require cost accounting.

## (2) Targeting Remedies At the Competition Problems Identified

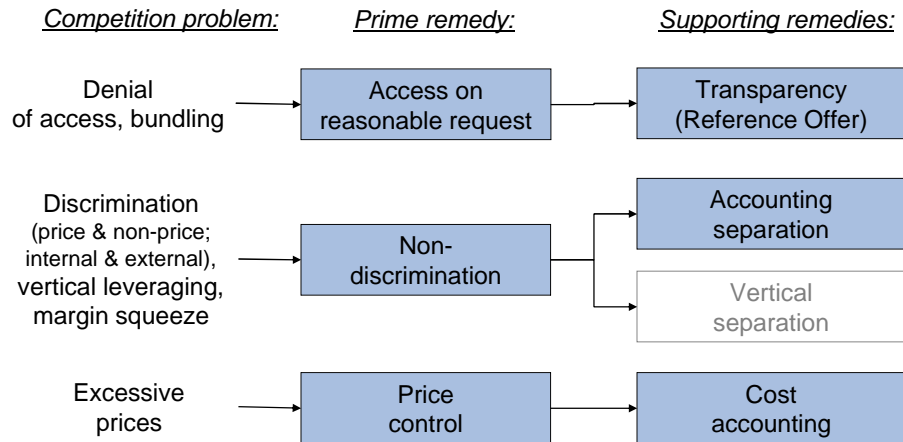
The identification of appropriate remedies is an exercise which first involves the identification of the particular market failure, and then the crafting of a particular set of remedies whose aim is both to address that market failure. The various types of likely market failures that are most commonly related to market power should be assessed and, where appropriate, remedies should be selected to target those problems. At the level of **wholesale markets**, this would imply the following:

- ⇒ If the denial of access and bundling of access services is the potential competition problem, this may be addressed by an obligation to provide access upon reasonable request as a primary remedy, often supported by a transparency obligation, including an obligation to publish a Reference Offer.
- ⇒ Competition problems such as discrimination, vertical leveraging and margin squeezes may be tackled by a non-discrimination obligation as a primary remedy, usually supported by an accounting separation obligation, and in certain circumstances by an obligation to vertically separate the regulated business from the rest of the operator's businesses.
- ⇒ If excessive prices are the potential competition problem, this may be addressed by price control as the primary remedy, usually supported by an obligation to run a cost accounting system structured by certain regulatory rules.

Figure 2 illustrates how remedies are targeted at the nature of the potential market failures in a wholesale market.



**Figure 2: Wholesale remedies**



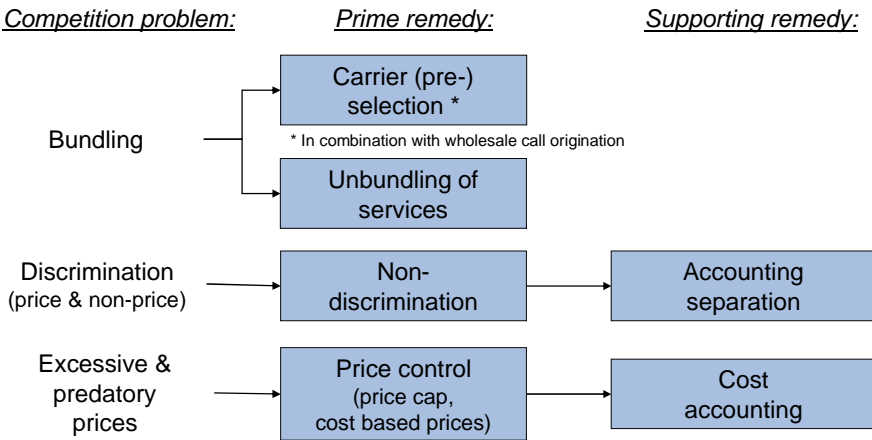
In assessing **retail markets**, the market failures can be mapped into the corresponding remedies in the following way:

- ⇒ Where the bundling of access and calls creates a potential competition problem, carrier selection and carrier pre-selection may be imposed.<sup>28</sup> A remedy for any type of anti-competitive bundling of services would be the obligation to unbundle a regulated service from other services.
- ⇒ If discrimination between retail customers creates a potential competition problem, a non-discrimination obligation may be imposed as a primary remedy, possibly supported by an accounting separation obligation.
- ⇒ Where excessive and predatory pricing is identified as being the potential competition problem, price control measures may be imposed as a primary remedy, combined with a cost accounting obligation as a supporting remedy.

Figure 3 illustrates how remedies may be targeted at the nature of the potential competition problems identified in a retail market.

<sup>28</sup> Note that carrier selection and carrier pre-selection for fixed or mobile calls may also be imposed directly in combination with a wholesale call origination remedy.

**Figure 3: Retail remedies**



### (3) Promoting Investment

In the earlier stages of regulation of a monopolist or former fixed monopoly operator, it is almost inevitable that the whole value chain will have to be regulated, including the retail prices of fixed voice and data services. However, new entrants into retailing alone do not have many barriers to overcome, as they do not need to make substantial sunk investments. If a suitable wholesale product is available for resellers to buy, they can develop their own relationship with end users, and use their marketing skills and brand values to compete with the integrated incumbent. The level of competition improves under such a model.

If wholesale (and other network) products are in place, the regulator can investigate the possibility of relaxing control over retail prices, and relying on a combination of market driven retail prices and the availability of suitably priced wholesale prices to protect end users. The right moment to make this transition is when the incumbent ceases to exercise dominance in the retailing activity – this is, when it cannot set its retail margin independently of its retail customers and its retail competitors.

If regulators are able to ‘forecast’ how competition may develop throughout the value chain, this may serve as a guide to regulatory policy. This makes sense for regulators which favour taking competition in infrastructure closer and closer to the end user’s premises, in the interests of enhancing innovation, dynamic competition and the differentiation of services. Not all regulators will have such a preference for infrastructure competition over service competition (in which firms use the same infrastructure to compete). But, if they do seek to promote competition, there is a mechanism, via market reviews and choice of remedy, which will accomplish that

objective.<sup>29</sup> The mechanism involves making decisions about the availability and price of access products in a way which encourages investment progressively closer to the end-user. For example, the regulator might initially require the incumbent to make a wholesale broadband product available for resale by competitors, but then, when one or more operator has installed infrastructure which enables it to switch to use of a national bitstream product, the price-regulated wholesale product might be withdrawn. This would encourage competitors to install capacity, which would enable them as well to benefit from the bitstream product. At a later stage, when some operators have installed DSLAMs in the incumbent's exchange and are successfully supplying end users on the bases of unbundled local loops, regulation of the bitstream product can be changed.

Under this paradigm, it can be seen that the regulator can actively manage the form of competition by using two instruments - its control over what access products the fixed incumbent is mandated to supply (withdrawing the obligation when leading competitors have duplicated the product in question) and its control over the mandated price. Thus, when a regulator wants to induce competitors to switch from one access product to another (for example from a regional bitstream product to unbundled local loops), it can increase the price of the former and reduce that of the latter. This will cause competitors to revisit their 'buy or make' decision, in the direction of rendering the 'make' option more attractive.

Whether a regulator wants to go down this policy route depends on its overall strategy. Implementing it today must also take fully into account the prospect of the copper local loop being replaced with a fibre, which will probably have a different network topology.

The presence of vertically-related markets has other consequences for regulation. The question has to be addressed of whether the two stages in the value chain represent different markets or lie within the same relevant market. For example, an operator using a regional bitstream product to provide services to customers could replace it with unbundled local loops; it would simply have to build or to lease a backhaul capability and to install DSLAMs. If this can be done within a short period of time, it would suggest the existence of supply-side substitution between the activities, which might be powerful enough to bring them within the same relevant product market.

The market definition, market analysis and remedy selection stages undertaken in each vertically related market must at least be consistent, in terms of assumptions made about investments, and so forth. If a 'ladder of investment' approach is adopted, remedies in vertically related markets must be co-ordinated, in order to meet the overall policy objectives of the regulator. This consistency can often best be achieved by the simultaneous treatment of vertically related markets.

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<sup>29</sup> For more details, see M. Cave 'Encouraging infrastructure investment via the ladder of investment', *Telecommunications Policy*, 30 (2006) 223-237.

## 5.2 PRACTICE IN OTHER JURISDICTIONS

Under the EU Regulatory Framework, NRAs have the power to impose obligations on operators designated as having SMP in a relevant product market. The NRAs act within a framework of duties set out in Article 8 of the *Framework Directive*. The measures they take must be proportionate to the policy objectives identified. This can be construed as meaning that the intervention is appropriate, no more than is necessary, and, by implication, satisfies a cost-benefit test, in the sense that the expected benefits from the intervention exceed its expected costs. Article 8 additionally specifies policy objectives, which determine the weights appropriate for use in the cost-benefit analysis.

For example, Article 8(2) requires NRAs to promote competition for telecommunications networks and services by maximising users' choice and value for money, eliminating distortions or restrictions to competition and encouraging efficient investment and infrastructure. In turn, Article 7(4) requires NRAs to promote the interests of EU citizens by, *inter alia*, providing consumers with protection in their dealings with suppliers, and by requiring transparency of tariffs and conditions for use publicly available telecommunications services. NRAs must also contribute to the development of the EU internal market by avoiding different approaches to regulation within the EU. These provisions provide an important context in which NRAs must model their *ex ante* interventions.

While the circumstances in which intervention is required are set out in the *Framework Directive*, discussion of the nature of the regulatory response is principally confined to the *Access Directive*. Articles 8 to 13 outline the NRA's remedy selection options. Thus, Article 8 (Imposition, Amendment or Withdrawal of Obligations) reads as follows:

*"1: Where an operator is designated as having significant market power on a specific market ..., national regulatory authorities shall impose one or more of the obligations set out in Articles 9-13 of this Directive as appropriate.*

*4: Obligations imposed in accordance with this Article shall be based on the nature of the problem identified, and shall be proportionate and justified in the light of the objectives laid down in Article 8 of the [Framework Directive]..."*

### (1) Range of Remedies

The EU Regulatory Framework provides for a set of remedies for wholesale and retail markets. Remedies that can be imposed on wholesale markets include:

- access on reasonable request;
- transparency, and in particular, publication of a Reference Offer;
- non-discrimination;

- accounting separation; and
- price control and cost accounting.

Remedies that can be imposed on retail markets comprise:

- price control and cost accounting;
- carrier selection and carrier pre-selection.

The EU Regulatory Framework provides a substantial degree of flexibility in selecting a set of remedies from those outlined above that allows the fine-tuning of *ex ante* obligations to suit the type and severity of market failure identified by the NRA in question in a market review.<sup>30</sup>

## (2) Proportionality of Remedies

It has become common practice in a number of jurisdictions to consider subjecting new *ex ante* remedies to a regulatory impact analysis procedure. Recourse to such a procedure in the Member States of the EU is unnecessary, however, as it is clear that the concept of “proportionality” guides the choice of remedy selection and the extent of detail with which that remedy must be specified. Because an essential aspect of that remedy selection is the fact that the remedy selected is chosen from a list of measures designed to address particular market failures, the inherent reasonableness of those measures is not called into question in light of the public policy goal being pursued.

In turn, the nature of that public policy goal being pursued is clear, largely because an NRA is under an obligation to identify a market failure that is being brought about by the lack of effective competition on the relevant market in question. In addition, the EU’s *Access Directive* also specifies a number of conditions which remedies must satisfy in order to be considered both effective and reasonable in the circumstances, including the desire to promote investment in competitive network alternatives. Moreover, under the market review process in the EU, the initial choice of whether a market should be subject to *ex ante* regulation in the first place is subject to the threshold question of whether the so-called “three criteria” have been satisfied. Accordingly, all the clear qualitative dimensions of a regulatory impact analysis are already built into the process of market review conducted pursuant to the model adopted in the EU.

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<sup>30</sup> For a discussion on the range of remedies best suited to deal with specific market failure concerns, refer to the *Revised ERG Common Position on the approach to appropriate remedies in the ECNS regulatory framework (“Remedies” document)*, that can be found at [http://www.erg.eu.int/doc/meeting/erg\\_06\\_33\\_remedies\\_common\\_position\\_june\\_06.pdf](http://www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf).

### (3) Administrative Practice

The practice of the NRAs of the EU has been most varied in the context of remedy selection, largely because the Commission does not exercise veto power over the choice of remedies. This means that there is a less harmonised approach with respect to remedy selection than with respect to the processes of market definition and market analysis, both of which are subject to Commission oversight (a veto power) and which are also subject to significant judicial precedent.

Some of the more important differences in approach to remedies are reflected in the following:

- A number of Member States have adopted a Fully Distributed Cost ("FDC") cost model when implementing a cost orientation standard for voice call termination whereas, by contrast, the majority have adopted a form of the Long Run Average Incremental Cost ("LRAIC") cost model. Despite the variation among the precise cost formula utilized by the individual NRAs, the Member States generally acknowledge the importance in driving the fixed incumbent's voice termination charges as close as possible to the actual cost.
- Although it is generally accepted that NRAs impose a price control mechanism in some form on alternative operators for their call termination charges within the Fixed Voice Call Termination Market, the particular economic model of price control mechanism varies greatly amongst the NRAs. The range of economic models throughout the Member States includes: a standard of "fair and reasonable pricing", the benchmarking of prices as used in international best practices, or a maximum price cap at a pre-determined percentage above the fixed incumbent's call termination charge. The variation within the adopted economic model for price control is due to be eliminated by reason of the Commission introducing a cost Recommendation for call termination pricing in May 2009.
- When regulating call termination markets, the majority of Member States prefer to apply asymmetric remedies, according to which the smaller alternative operators face less onerous remedies than the fixed incumbents or largest mobile operators, as the case may be, despite the existence of SMP for those operators on their own networks, yet the asymmetric termination rates themselves vary greatly throughout the European Union. The Commission has acknowledged the need for a more coherent approach across the European Union to ensure the balance of competition. The differences between the temporary asymmetric remedies can be seen in the length and specific details outlined in the respective "glidepaths" developed by the various NRAs to achieve symmetry over time. Despite the preference for the asymmetric remedies, there are a few Member States which have adopted the method of reciprocal termination rates instead. With respect to both fixed voice call termination and mobile

voice call termination, the Commission has expressed its concern over termination levels and has recommended that the glidepaths be kept to the minimum period possible to sustain new entry.

- A number of Member States have identified a specific (or multiple) levels within the network hierarchy where wholesale broadband access must be provided, while a few Member States impose the obligation which requires the SMP-designated operators to grant bitstream access based only upon "reasonable requests". Within the majority of the Member States where a specific location has been selected to grant access, there is wide divergence as to the particular location chosen. The NRAs draw distinctions between the IP access hosted level, the ATM level, the DLS/DSLAM level, and so on. The Commission has criticized a number of the Member States for their failure to select an appropriate bitstream access point.
- The NRAs have generally accepted that price controls should be imposed *ex ante* with regard to the provision of bitstream access. However, there is a wide range of costing models adopted to determine the particular price control. A number of Member States have adopted the "retail minus" formula, which the Commission has acknowledged might not always be the appropriate economic model given the particular circumstances faced by that Member State. Other Member States have chosen to use either a "modified historic costs" model, the LRIC cost model, or costing principles based on FDC and Current Cost Accounting ("CCA") models. More recently, NRAs are subjecting bitstream access products increasingly to LRIC-based costing obligations, due to the practical difficulties in applying various other economic formulae.
- The introduction of the Wholesale Line Rental ("WLR") remedy to address voice call and voice origination market issues has met with mixed success around the European Union. It would appear that the remedy has proved to be more effective where it has been introduced in a commercial environment in which narrowband services predominate over broadband services. The WLR remedy has been especially successful in the UK, where it operates in combination with the remedy of functional separation.
- There has been a growing rise in the mandating of a "naked DSL" service as a remedy in the market for Wholesale Broadband Access. Even though the naked DSL product essentially takes effect at the retail level, it has been considered by the Commission to be "proportionate" because it is directed towards addressing market failure issues at the wholesale level.
- There has been virtual unanimity in the approach taken by the various NRAs with respect to the costing of access to the local loop, namely, in accordance with the LRIC costing formula.

- A number of NRAs have explored the possibility of selectively addressing the remedies to different geographic regions, in order to reflect different competitive conditions across geographic regions (e.g., Spain, Austria and Portugal). This is seen by those NRAs as a legitimate alternative to the finding of sub-national markets during the market definition stage of the market review process, although the Commission does not generally support such a view because of its potential to create fragmented patterns of *ex ante* regulation across the EU.

### 5.3 CONCLUSIONS

The TRC shall select remedies to be applied to dominant operators in relation to the defined relevant markets, guided by the general principles of selecting remedies described above. The market review process and the principles of remedy selection help to fine-tune and target remedies to the particular competition problems identified, and to avoid “overregulation”. This also implies that the remedies imposed have to focus on the most upstream markets and are progressively extended downstream if their upstream application is considered to be insufficient.

In order to provide the flexibility needed to fine-tune the remedies, their choice has to be made from a broad menu, both at the wholesale and the retail levels:

- Possible wholesale remedies must comprise obligations for access and transparency; non-discrimination and accounting separation as well as vertical separation; and price control and cost accounting.
- Possible retail remedies must include, where necessary, obligations for carrier selection/carrier pre-selection as well as price control and cost accounting.

Given the flexibility provided and the principles followed, the TRC takes the view that the regulatory measures can be dimensioned in a way that is proportionate to the objective pursued, namely, the promotion of competition.

The approach of selecting remedies is also consistent with best international practice as applied under the EU Regulatory Framework. This general observation is subject, however, to two caveats, namely:

- The TRC does not consider itself guided by EU best practices in remedy selection if, for example, the motivation behind any particular remedy adopted across EU Member States or proposed by the Commission is motivated by the market integration goal in the European Union. Such a harmonisation priority is not relevant to the situation in Jordan.
- The policy priority of fostering network competition on fixed telecommunications markets, which is an important policy driver in the European Union because of, among other considerations, the spread of cable TV networks, may not be as important in the context of Jordan. On



the contrary, the government's policy priority in Jordan has been to promote greater services-based competition.<sup>31</sup>

The TRC underlines in Paragraph 33 of the *Policy* that it is required it to publish 'reasoned decisions' that also provide "an assessment of the impact on affected parties of the resulting regulatory burdens". Moreover, Paragraph 47 of the *Policy* envisages a proportionality test insofar as it is specified that remedies "should be no more burdensome than is required to ensure fair competition". The TRC considers that these directions require it to justify that the regulatory measures are proportionate to the objective pursued.

One of the great benefits of Jordan adopting a model of remedy prescription as built into the market review approach and similar to that adopted in the European Union is that the qualitative dimensions of a regulatory impact analysis are already reflected in the process of market review.

*First*, there are two thresholds that must be passed before an *ex ante* obligation can be imposed on a licensed telecommunications operator. The market affected must have characteristics that render it susceptible to *ex ante* regulation (this is examined with the help of a three-criteria test). Moreover, there must be a position of dominance in this particular market.

*Second*, the remedies imposed must target the particular competition problem identified. Moreover, the competition problem founds should be addressed with the lightest possible remedy capable of coping with the problem. In other words, measures that are in excess of what is required should not be applied as they will impose an unnecessary burden.

These considerations relate in particular to the application of *new* regulatory measures. As regards *existing* regulatory measures which might be modified or "grandfathered" pursuant to the findings of a market review, the TRC takes the view that a regulatory impact assessment will not be necessary, as the utility of the regulatory measure would

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<sup>31</sup> In this regard, refer to Paragraph 58 of the *Policy*, where it is stated that: "*Facilities-based competition involves considerable investment risk and cannot be expected to have the same geographic scope as the incumbent's network. Furthermore, spectrum availability may limit the number of operators which can enter the market. Given these limitations of facilities-based competition, Government encourages the TRC to promote more service-based competition. Among the steps that should be considered are the following:*

- Systems resellers ('virtual networks'), including Mobile Virtual Network Operators;
- Hybrid services (i.e., a mix of service and facilities competition), using network element resale, such as local loop unbundling;
- Facility sharing, for example mobile masts and co-trenching."

have been proven over time and will be further supported by any finding that the relevant market is characterised by a lack of effective competition.

### III. The Way Forward

The TRC is mindful of the need to provide the telecommunications industry in Jordan with a transparent roadmap with clear steps and a reliable timeline for the conduct of the market reviews discussed in this White Paper. This Chapter III describes the steps involved in the forthcoming market review process (Section 1), as well as the proposed timeline relevant for industry (Section 2).

#### 1. STEPS

Reviewing *ex ante* obligations on the basis of market reviews requires that the TRC complete a series of practical steps over the next period. The relevant steps are:

- data collection;
- market reviews and public consultation; and
- the enactment of market definitions, designations of dominance and remedies.

Each of those steps is discussed below.

#### 1.1 DATA COLLECTION

The TRC is carrying out its market reviews on the basis of a detailed set of market data and information collected through **questionnaires addressed to licensed telecommunications operators**. The data and information collected will assist the TRC in defining relevant markets, in demonstrating their appropriateness for *ex ante* regulation, in analysing the effectiveness of competition and designating operators with dominance, and in assessing the market failures that might arise from the existence of dominance on the relevant market which is the subject of review.

- The *quantitative* data collected by the TRC include, in particular, the number of subscribers at the end of each calendar year, annual traffic volumes (e.g., measured in minutes), annual turnover, the level of churn, all of which are segmented by reference to various criteria. In addition, the TRC has also been collecting over a number of years retail pricing data (this is especially the case for mobile services) outside the context of market reviews. In this initial data request for the purpose of market reviews, the data requested by the TRC covers a period of 3 years. Hence, in addition to the most recent observable data, the TRC has asked for data for previous years. This will enable the TRC to check the consistency of apparent market evolutions and to make necessary corrections to historical data if necessary as a result of its cross-checks.

- In addition to quantitative data, the TRC asked for *qualitative* information on retail markets, including the nature and extent of distribution channels, the level of marketing and advertising expenses, the extent of minimum contract periods, the degree to which contracting occurs with large business customers, and the advantages which any operator may have over another in terms of various factors such as control of essential facilities, access to capital markets, economies of scale and scope, and so forth. In addition, the questionnaires provide an opportunity to highlight commercial practices and difficulties in negotiating and concluding wholesale agreements.

The information requests have been divided into two separate data questionnaires:

- The *first* questionnaire collects data and information on the provision of fixed telecommunications services. It includes questions in relation to three groups of fixed markets: narrowband, broadband and dedicated capacity services, at both retail and wholesale levels.
- The *second* questionnaire deals with mobile telecommunications services, both at the retail and wholesale levels.

## 1.2 MARKET REVIEWS AND PUBLIC CONSULTATIONS

Following the process of data collection, the TRC will run a series of market reviews in order to review the need for, and scope of, *ex ante* regulation. Interested parties will be publicly consulted in an open and transparent process.<sup>32</sup>

The TRC intends to run **market reviews** for the following four sets of markets and in the order given below:

1. **Mobile markets** (covering, for example, the following services: wholesale mobile call termination, wholesale mobile access and call origination, retail mobile services);
2. **Fixed broadband markets** (covering, for example, wholesale access to physical network infrastructure, wholesale broadband access, retail broadband access);
3. **Fixed narrowband markets** (covering, for example, wholesale fixed call termination, wholesale fixed call origination, wholesale transit, retail access to the public telephone network and retail public telephony services provided at a fixed location);

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<sup>32</sup> This policy of transparency on the part of the TRC is in furtherance of the goals set forth in Paragraph 33 of the *Policy*.

4. **Dedicated capacity markets** (covering, for example, terminating segments, trunk segments, retail dedicated capacity).

For each set of markets, the TRC will publish a **Public Consultation document** which discusses its main findings on the markets analysed. The Public Consultation document will set out the TRC's preliminary views on:

- the definition of relevant markets that are susceptible to *ex ante* regulation;
- for relevant markets that are susceptible to *ex ante* regulation, an analysis of the effectiveness of competition, and where competition is not effective, designation of operators with dominance;
- for relevant markets characterised by a lack of effective competition, the selection of *ex ante* obligations appropriate to remedy the identified competition problems;
- for each market reviewed, the Consultation document will present the TRC's preliminary proposals on:
  - whether existing *ex ante* obligations should be maintained, revised or abandoned; and/or
  - whether new *ex ante* obligations should be introduced.

Following consultation with interested parties, the TRC will publish a **Report on the Consultation**. This document will contain:

- an evaluation of the responses of interested parties;
- the final conclusions regarding the outcome of the market review for each set of markets (*i.e.*, definition of relevant markets susceptible to *ex ante* regulation; effectiveness of competition and designation of dominant operators; selection of remedies, including an impact analysis);and
- the final conclusions regarding the maintenance, revision or abandonment of existing *ex ante* obligations and/or the introduction of new *ex ante* obligations.

### 1.3 ENACTMENT OF RELEVANT MARKET DEFINITIONS, DESIGNATIONS OF DOMINANCE AND REMEDIES

Following completion of the Public Consultation, the TRC shall enact decisions which:

- Define relevant markets;

- designate those operators with dominance in relation to the defined relevant markets; and
- prescribe the necessary remedies to apply to the dominant operators.

In turn, the remedies may take the following forms, as is appropriate in the particular circumstances:

- the maintenance or revision of existing *ex ante* obligations;
- the annulment of existing *ex ante* obligations; or
- the introduction of new *ex ante* obligations.

## 2. TIMING

This Section highlights the timelines in relation to the implementation of the three steps described in the previous Chapter. The TRC provides these timelines to increase regulatory certainty over the forthcoming review process.

### 2.1 DATA COLLECTION

The data collection process already started with the dispatch of questionnaires on 3 March 2009, and will end with the submission of the operators' responses by 14 May 2009.

### 2.2 MARKET REVIEWS AND PUBLIC CONSULTATIONS

Upon receipt of the data and information requested from operators, the TRC will carry out the market reviews on the four sets of markets (mobile, fixed broadband, fixed narrowband, and dedicated capacity). The findings of the market reviews will be subject to public Consultation. The provisional dates for publication of the Consultation documents are as follows:

- Mobile markets: End of August 2009.
- Fixed broadband markets: Middle of September 2009.
- Fixed narrowband markets: End of October 2009.
- Dedicated capacity markets: Middle of December 2009.

Following publication of each Consultation document, interested parties will be invited to provide comments and comments on comments to the TRC within a period of 5 weeks.

The TRC will complete each Consultation process by publishing a Report summarizing and evaluating the responses of interested parties as well as the TRC's conclusions with regard to the maintenance, revision, withdrawal or introduction of *ex ante* obligations.

### 2.3 ENACTMENT OF RELEVANT MARKET DEFINITIONS, DESIGNATIONS OF DOMINANCE AND REMEDIES

At the end of the process, for each set of markets, a series of **final regulatory decisions** regarding the issues of market definition, the designation of dominance and the prescription of remedies will be enacted and published by the TRC, in accordance with the TRC's procedures.

The following Table 1 summarizes the indicative dates that are of importance to the interested parties.

**Table 1: Indicative timetable for market reviews**

<b>Action</b>	<b>Final dates (indicative)</b>
TRC sent data request to operators (data questionnaire)	3-March-09
TRC published White Paper	[17-May-09]
Operators to return data questionnaire	14-May-09
TRC to hold Public Workshop with operators on White Paper	[09-June-09]
TRC to publish Consultation document on review of mobile markets	End of Aug-09
Operators to send comments on Consultation document on review of mobile markets	Beginning of Oct-09
TRC to publish final regulatory measures on mobile markets	Middle of Dec-09
TRC to publish Consultation document on review of broadband markets	Middle of Sep-09
Operators to send comments on Consultation document on review of broadband markets	Middle of Oct-09
TRC to publish final regulatory measures on broadband markets	Middle of Dec-09
TRC to publish Consultation document on review of fixed narrowband markets	End of Oct-09
Operators to send comments on Consultation document on review of fixed narrowband markets	Middle of Dec-09
TRC to publish final regulatory measures on fixed narrowband markets	Middle of Jan-10
TRC to publish Consultation document on review of dedicated capacity markets	Middle of Dec-09
Operators to send comments on Consultation document on review of dedicated capacities markets	Middle of Jan-10
TRC to publish final regulatory measures on dedicated capacity markets	End of Feb-10

