



**MALAYSIAN COMMUNICATIONS AND MULTIMEDIA
COMMISSION**

**A REPORT ON A PUBLIC INQUIRY:
ASSESSMENT OF DOMINANCE
IN COMMUNICATIONS MARKETS**

8 December 2004

PIR/AOD/No. 1 of 2004

TABLE OF CONTENTS

Section 1	Overview	1
Section 2	Background	7
Section 3	Comments on the analytical framework and identified markets	12
Section 4	Comments on the assessment of dominance in fixed line telephony	19
Section 5	Comments on the assessment of dominance in mobile telephony	41
Section 6	Comments on the assessment of dominance in upstream network elements	51
Section 7	Comments on the assessment of dominance in interconnection	60
Section 8	Comments on the assessment of dominance in leased lines	65
Section 9	Comments on the assessment of dominance in broadband services	82
Section 10	Comments on the assessment of dominance in broadcasting transmission	92
Section 11	Comments on the proposal to adopt market share thresholds	99
Section 12	Comments received regarding broader policy issues	112
Section 13	Comments received regarding other issues	118
Section 14	Comments on future developments	124
Section 15	Conclusions	125

SECTION 1: OVERVIEW

1.1. Introduction

- 1.1.1. In June 2003, the Malaysian Communications and Multimedia Commission (the Commission) launched an independent study (the Study) to assess dominance within the communications and multimedia industry in Malaysia. The Study was conducted as part of the Commission's role as industry regulator, a key function of which is to promote effective competition in the communications and multimedia industry.
- 1.1.2. The Commission wishes to emphasise that the areas analysed as part of the Study do not provide an exhaustive list of markets where dominance issues may arise. Accordingly, the Study represents a first initiative which may be followed by further steps to assess dominance within the communications and multimedia industry in Malaysia.
- 1.1.3. Given the significance of the findings of the Study, the Commission decided that it was appropriate to hold a Public Inquiry (PI) under Section 58(2)(b) of the Communications and Multimedia Act 1998 (CMA). Section 58(2)(b) provides that the Commission may hold a PI on its own initiative, if it is satisfied that the matter is of significant interest to either the public or to current or prospective licensees under the CMA.
- 1.1.4. The objectives of the PI were to invite the views of the public and the industry on the findings of the Study, with the view to attaining a better understanding of the state of competition in the industry. This would then provide a basis for further work in the area, paving the way for future Commission decisions to issue – if appropriate – a determination under Section 137 of the CMA (and – subject to further investigation, if warranted – a direction under Section 139 of the CMA will be issued).

1.2. Public Inquiry

- 1.2.1. The PI commenced in August 2004, with the release of the Public Inquiry on Assessment of Dominance in Communication Markets (the PI Paper).
- 1.2.2. To summarise, the PI Paper contained an explanation of the legislative context and analytical framework for an assessment of dominance, and then proceeded to detail the Commission's analysis and assessment of dominance in seven key areas of the communications market (i.e. fixed line telephony access, mobile telephony, upstream network elements, interconnection, leased lines, broadband Internet services, and broadcast transmission), based on market circumstances at that time. The PI Paper also outlined the Commission's proposals in regard to the establishment of market

share presumptions to be used in future assessments of dominance. The PI Paper also sought comments on the following issues:

- (a) the need to promote competition and the role of national champions in the context of an increasingly global marketplace;
- (b) the role and effectiveness of existing regulatory arrangements in respect of dominant licensees' conduct;
- (c) the scope of the Commission's analysis with respect to industry sectors;
- (d) the findings underpinning the Commission's market definition in each of the seven key areas of the communications market (e.g. the extent to which communications services using different technologies are substitutes, expectations with respect to new and emerging technologies, etc);
- (e) the findings underpinning the Commission's assessment of dominance in each of the seven key areas of the communications market (e.g. the significance of barriers to entry, economies of scale and scope, first mover advantages, evidence of competition between licensees, etc);
- (f) the need for, and role of market share presumptions, and the appropriate level of such thresholds for future dominance assessments; and
- (g) the need to place limits on the duration of a Commission determination under Section 137 of the CMA.

1.2.3. A public briefing was held by the Commission on 10 September 2004, which was attended by 42 members of the public from various licensees as well as other interested parties (comprising policy and regulatory consultancies, NGOs and non-licensees involved in the communications sector). During the briefing, the Commission briefed the attendees on the salient points of the PI Paper, with an emphasis on the following points:

- (a) Legislative context;
- (b) Economic framework for assessing dominance;
- (c) Identified markets;
- (d) Findings in identified markets;
- (e) Determination of Dominant Position;

- (f) Dominance thresholds; and
- (g) The way forward .

1.2.4. After that, the Commission went through the questions in the PI Paper, followed by a question and answer session during which questions and opinions from the attendees were noted by the Commission. The pertinent issues brought up during the hearing were as follows:

- (a) Enquiries as to whether the Commission would streamline or change the Guideline on Substantial Lessening of Competition and Guidelines on Dominant Position in a Communications Market after the conclusion of the PI;
- (b) Subsequent to the determination of dominance on a particular licensee, the courses of action that the Commission would take against the said licensee such as the imposition of ex-ante conditions or, ex-post conditions (such as acting upon a complaint being made on anti-competitive behaviour by a dominant licensee);
- (c) Enquiries as to the quantitative methods that would be employed by the Commission to determine a dominant position in a communication market;
- (d) Definition and characteristics of National Champions;
- (e) Enquiries as to the impact of tagging a National Champion as having a dominant position;
- (f) Opinions regarding the creation of National Champions in order to strengthen Malaysian players in the global environment;
- (g) Enquiries as to whether a corporation controlling both the broadcasting and communications sectors should be considered a dominant player, and the other conditions necessary for it to be considered as such;
- (h) Clarification on whether the numeric targets for market share as proposed by the Commission in the PI Paper referred to revenue or the number of subscribers;
- (i) Issues on price regulation as an effective tool to contain abuses by a dominant player;

- (j) Enquiries on the proposed two year expiry period of a determination of dominance and the subsequent processes involved;
- (k) Enquiries as to whether the Commission would welcome comments and feedback on markets that were not covered by the PI Paper;
- (l) In respect of price regulation, there was a suggestion that a study be conducted to consider the possibility of a rate review mechanism allowing for the flexibility to change prices on a yearly basis; and
- (m) The Commission's position regarding satellite broadcasting which was not included as one of the identified markets for the study.

1.2.5. Following the public hearing, the Commission received written submissions from the following parties:

- (a) Celcom (Malaysia) Bhd (Celcom);
- (b) Digi Telecommunications Sdn Bhd (Digi);
- (c) First Principles Sdn Bhd (First Principles);
- (d) Maxis Communications Bhd (Maxis);
- (e) NasionCom Sdn Bhd (NasionCom);
- (f) REDTone Telecommunications Sdn Bhd (REDTone);
- (g) Telekom Malaysia Bhd (Telekom Malaysia);
- (h) Time Dotcom Bhd (Time);
- (i) TMNet Sdn Bhd (TMNet);
- (j) TV3; and
- (k) En. Mohd Fairuz Abdullah.

1.2.6. The deadline for submissions closed on 8 November 2004.

1.3. Structure of the PI Report

- 1.3.1. The remainder of this PI Report is structured as follows:
- 1.3.2. Section 2 provides background on the PI Paper. In particular, it highlights the legislative context, the analytical framework of the Study and the key findings as set out in the PI Paper.
- 1.3.3. Section 3 sets out the comments received and the Commission's conclusions on the analytical framework and the markets identified.
- 1.3.4. Section 4 sets out the comments received and the Commission's conclusions on dominance assessment in fixed line telephony.
- 1.3.5. Section 5 sets out the comments received and the Commission's conclusions on dominance assessment in mobile telephony.
- 1.3.6. Section 6 sets out the comments received and the Commission's conclusions on dominance assessment for upstream network elements.
- 1.3.7. Section 7 sets out the comments received and the Commission's conclusions on dominance assessment in interconnection.
- 1.3.8. Section 8 sets out the comments received and the Commission's conclusions on dominance assessment for leased lines.
- 1.3.9. Section 9 sets out the comments received and the Commission's conclusions on dominance assessment for broadband services.
- 1.3.10. Section 10 sets out the comments received and the Commission's conclusions on dominance assessment for broadcasting transmission.
- 1.3.11. Section 11 sets out the comments received and the Commission's conclusions on market share thresholds to provide a presumption of dominant position.
- 1.3.12. Section 12 contains the Commission's response on broader policy issues that were raised in the submissions.
- 1.3.13. Section 13 discusses other issues raised in the course of the PI process.
- 1.3.14. Section 14 comments on future developments.

1.3.15. Section 15 contains the Commission's conclusions.

SECTION 2: BACKGROUND

2.1. Legislative context and the implications of dominant position

- 2.1.1. The CMA is designed and implemented to ensure that the industry is open for competition, and contains provisions that enable the Commission to monitor and promote competition within the communications and multimedia sector for the benefit of consumers at large.
- 2.1.2. Competition has been widely recognised, throughout the world, as a very effective method to deliver the best services for consumers. Competition works when firms struggle against each other for the custom and business of other firms and people in the market place. This constant striving to better one's rivals results in consumers becoming the beneficiaries of lower prices, better products, wider choice and greater efficiency than they would obtain in the absence of competition, e.g. under conditions of monopoly. In addition to improvements to the current marketplace in a static context, the constant striving for betterment in the market ensures stimulation of medium and long-term innovation.
- 2.1.3. In recognition of the fact that the efficiency of the market may be hindered by anti-competitive behaviour, the CMA is formulated to prevent such practices. The competition provisions in the CMA are given in Part IV Chapter 2 on "General Competition Practices". These provisions include rules that are applicable to all licensees as well as provisions that are only applicable to licensees that hold a dominant position.
- 2.1.4. The test of a dominant position is important because it is a precondition of the Commission's powers under Section 139. It paves the way for the Commission to direct a licensee to cease any conduct in a communications market that has or may have the effect of substantially lessening competition, and to implement appropriate remedies.
- 2.1.5. It is important to note that there is nothing objectionable about a licensee being in a dominant position. In fact, there is a strong possibility in this sector that some licensees will possess a dominant position. This would be in keeping with the economies of scale and scope and the network economies prevalent in the industry.
- 2.1.6. The CMA does not provide for any sanctions or remedies for the mere possession of a dominant position, as long as the dominant licensee does not abuse that dominant position.

2.1.7. Whilst several submissions to the inquiry have suggested that additional obligations should be placed on a dominant licensee (over and above those included in the CMA), this is not the intention of the Commission at the present time. In short, dominance is of no consequence to a licensee as long as it does not abuse its dominant position.

2.1.8. An assessment of dominant position, and any subsequent determinations, opens up the possibility for the Commission to act more quickly to allegations of any abuse of a dominant position.

2.2. Analytical framework

2.2.1 The analytical framework adopted in the assessment of dominance was outlined in Section 3 of the PI Paper. The main elements of the adopted framework are as follows:

- (a) The first step in any assessment of dominance is market definition. The Commission applied the methodological concept known as the Hypothetical Monopolist Test or SSNIP Test to identify each of the relevant markets. This test is an iterative procedure which starts by looking at the narrowest possible market (i.e. the narrowest possible set of products/services), and asks whether a hypothetical monopolist over that market could increase its profits by implementing a Small but Significant Non-transitory Increase in Price (SSNIP) above the competitive level. The threshold often used is a 5 percent to 10 percent price increase. If the hypothetical monopolist was prevented from imposing a price increase by a readily available alternative (or “substitute”), this product/service is included into the relevant market. The test is then applied again to the wider market including the substitutes thus identified. The test is repeated until a set of products/services is reached where such a price increase would indeed be profitable. The smallest set of substitutes thus established is then defined as the relevant market.
- (b) Hence, the key concept underlying the Commission’s market definition is substitutability. If one product/service is a close alternative to another product/service, it is, in economic terms, a substitute. Substitutability can occur on the demand side (e.g. in response to a price rise for product A, customers switch from product A to product B) or on the supply side (e.g. in response to a price rise for product A, the supplier of product B modifies its production process so as to then produce a product very similar to A, to which customers then switch).

- (c) The hypothetical monopolist test was applied to the product and geographic dimensions respectively for each of the markets. The product market encompasses all those products that are demand or supply substitutes of the product under investigation, while the geographic market describes the region or area over which substitution takes place.
- (d) It is important to note that the SSNIP test is a hypothetical test, and as such, aspects of existing market structures are assumed away for the purposes of the exercise. These aspects include price regulation, as well as the ownership and control structure of licensees.
- (e) Once a market is defined, the next step is to consider whether there is a dominant licensee in that market. This includes a review of market structure and the nature of competition in the market and barriers to entry into the market.

2.3. Key findings of the Study

2.3.1. Based on the information available in each of the seven areas of the communications market considered, the Study found that:

- (a) Telekom Malaysia was likely to be dominant in the provision of all forms of fixed line narrowband access to the PSTN (in most localities and nationally), given that it did not appear to face serious and effective competition in most areas of Malaysia, and where alternative providers existed, it appeared to retain a very strong position with respect to its existing customers. In addition, there were likely to be at least some barriers to entry.
- (b) There was insufficient support for a finding of dominance in the provision of mobile telephony services. While past behaviour indicated a reasonably competitive market, the effects of the recent consolidation (i.e. the combination of Celcom and TM Touch as well as Maxis and TimeCel) may not have been fully reflected in the market. Consequently, further analysis would need to be undertaken to ascertain the effect on competition in the market brought about by the combination of Celcom and TM Touch as well as Maxis and TimeCel.
- (c) Market definition and therefore dominance in the case of individual network elements would vary on a case-by-case basis. Dominance should therefore be assessed as and if specific issues arise. Nonetheless, on the basis of the Study it appeared that if the relevant market is found to be an individual

network element or route that is supplied by a single provider, that provider is likely to be found dominant in that market. However, if the relevant market is found to be a route over which several providers compete, dominance is likely to depend on the structural characteristics of that market, including whether capacity constraints are present.

- (d) Each licensee with a network was a monopoly supplier in the provision of call termination and origination services to their network. It appeared that entry was unlikely, suggesting that each of the suppliers was dominant in the market for termination and origination on its own network.
- (e) Telekom Malaysia was likely to be dominant in the supply of analogue leased lines in Malaysia.
- (f) There was a strong likelihood that Telekom Malaysia was dominant in the supply of digital leased lines on the routes between Peninsular Malaysia and East Malaysia, and maybe also on some routes within Peninsular Malaysia. However, dominance in the supply of digital leased lines should be assessed on a case-by-case, route-by-route basis, as and if specific issues arise. Such an assessment would take into consideration the available capacities held by each operator, barriers to entry, and the commercial advantages held by one or more of the operators.
- (g) TMNet, with its connection to Telekom Malaysia, was likely to be dominant in the provision of data application and Internet services over broadband connections in Malaysia, given that it was the major provider by a very large margin and there were likely to be significant barriers to entry, not least brought about by the vertical integration of TMNet with Telekom Malaysia which was likely to affect access to bitstream and local network elements.
- (h) Telekom Malaysia was likely to be dominant in the provision of transmission services for analogue television broadcasting (in most localities and nationally), given that it did not appear to face serious and effective competition in this market and there were likely to be at least some barriers to entry.

2.3.2. With respect to the establishment of market share thresholds as indicators of dominance, the Commission proposed:

- (a) a 45 percent market share above which a presumption of a dominant position existed;

- (b) a presumption of non-dominance for a market share of below 25 percent; and
- (c) for market shares of between 25 and 45 percent, no presumption in either direction, although, other things being equal, the higher the share the more likely it would be that a licensee would have substantial market power.

2.3.3. While carefully noting the dangers of determining a licensee dominant purely on the basis of market share information, the Commission indicated in the PI Paper that it may incorporate these thresholds in its *Guidelines on Domination Position in a Communications Market*, for use in future assessments of dominant position.

2.3.4. The remainder of this PI Report presents the comments received by the Commission in response to these findings and the analysis underpinning them. The Commission also outlines its conclusions on these matters, following the PI process.

SECTION 3: COMMENTS ON THE ANALYTICAL FRAMEWORK AND IDENTIFIED MARKETS

- 3.0.1. The analytical framework adopted by the Commission for its assessment of dominance and the scope of the Study (and subsequently the PI) was outlined in Sections 3 and 4 of the PI Paper, respectively. While the Commission did not specifically invite views on its proposed analytical framework, it welcomed views on all aspects of the PI. The PI Paper did explicitly seek views on the Study scope.
- 3.0.2. This Section provides a summary of the comments received, and outlines the Commission's conclusions on these aspects of the PI.

3.1. Overview of the submissions received

- 3.1.1. Few comments were received by the Commission on either the proposed analytical framework for the assessment of dominance, or the scope of the dominance Study. The key exception was one submission which sought clarification regarding the relevance of the analytical framework in the Malaysian context. A number of licensees also suggested additional areas of the communications market that the Commission may wish to investigate.

3.2. Comments on the analytical framework

- 3.2.1. As noted, the analytical framework adopted by the Commission was outlined in Section 3 of the PI Paper, and is summarised in Section 2 of this PI Report. In brief, the key concept adopted for the purposes of market definition was the concept of substitutability, and the methodology adopted was the Hypothetical Monopolist or SSNIP test. In assessing dominant position the Commission considered a range of factors including market shares, barriers to entry, the presence of economies of scale and scope, vertical integration, and other aspects of market structure.

Comments received

- 3.2.2. Few submissions offered comments about the analytical framework proposed by the Commission for the assessment of dominance. The comments received were as follows:
- (a) The legal basis of the assessment of dominance was itself questioned as the analysis made too few references to Malaysian law and instead focused on European precedent (specifically the EU Framework Directive for the electronic communications sector, which is specifically designed to support ex

ante regulation – which is not the case in Malaysia). It was not clear whether the Commission’s analysis was consistent with the CMA.

- (b) It was noted that the relevant sections of the CMA are based on Australian precedent, and that US, UK and Japanese competition laws utilise similar concepts to Australia (with some differences).
- (c) Few references are made to the concept of “convergence” which underpins the CMA and Malaysia’s communications sector policy. The Study also omitted a formal assessment of how a traditional assessment of dominance (e.g. in Europe) differs from a convergence assessment as required by the CMA.

The Commission’s views

3.2.3. As outlined in the PI Paper,¹ the Commission’s assessment of dominance had been conducted with reference to best practice in international competition policy, bearing in mind the particular characteristics of the Malaysian communications sector. As such, the Commission had drawn on precedents from a range of jurisdictions including Europe, the United States and Australia. Equally however, the Commission had been mindful of Malaysian law and regulations, including its competition guidelines such as the *Guideline On Dominant Position in a Communications Market*.

3.2.4. The key aspects underlying the Commission’s analysis of market definition was the concept of substitutability and the Hypothetical Monopolist test. Both of these are widely recognised internationally as appropriate tools for market definition purposes. They do not only feature in European arrangements. For example, both concepts are set out in the market definition section of the Australian Merger Guidelines:

“Section 4E [of the Trade Practices Act 1974] provides that the term market ‘includes a market for those goods and services and other goods and services that are substitutable for, or otherwise competitive with, the first-mentioned goods or services.’”²

“The process of market definition can be viewed as establishing the smallest area of product, functional and geographic space within which a hypothetical

¹ See Section 3, page 14.

² ACCC, Merger Guidelines, para 5.37. These guidelines are available on the ACCC’s website <http://www.accc.gov.au>

*current and future profit maximising monopolist would impose a small but significant and non-transitory increase in price (SSNIP)."*³

3.2.5. The concepts also feature in the UK Office of Fair Trading's guidelines *Market Definition*.⁴

*"The Director General starts... [by] trying to identify products which are substitutes for each other, so that competing undertakings can be identified."*⁵

*"If the undertaking would be prevented from setting prices above competitive levels by substitution to certain products, those substitutes can then be added to the potential market and the test applied again. This involves asking whether an undertaking which was the only supplier of this larger group of products would maximise profits by charging prices above competitive levels. By repeating the process a definition can eventually be reached where, under the assumptions above, a 'hypothetical monopolist' could maintain prices above competitive levels. This will usually be the market definition used."*⁶

3.2.6. In the US Department of Justice's Horizontal Merger Guidelines,⁷ substitution and the Hypothetical Monopolist test also play a central role in market definition:

*"A market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a "small but significant and nontransitory" increase in price, assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test."*⁸

3.2.7. Most importantly, the concept of substitutability is also recognised in Malaysia and is contained within the Commission's *Guideline On Dominant Position In a Communications Market*.⁹

³ Ibid, para 5.44.

⁴ These guidelines outline the OFT's intended application of the UK's *Competition Act 1998*, with respect to market definition. The guidelines are available on the OFT's website: <http://www.of.gov.uk>
⁵ OFT, *Market Definition*, para 2.6.

⁶ Ibid, para 2.9.

⁷ These guidelines are available on the US Department of Justice's webpage, at http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html

⁸ US Department of Justice, *Horizontal Merger Guidelines*, Section 1.0.

⁹ See Exhibit 2: Market and service structures in the convergence.

3.2.8. Similarly, in order to assess whether a licensee is in a dominant position, the Commission has considered a range of factors including market shares, barriers to entry, the presence of economies of scale and scope, vertical integration, strategic advantages (such as first mover advantages), and other aspects of market structure. These are also widely recognised internationally as useful indicators to determine whether a firm holds market power or a dominant position, as evidenced in the table below.

Table 1: Factors considered by regulatory authorities in assessments of dominance

Jurisdiction	Factors considered in an assessment of dominance
<i>UK Assessment of Market Power Guidelines</i> ¹⁰	Market shares, barriers to entry, economies of scale, access to finance, and buyer power
<i>Guideline on Dominant Position in a Communications Market</i> ¹¹	Market shares and concentration, vertical integration, barriers to entry, global technology and commercial trends, the degree of product or service differentiation and sales promotion.
<i>Australian Merger Guidelines</i> ¹²	Market shares, barriers to entry, countervailing buyer power, availability of substitutes, vertical integration, and “dynamic characteristics” of the market

3.2.9. As to the concern regarding differences between European and Australian competition law (and subsequently Malaysian law), the Commission notes that, while Australia’s Trade Practices Act draws heavily on the US’s Sherman Act, the precedent for the assessment of market power in Australia was in turn established on European precedent. In *Queensland Wire Industries Pty Ltd v Broken Hill Pty Co Ltd*¹³, Mason CJ and Wilson J said:

¹⁰ OFT, *Assessment of Market Power*, Sections 46. These guidelines are also available on the OFT’s website.

¹¹ Commission, *Guideline on Dominant Position in a Communications Market*, Section 7.4.

¹² ACCC, *Merger Guidelines*, Section 5.

¹³ (1989) 167 CLR 177 at 189; 63 ALJR 181; 83 ALR 577; ATPR 40-925

“Market power can be defined as the ability of a firm to raise prices above the supply cost without rivals taking away customers in due time, supply cost being the minimum cost an efficient firm would incur producing the product...”

In *Continental Can*, the European Court recognised the necessity of considering potential competition in determining the degree of market power:

‘a dominant position on (sic) the market for light metal containers for meat and fish cannot be decisive, as long as it has not been proved that competitors from other sectors of the market for light metal containers are not in a position to enter this market, by a mere adaptation, with sufficient strength to create a serious counterweight’¹⁴

3.2.10. The Commission further takes note the argument that the CMA is better understood with reference to inter alia the UK Competition Act 1998, as opposed to EC precedent. It is in this context useful to note Section 60 of the UK Competition Act, which has the objective to ensure consistency with EC law:

“A key feature of the Competition Act is that it strives for consistency and harmony with EC law. In order to ensure this consistency, Section 60 provides that ‘so far as possible’ and ‘having regard to any relevant differences between the provisions concerned,’ the U.K. authorities must ensure that their actions in applying the prohibitions are consistent with the principles laid down by the EC Treaty and the European Court of Justice, or any relevant decisions of the European Court of Justice as applicable at the time. They must also have regards to any relevant decision or statement of the European Commission. The inclusion in Section 60 of the words ‘as applicable at that time’ means that developments in the EC case law have to be taken into account. Accordingly, Section 60 ensures a continuing consistency with its European prototype legislation.”¹⁵

3.2.11. The Commission thereby considers that the analytical framework adopted in the PI Paper is appropriate; it is both consistent with international best practice in competition policy and is relevant to the Malaysian situation.

¹⁴ Miller, Russell V, *Miller’s Annotated Trade Practices Act 1974*, Lawbook Co, 24th edition, 2003, page 291.

¹⁵ Deirdre Trapp and Janed Gillen, “The United Kingdom’s Competition Act 1998: A New Force to Be Reckoned With?”, *Antitrust Report*, available at <http://www.freshfields.com/practice/comtrade/publications/pdf/Gillen.pdf>

3.3. Comments on the focus and scope of the study

3.3.1. The Study covered seven key areas of the communications market, including fixed line telephony, mobile telephony, upstream network elements, interconnection, leased lines, broadband services, and broadcasting transmission.

3.3.2. The PI Paper sought views on:

- (a) the focus of the Study, and whether the Study should consider any other relevant communications market where problems relating to dominance are likely to exist.

Comments received

3.3.3. While some submissions were in agreement with the focus of the Study, others suggested that there was a need to consider additional areas of the communications market such as:

- (a) An assessment into the satellite broadcasting market.
- (b) An assessment into the network elements market (e.g. it was suggested that there were problems in relation to cell sites for the location of base stations in certain regions of Malaysia, which required further assessment).
- (c) an assessment into the KLCC area (e.g. it was noted that there were apparent limitations on providers being able to provide network facilities in said area).
- (d) an assessment into the Sarawak market (especially Kuching).

The Commission's views

3.3.4. The Commission welcomes the views offered in the submissions. Yet, while it is recognised that other markets may also justify closer scrutiny, the Study necessarily had to make a selection.

3.3.5. The PI Paper had noted in Section 4 that it would be impossible to provide an exhaustive list of markets that may be relevant and merit attention. Accordingly, the Commission went through a process of identifying markets to be investigated in the Study. Section 4.1 of the PI Paper set out this market identification methodology, which was based on a series of considerations:

- (a) markets were chosen to cover the majority of service areas;
- (b) the Study concentrated on the likely major and quantitatively significant areas;
and
- (c) the Study included markets at all levels of the supply chain, to illustrate the economic considerations that underlie market definition and the assessment of dominance.

3.3.6. The Commission constantly welcomes submissions from industry participants which may help the Commission to ensure that markets are allowed to function competitively. Responses received in the course of this PI on the focus and scope of the Study, will be reflected in the Commission's comments and future initiatives. The Commission notes that the areas covered in the Study do not necessarily provide an exhaustive list of markets where dominance considerations may arise. Issues outside the scope of the Study will be taken up separately.

3.3.7. The licensees' suggestions in relation to network elements are addressed in Section 6.

SECTION 4: COMMENTS ON THE ASSESSMENT OF DOMINANCE IN FIXED LINE TELEPHONY

- 4.0.1. The PI Paper sought views on a number of findings underpinning the Commission's analysis of market definition (including the substitutability between fixed line and fixed wireless links, the substitutability between ISDN lines and direct exchange lines, the substitutability between fixed and mobile, and expectations on the emergence of new technologies). The PI Paper also sought views on aspects relating to the assessment of dominance, including the extent to which any licensees might be expected to hold strategic advantages relative to other licensees in the provision of fixed lines services, the significance of barriers to entry, and whether price regulation might be expected to constrain a dominant licensee from being able to abuse its position. The Commission's preliminary conclusions on these were set out in Section 5 of the PI Paper.
- 4.0.2. This Section provides a summary of the comments received, and outlines the Commission's conclusions on its assessment of dominance in respect of access to the fixed line network.

4.1. Overview of the submissions received

- 4.1.1. The submissions received were largely in support of the Commission's findings in relation to fixed line telephony access. Evidence and views submitted tended to support both the Commission's analysis of market definition and its assessment of dominance.
- 4.1.2. The key exception is a submission which claimed that mobile telephony is in fact a substitute for access via fixed lines.

4.2. Comments on the strength of substitutability between fixed wireless connections and direct exchange lines

- 4.2.1. To arrive at a market definition for fixed line telephony, the Commission considered whether direct exchange lines and fixed wireless connections were demand and/or supply substitutes. The Commission considered that, while direct exchange lines and fixed wireless links offered similar functionality (both enabling basic voice telephony and low bandwidth Internet access), the cost of providing access via direct exchange lines and fixed wireless links is distinctly different. In particular, the Commission found that current practice indicates that, in general, fixed wireless technologies are not likely to be cost competitive in many urban areas, and direct lines are not likely to be competitive in some rural areas. Accordingly, the Commission concluded that consumers do not have a genuine choice between

access via a direct exchange line and access via a fixed wireless link, and therefore, in general, the two types of access do not represent demand side substitutes in Malaysia. As the two service types were not likely to be supply substitutes, the Commission concluded that access via the two technologies were likely to fall within separate markets.¹⁶

4.2.2. The PI Paper sought views on:

- (a) the current competitiveness of wireless technologies, relative to direct exchange lines, in both urban and rural regions of Malaysia;
- (b) the extent to which wireless and wired links could be considered substitutes; and
- (c) the cost differential between wired and wireless links.

Comments received

4.2.3. Summarised below are comments received in relation to the substitutability of fixed wireless and direct exchange lines:

- (a) A key determinant of the suitability of wireless and wired technology is the density of the area covered: wireless technologies are more suited for less dense areas, where capacity requirements do not outweigh the technical benefits of providing wide coverage using radio. As such, wireless fixed line technologies are more suited to rural regions and also urban areas where density is temporarily low, such as in new housing areas where few residents have taken occupancy.
- (b) Only selected wireless technologies could offer similar functionality to direct exchange lines. Direct exchange lines offer voice calls, fax and dial up services up to 56kbps. Wireless technology can offer voice calls, but its data (including fax) capabilities will differ depending on the type of technology adopted. It is noted that CDMA based systems could offer data speeds close to standard direct exchange lines whilst GSM based solutions normally offered slower speeds, closer to 9.6kbps.

¹⁶ The Commission noted that technological improvements over time were likely to bring the competitive price of the two technologies closer together. Accordingly, over time, fixed wireless and direct exchange lines may therefore become substitutes.

- (c) Although there is a lot of R&D on wireless technologies, their current competitiveness is not likely to have a substantial impact on direct exchange lines. However, this may change in the future. The cost of customer equipment and the cost of the service itself are also highlighted. With regard to the distinction of urban and rural environments, direct exchange lines are likely to be preferable in urban areas, whereas wireless technologies may be preferable in rural areas. Cost differences between the two technologies may derive from right-of-way and maintenance, and the absence of sufficient economies of scale.
- (d) A submission cited “a number of studies” which apparently concluded that there existed, for almost all scenarios (urban, regional, etc), viable wireless solutions which could be utilised to meet customer demand.
- (e) It is also submitted that newly licensed communications companies tended to roll out wireless technologies because this is more cost effective and quicker to establish than wired links, as they are unlikely to own large infrastructure such as fibre and coaxial cable nationwide.

The Commission's views

- 4.2.4. The evidence provided in the submissions tended to confirm the Commission's reasoning as set out in the PI Paper. In particular, technology is being rolled out according to licensees' decisions in accordance with business and strategic plans, and as such, consumers did not have a genuine choice between access via a direct exchange line and access via a fixed wireless link. Accordingly, the Commission concludes that the two types of access do not represent demand side substitutes in Malaysia.
- 4.2.5. No submissions opposed the Commission's analysis of supply substitution between the two technologies. The Commission therefore maintains that access services via the two technologies are neither supply nor demand substitutes and therefore fall within separate markets.
- 4.2.6. The Commission notes that technological improvements over time are likely to increase the cost competitiveness of fixed wireless links over time, and as such, fixed wireless and direct exchange lines may become substitutes at some stage in the future.

4.3. Comments on the strength of substitutability between fixed line and ISDN lines

4.3.1. For the purposes of defining the market for fixed line telephony, the Commission considered whether fixed line and ISDN lines were likely to be substitutes. Based on differing capabilities and the significant price differential between the two services, the Commission concluded that basic ISDN lines and direct exchange lines were not likely to be demand substitutes for one another. The Commission however reasoned that the two were supply substitutes,¹⁷ and as such, the two services were in the same market.

4.3.2. The PI Paper sought views on:

Whether customers were likely to switch from ISDN line subscriptions to a direct exchange line, or vice versa.

Comments received

4.3.3. Summarised below are comments received on the strength of substitutability between fixed lines and ISDN lines:

- (a) ISDN and direct exchange lines are not easily substitutable from a customer's perspective due to cost and functionality differences.
- (b) ISDN and direct exchange lines are not homogenous goods. In particular, ISDN lines are aimed at companies, and have different functionality and different associated costs.
- (c) The two services are two different products with two different target users.
- (d) The two services are not demand substitutes because large business customers preferred ISDN due to its capability (e.g. offering better call-setup facility with shorter post dialling delay), and therefore are not likely to switch from an ISDN line to a direct exchange line (which could not support such functionality). Similarly, customers who subscribed to direct exchange lines typically had a smaller workforce, and are unlikely to switch to ISDN lines unless they wished to upgrade the capability of their network system.

¹⁷ The Commission noted that to the extent that providers of access via ISDN lines also have spare copper pairs (which the Commission understood was nearly always the case), then the provider could easily move swiftly into the provision of access via a direct exchange line. By the same token, a provider of direct exchange lines could easily provide ISDN access using spare copper pairs. Accordingly, the Commission reasoned that direct exchange lines and ISDN lines were supply substitutes.

The Commission's views

4.3.4. The comments received were consistent with the reasoning of the Commission, as set out in the PI Paper. As such, the Commission concludes that basic ISDN lines and direct exchange lines were not demand substitutes, but they were supply substitutes. ISDN and direct exchange lines were therefore in the same market.

4.4. Comments on the strength of substitutability between fixed line and mobile telephony

4.4.1. To arrive at a market definition for fixed line telephony, the Commission considered whether fixed line and mobile telephony were likely to be substitutes. The Commission found significant differences in functionality between fixed and mobile telephony, which it considered would be likely to prevent consumers from viewing mobile telephony as a close substitute to fixed lines. For example, the Commission found that some services were not widely available on mobile phones, such as sending and receiving faxes. Mobile Internet capabilities were also inferior to those available via a fixed line. The Commission also observed that in Malaysia there existed a substantial differential between the price of fixed line and mobile calls, giving consumers a strong incentive to maintain a fixed line link even if they wished to own a mobile phone for other reasons. The Commission therefore concluded that mobile telephony was unlikely to displace fixed lines to a significant extent in the near future. The Commission also considered that the two services were not supply substitutes. Accordingly, the Commission concluded that mobile telephony was not in the same market as fixed line telephony.

4.4.2. The PI Paper sought views on:

- (a) the extent to which mobile telephony was a demand substitute for fixed line;
- (b) the factors that prevented mobile telephony from being a substitute for fixed line; and
- (c) the net effect of mobile telephony being accepted as a close substitute for fixed line on the communications market and market players.

Comments received

4.4.3. Summarised below are submissions received on the issue of substitutability between access to fixed and mobile telephony:

- (a) Mobile telephony is not a feasible demand substitute for fixed line based on four reasons. Firstly, there is a substantial price differential between the services. Secondly, services supported by fixed lines cannot be supported on a mass basis by mobile networks. Thirdly, international precedent treats the provision of fixed line services as distinct and separate from the provision of mobile services. Lastly, certain areas are likely to be covered under USP using WiLL technologies, which implied that mobile services would not subsequently be provided in these areas, preventing fixed line subscribers from having access to mobile as a demand substitute.
- (b) A number of observations which seem to suggest that mobile telephony could perhaps be a feasible demand substitute for fixed line can be debunked in the following manner: (1) although there is an increasing number of mobile only households emerging in Malaysia, this involves a relatively small number of households and did not necessarily reflect a conscious decision but one based on the lack of fixed line supply; (2) the CDMA WiLL solution implemented in India under a fixed line license incorporated full mobility, resulting in the full erosion of the previous distinction between mobile and fixed telephony. This scenario is considered a remote possibility for Malaysia due to regulatory requirements; and (3) although the increasing size of CDMA WiLL cells may provide coverage over a relatively large geographic area (e.g. as used in China Telecom's PHS service), this is not generally considered to be an issue in Malaysia.
- (c) Mobile telephony is not an effective substitute for fixed line telephony in Malaysia for the following reasons: (1) the two services offer different characteristics and functionalities: "[m]ost users view mobile services as a 'package' of all these services and this package provides customers with a very different user experience from the fixed line. Furthermore, price of calls are significantly different with mobile tariffs being relatively more expensive than fixed tariffs."; (2) the demand for fixed telephony is relatively inelastic and two empirical studies which support this claim are cited; and (3) it is observed that the majority of mobile users in Malaysia has chosen to keep both a fixed and mobile telephone. The Commission's Consumer Wave Survey is cited in support of this observation .
- (d) There is mixed evidence on the extent to which customers viewed mobile telephony as a substitute for fixed line, although it suggested that on the whole "substitution has so far not become a significant tendency". It is also noted that there is increasing demand for mobile telephony services and the "stabilisation of total costs" in mobile could lead to reduced prices in the future

making substitution more attractive. However, fixed line services is likely to continue to provide strong and more stable Internet and high volume data traffic services for the foreseeable future (given the expectation that copper, fibre, radio, and radio/cable hybrid networks will be the primary access technologies for broadband in the future). This may also dampen substitution from fixed to mobile.

- (e) Mobile telephony served different customer needs from fixed line telephony. Outside the provision of basic voice services, mobile telephony overall is in fact complementary to fixed line telephony. Three factors are listed as contributing towards mobile telephony not being an effective substitute: (1) cost, (2) functionality, especially for offerings other than basic voice services and with regard to business needs such as hunting lines, PABX capabilities, fax, Internet dialup and so on, and (3) characteristic, i.e. that a mobile phone would be carried by the owner 80-90 percent of the time.
- (f) Mobile telephony is not a substitute for fixed line to any significant extent in Malaysia. Rather, mobile telephony is a supplement to fixed line services. Reasons given included the price differentials of the two services, the restricted data and Internet services available via mobile phone, and the reliable nationwide fixed line network (which made customers reluctant to terminate these services although they also have mobile phones). It is acknowledged however that mobile might provide a feasible alternative to fixed line in some countries due to specific reasons which is not present in Malaysia (e.g. in Cambodia, where mobiles outnumbered fixed lines given the extensive damage to the fixed line network during years of civil war; and Finland, where mobile tariffs were competitive with those for fixed lines).
- (g) One dissenting view claimed that mobile telephony can and does substitute for fixed telephony. In support of this claim four “major” studies and data demonstrating growth in mobile voice traffic relative to fixed over the 1992 to 2003 period (sourced from Nokia) are cited. The submission also referred to the “stagnant” growth rate for direct exchange lines in Malaysia as further evidence of this. The submission also acknowledged that there are two factors which might prevent mobile telephony from becoming a substitute for fixed line services: (1) network coverage; and (2) download speeds for 2 and 2.5G services is “expensive” relative to dial-up Internet services.

The Commission's views

- 4.4.4. The comments and evidence received was consistent with the PI Paper. The content of these submissions gave further support to the Commission's general findings that there were significant differences in functionality between fixed and mobile telephony, and there was a substantial price differential between the two services, both of which prevented consumers from viewing mobile telephony as a close substitute to fixed lines.
- 4.4.5. The sole dissenting view is considered in turn below.
- 4.4.6. Firstly, the dissenting view submitted that the growth in direct exchange lines is on the decline (averaging – 0.6 percent p.a. in terms of subscribers and – 0.4 percent p.a. in terms of revenue), and that this supported the claim regarding substitution. A decline in the growth of direct exchange lines however is not direct evidence of substitution from fixed to mobile telephony. As noted in the PI Paper, the declining trend in connections was relatively modest, and the evidence¹⁸ showed that this declining trend did not precisely correspond to growth rates in mobile connections, indicating that there were other factors at play. Similar points were raised in other submission as follows:

“...statistics show PSTN penetration rates falling in recent times, at a time when mobile penetration is still increasing. Whilst most will use this as evidence of mobile being a substitute for fixed, this is inaccurate because the functionalities are different. On its own, mobile telephony cannot fully substitute fixed services. Moreover, there is still a significant waiting list for fixed telephones.”

- 4.4.7. Secondly, the dissenting view listed and quoted four studies as evidence of fixed to mobile substitution. The Commission has reviewed the quoted papers, and finds that it presented an incomplete view of the full conclusions of all four studies. The Commission in fact is of the opinion that the papers support its preliminary conclusions as set out in the PI Paper.¹⁹ Each of these papers is considered below.

“Fixed and Mobile Competition in Transition Economies”, Chris Taubman and Maria Vaqliasindi.

¹⁸ PI Paper, Figures 5.2 and 5.3.

¹⁹ However, the Commission also recognises that, given that the studies utilise data from non-Malaysian jurisdictions, they have limited relevance to the study.

4.4.8. The dissenting view quoted this paper as follows:

“[o]ur results provide some evidence of some substitution effects in place at the country level. Despite the fact that business use of mobile services is positively associated to fixed line penetration rates, it is negatively and significantly (at 1 percent confidence level) associated to the interacted variable given by joint fixed and mobile penetrations rates. This can be interpreted as clear evidence of substitution effects at country level”

4.4.9. However, the paper continues as follows:

“[h]owever, complementary effects dominate at the enterprise level, likely due to the fact that wireless solutions can be considered as a good alternative of voice services, but not for other services”

4.4.10. The paper, as such, provides no clear evidence of customers viewing mobile connections as a substitute for fixed lines (which is the subject of the inquiry). It simply suggests that mobile voice calls are displacing fixed line calls in the business sector.

“Fixed mobile substitution – current situation and potential”, Jan-Petter Saether.

4.4.11. The dissenting view quoted this paper as follows:

“[f]ixed telephone seems to be preferred for voice applications when available. Mobile is used for voice applications mainly when people are away from home and job...people are increasingly using more of their available time away from home and away from fixed job locations. Continually better mobile telecommunications services may increase this trend.”

4.4.12. The Commission is of the opinion that the quote in fact supports its analysis that customers tend to purchase mobile for the characteristics of mobility, i.e. when a fixed line is available, fixed line telephony seems to be preferred.

“Usage substitution between fixed and mobile telephony in the U.S.”, Michael R. Ward, and Glenn A. Woroch.

4.4.13. The dissenting view quoted this paper as follows:

“[o]ur estimates indicate that mobile service is a moderate substitute for wireline usage. Evolving usage patterns suggest that mobile and wireline service will become greater substitutes over time.”

4.4.14. However, the paper continues as follows:

“[i]t would be premature, however, to infer from these estimates that mobile service currently constrains local telephone service market power to any economically significant degree.”

4.4.15. Accordingly, the Commission is of the opinion that this paper does not constitute evidence for mobile telephony being a substitute for fixed line telephony.

“Estimation of a Fixed-Mobile Substitution Model in Korean Voice Telephony Markets” by Hyungtaik Ahn, Jonghwa Lee and Yongkyu Kim.

4.4.16. The dissenting view chose the following quotation from this paper:

“...we may infer that mobile service is a substitute for the fixed-line service in both caller and receiver networks in Korea. And these empirical results of effects of relative prices and the number of subscribers on call substitution at origination and termination levels seem to be consistent with implications of the call demand theory”.

4.4.17. This quotation does not fully reflect the findings and implications of the paper, as is evident upon consideration of the following further quote, taken from page 15:

“The price gap [between fixed and mobile services] will give a telephone user incentive to maintain the fixed line to save expenditure for overall phone bill. This trend makes us to predict that fixed-mobile substitution at the subscription level will not happen on a significant scale. As the number of mobile subscribers has reached a maturity level, we may predict that fixed-mobile call substitution will not be so significant as it was in the past few years.”

4.4.18. Evidence supporting the view that there has not been significant subscription substitution in Korea (equivalent to access substitution as analysed in the PI Paper) is also presented in the paper.

4.4.19. Furthermore, the authors of the paper use the results of their econometric analysis to reach spurious conclusions. The paper finds a negative correlation between the relative price of fixed-origination calls (vis-à-vis mobile-originating calls) and the share of fixed-origination call minutes. However, a relationship between relative share and relative prices contains both elements of own and cross price demand: one is not able to separately identify the cross price effect. Thus it is not correct to take evidence of a negative relationship between relative share and relative prices as evidence of substitutability – such a relationship will exist between any two goods as long as they face downward sloping demand curves.²⁰

4.4.20. This paper, along with the other three papers quoted by the dissenting view, can therefore be disregarded as evidence of substitution from fixed to mobile.

4.4.21. Thirdly, the dissenting view has quoted a report by OVUM as evidence of fixed to mobile substitution. No source details were provided for the quote, and the Commission has therefore been unable to examine it. The Commission has however identified a recent report by OVUM²¹ that does offer evidence of fixed to mobile substitution (in terms of both access and calls). It presents evidence of strong substitution in countries such as those in Eastern Europe, which OVUM attributes to a low price premium between the two services. The main focus of the report however is that mobile prices can be expected to fall on a global scale as technology improves, implying that mobiles will pose a real competitive threat to fixed operators *in the future*. OVUM also notes that fixed operators are not “defenceless”, in that they should be able to compete in terms of price, convenience and handset functionality, and should be able to exploit the fact that the Internet is closely tied to the fixed line and its strong market presence as a “home institution”.

4.4.22. Fourthly, the dissenting view submitted data detailing mobile vs. fixed voice traffic from 1992 to 2003. The graph, sourced to Nokia, showed that in 2003 mobile traffic represented approximately 25 percent of total voice traffic. This is expected to grow to 50 percent by 2007. No specific source details were provided for the data, and the Commission has therefore been unable to examine it. Nevertheless, the Commission notes that, regardless of its origin, the fact that mobile voice traffic has grown (and is expected to grow further), and that fixed voice traffic appears to be approaching saturation point, provides no direct evidence that fixed and mobile

²⁰ For example, if the price of bananas increases whilst the price of a haircut is unchanged, the relative price of bananas will increase whilst the share of bananas may fall (people now buy fewer bananas) but this does not imply that bananas and haircuts are substitutes. The relationship is simply a property of the downward sloping demand facing banana suppliers.

²¹ Ovum’s report “Defending against mobile substitution: strategies for fixed operators”, by Angel Dobardziev. See <http://www.ovum.com/go/content/c,42832>

connections are substitutable, as it is subject to same criticism that is set out in Section 4.4.19 above.

4.4.23. Accordingly, the Commission is not persuaded by the arguments put forward by the dissenting view. It therefore maintains its position in the PI Paper where it was found that mobile telephony was neither a demand nor a supply substitute for fixed lines, and consequently that mobile telephony was not in the same market as fixed line telephony.

4.4.24. In relation to the submission outlined in Section 4.4.3 (b) on the points concerning the likely adoption and utilisation of WiLL technologies, the Commission considers that:

- (a) The unique features and benefits of CDMA WiLL make it a promising technology: it enables existing landline operators to extend their network, cellular operators to capitalise on their current network to deliver new services, and new entrants to rapidly deploy services. In a fixed telephony environment, CDMA can provide a considerable amount of capacity (as subscribers require less radio frequency power), enabling more subscribers to be placed on a CDMA channel. In addition, CDMA optimises the use of the radio spectrum. CDMA's single cell frequency re-use capability and non-contiguous bandwidth requirement, along with its extended coverage range, simplifies radio frequency planning and implementation. This allows an operator to invest in fewer cell sites, with faster deployment.
- (b) The adoption of WiLL technologies in certain areas covered under USP does not imply that mobile will be prohibited from those areas; USP areas are also open to the provision of mobile services. Mobile services may be provided in those areas under USP depending on economic viability (they are not funded using the USP fund). It may also be noted that in some USP areas, where WiLL technologies are used, GSM mobile technologies are also currently used by cellular service providers.
- (c) Regulatory requirements in Malaysia are unlikely to constrain the adoption of the CDMA WiLL solution under a fixed line license (facilitating mobility, as implemented in India). Under the technology and service neutral licensing regime in Malaysia, an operator with the appropriate licenses can offer fixed and/or mobile services. Thus the possibility of an operator having a fixed service WiLL and offering a mobile service is feasible. A licensee would be free to do this, so long as it complies with other parts of the CMA such as spectrum and numbering usage. The Commission however does not

consider the roll out of WiLL technology to be likely, on a large scale basis, for the foreseeable future.

- (d) The increasing size of CDMA WiLL cells is likely to provide coverage over a relatively large geographic area (e.g. China Telecom's PHS service), however the Commission agrees with the view that this is not currently an issue in Malaysia.

4.5. Comments on the emergence of new technologies which are likely to impact on market definition

4.5.1. The PI Paper sought views on:

The types of emerging or alternative technologies that were likely to compete in the same markets as fixed line services within the next 2 to 3 years.

Comments received

4.5.2. Summarised below are comments received on this issue of emerging or alternative technologies:

- (a) A number of newly developing technologies that might provide local loop connectivity at a significantly reduced capital investment than fixed line networks are highlighted e.g. BFWA, fibre and power line technologies. However, these are considered unlikely to be introduced to a significant extent in Malaysia within the next two to three years.
- (b) Two potential alternative technologies: VOIP over broadband and power line technology are highlighted in another submission. VOIP over broadband had been discussed as an alternative to the PSTN network (with the increasing adoption of xDSL). An example of this service being launched as provided,²² however it is concluded that a move to an entirely IP based voice network is of low possibility for the foreseeable future in Malaysia, mainly because broadband penetration is still low. With respect to power line technology, it is noted that despite being touted as a viable alternative to circuit switched PSTN for a long time, there are few visible signs of its success, as evidenced by the lack of energy utility companies offering this service worldwide. Concerns about the safety aspect of the technology are also noted while tests have demonstrated that bandwidth over electricity cables is rather limited and

²² E.g. British Telekom's Bluephone service, whereby the user, when close to a DSL connection, uses Voice over Broadband in combination with bluetooth technology.

might only be sufficient for plain voice services and low-speed data applications.

- (c) The delivery of broadband over unlicensed bands may have some impact on fixed line networks. The downward cost trend for rolling out wireless broadband is cited in support. In the future call routing over the Session Initiation Protocol platform and mapping IP addresses to PSTN numbers may likely change the communications market environment.
- (d) There is a wide range of emerging and alternative technologies likely to compete with fixed line networks within the next 2 to 3 years, including Wireless broadband (such as WiFi and WiMAX), enhanced mobile technologies (including 3G and EDGE), and satellite broadband solutions (such as ipstar).

The Commission's views

4.5.3. The submissions highlighted fibre, fixed wireless technologies (e.g. BFWA, WiFi, and WiMAX), VOIP over broadband, enhanced mobile technologies (3G and EDGE), power line technologies, and satellite solutions as emerging technologies that may represent substitutes for direct exchange lines in the near future. The Commission sets out its views on these in turn below.

(a) Fibre

4.5.4. The Commission considers that fibre to homes is expensive and would not likely feature in the next 2 to 3 years as being very competitive.

(b) Fixed wireless technologies

4.5.5. Broadband Fixed Wireless (BFWA) networks offer a solution for the “last mile” problem – namely how to deliver broadband services cheaply from local exchanges to the customer. They can deliver similar broadband services to those offered by communications and cable operators but do not rely on the quality or capacity of the existing infrastructure.

4.5.6. The principal advantage of BFWA is that it can be offered almost immediately to any customer within the coverage areas (2-20km) of the network operator's transmitters. The customer premises equipment is similar in size to a satellite TV receiver and is nearly as quick and easy to set up. Like mobile phones the radio frequencies can be re-used and new transmitters can be quickly installed to meet growing demand.

4.5.7. The main disadvantage is that line of sight is required between the antenna and the network operator's transmitter for service. A further problem is that BFWA is a new technology and so standards are still evolving and equipment prices are still high. Further, in Malaysia, BFWA still needs significant investment in radio infrastructure to be able to support widespread use. At this stage, the solution still represents a niche technology. For these reasons, the Commission agrees with the contention that the technology is unlikely to be introduced to a significant extent in Malaysia within the next two to three years.

4.5.8. Specifically on the issue of WiMAX, the Commission notes that there is evidence suggesting that WiMAX is not yet "market-ready". For example, in the UK, according to "TelephonyOnline.Com",²³ WiMax will probably reach market deployment sometime in 2007 (when customer premises equipment²⁴ prices fall). "Vnunet.com" does not expect to see a significant price decline in customer equipment until 2006, although the article also notes that

"... the largest impact on WiMax market acceptance will be when silicon is embedded in portable devices, such as laptops, removing any upfront investment in customer premises equipment. This is likely to happen in 2007 when 802.16e silicon is produced."²⁵

(c) VoIP

4.5.9. The use of VoIP is widespread in Malaysia, with five main providers. However, these providers tend to pitch their services at the corporate sector and in the provision of calling cards. It should also be noted that VoIP is dependent on the existence of PSTN infrastructure.

(d) Enhanced mobile technologies (3G and EDGE)

4.5.10. Enhanced Data Rate for GSM Evolution (EDGE) is a technology that builds on GPRS. It allows GSM operators to use existing GSM radio bands to offer wireless multimedia IP-based services and applications at theoretical maximum speeds of 384 kbps with a bit-rate of 48 kbps per timeslot and up to 69.2 kbps per timeslot in good radio conditions. The technology delivers broadband-like data speeds to mobile

²³ Jason Meyers, Dan O'Shea, Kevin Fitchard, Nancy Gohring, and Ron Resnick, "Telephony's Complete Guide to WiMAX: The Business Case for Service Provider Deployment", *TelephonyOnline.com*, 2 June 2004. Available at:

http://telephonyonline.com/ar/telecom_telephonys_complete_guide/index.htm

²⁴ That is, the equipment customers will have to purchase so as to implement WiMax.

²⁵ Robert Jaques, "WiMax chasing DSL and cable modem: 802.16 set to become third most used high-speed internet access technology", *vnunet.com*, 1 October 2004. Available at: <http://www.vnunet.com/news/1158502>

devices. It allows consumers to connect to the Internet and send and receive data, including digital images, web pages and photographs, broadly three times faster than possible with an ordinary GSM/GPRS network. EDGE enables GSM operators to offer higher-speed mobile-data access, serve more mobile-data customers, and free up GSM network capacity to accommodate additional voice traffic.

4.5.11. DiGi has launched EDGE, implying that its subscribers can now use their mobiles in place of broadband services via a fixed or cable network (dependent on their handset model being able to support EDGE). However, the Commission understands that at this stage, the technology is largely targeted at (and being taken-up by) young mobile users, with the objective of expanding their service offering. As such, it is not in direct competition with fixed line operators in the provision of fixed line access.

4.5.12. On the issue of 3G technologies more generally, the Commission notes that Telekom Malaysia and UMTS will likely offer 3G services to the Klang Valley by 2005. However, the Commission does not anticipate a large scale take up of 3G services in Malaysia in the next few years. Results of a survey done by MESCORP (Multimedia University Engineering Society Overseas Research Programme) suggest that the Malaysian market is hesitant towards the introduction of 3G services; most respondents preferring to adopt a “wait and see” attitude. Up to 60 percent of respondents stated that they would prefer to subscribe to 3G services only once it is widely used. Handset prices also appear to be a serious hindrance to the take up of 3G, most respondents stating that they are willing to spend up to RM1000, while the projected price of a 3G handset would be between RM1500 and RM2000.

(e) Power line technologies

4.5.13. Power Line Communications (PLC) provide a significantly reduced cost solution to the “last mile” as by feeding the signal down the power line there is no need to enter the premises. The customer simply purchases a piece of equipment and plugs it into the power point. However the technology is still in the early stages of development and interference issues still need to be dealt with. For these reasons, the Commission concurs that the technology is unlikely to be introduced to a significant extent in Malaysia within the next two to three years.

(f) Satellite solutions - iPSTAR

4.5.14. iPSTAR is the trademark of Shin Satellite Plc, a Thai communications satellite operator. iPSTAR, supported by a system of three satellites, provides broadband Internet services, voice applications, video conferencing and intranet solutions. The service is targeted at multinational corporations, with the aim of offering a viable

alternative to terrestrial broadband solutions such as ADSL, fibre and fixed wireless.

²⁶ Given that the technology is targeted at a niche sub-section of the market, the Commission considers that the service is not in direct competition with fixed line operators in the provision of fixed line access.

4.6. Comments on competitive advantages held by any of the fixed line operators

4.6.1. The Commission identified a number of factors which would suggest that Telekom Malaysia holds a number of advantages in the provision of fixed line access to customers relative to other fixed line operators (including a wider portfolio of services, vertical integration, and control of the backbone network).

4.6.2. The PI Paper sought views on:

The extent to which (and reasons for which) any of the network service providers of fixed telephony in Malaysia may hold a competitive advantage over other providers.

Comments received

4.6.3. Summarised below are comments received on the issue of competitive advantages held by one or more of the fixed line operators:

- (a) One submission concurring with the Commission's view stated that Telekom Malaysia, by virtue of the fact that it is the incumbent, enjoys a number of competitive advantages over other operators (e.g. strong branding, economies of scale, wide portfolio of products).
- (b) Another submission noted that Telekom Malaysia, as the incumbent, had several advantages with respect to fixed line access. These included first mover advantages, ownership of PSTN customers and an intricate knowledge of their requirements, scale and scope economies; and approval from authority or local councils for right of way in strategic areas for network deployment.
- (c) Another submission viewed Telekom Malaysia as having enjoyed a "first mover" advantage of having a large network over a wide geographical area. But it also noted that smaller firms may have the competitive advantage to provide niche services at a selected location. Yet, the same submission

²⁶ IPSTAR's website, <http://www.ipstar.com/en/abstract.html>

conceded that no operator would be able to challenge the “dominance” of Telekom Malaysia.

- (d) Another submission noted that certain mobile operators could take advantage of their “leadership” in the cellular market and utilise such a lead in the provision of fixed telephony (e.g. via bundling, co-advertising, etc).

The Commission’s views

4.6.4. The submissions supported the Commission’s preliminary findings that Telekom Malaysia holds a number of advantages in the provision of fixed line access to customers relative to other fixed line operators.

4.7. Comments on barriers to entry and switching costs in fixed line telephony

4.7.1. The Commission identified a number of barriers to entry in the provision of fixed line services, including customer switching costs and sunk infrastructure costs.

4.7.2. The PI Paper sought views on:

- (a) whether there are any new developments which may reduce barriers to entry for fixed line access; and
- (b) the extent to which existing fixed line customers are likely to face “switching costs” in changing service providers.

Comments received

4.7.3. Summarised below are comments received on the issue of barriers to entry and switching costs in fixed line telephony:

- (a) A key barrier to entry is the sunk cost of infrastructure. While it was noted that technological improvements might be expected to reduce the cost of local loop deployment, the technologies (e.g. BFWA) are untested on a wide scale basis. It suggested that local loop unbundling might be expected to reduce barriers to entry, once it is proven to be effective.
- (b) It was also noted that there are a number of switching costs present in the market (e.g. long term rolling contracts, transactions costs involved in subscribing to a new provider, cost of acquiring new telephone/associated equipment (most of this is currently rented by customers from Telekom

Malaysia), costs of installing an appropriate connection to a new network, and savings offered to customers if they purchase bundled products).

- (c) Another submission noted that there are a number of switching costs present in the market, particularly for business customers. Examples given are: costs of replacing of business cards, letterheads, postage or communication to users of new details, call forwarding charges (on a temporary basis) and printing of other related marketing documents (application forms, pamphlets, brochures); and loss of business due to prospective clients not having the new business telephone or fax number. The same submission argued that the introduction of fixed number portability would be able to address some of these problems.
- (d) Developments in wireless or even satellite infrastructure could potentially reduce barriers to entry, although issues concerning reliability, quality and cost are also noted. Switching costs are highlighted as a real concern which could be addressed by number portability for fixed line access.
- (e) One submission cited the ability to obtain a decent return on investment as a barrier to entry - returns in fixed line telephony are low since rates are regulated, particularly against returns in the cellular sector. The submission acknowledged that there might be switching costs involved, although this is insignificant and one-off.

The Commission's views

4.7.4. The submissions supported the Commission's preliminary findings that barriers to entry were present in the fixed line telephony market.

4.8. Comments on the effectiveness of regulation in fixed line telephony

4.8.1. The PI Paper sought views on:

- (a) whether fixed line telephony was highly regulated, thus preventing any dominant party from abusing its market power;
- (b) whether price regulation was an adequate measure imposed to ensure that a dominant player does not abuse its position and also protect consumer interest; and

- (c) whether there were other regulatory measures apart from pricing that could be used to contain the abuse of a dominant position.

Comments received

4.8.2. Summarised below are comments received on the degree to which regulatory controls might be able to constrain the conduct of a dominant licensee in fixed line telephony:

- (a) One submission contended that price regulation per se is not sufficient to ensure that a dominant player does not abuse its position. The submission also expressed concern over regulating tariffs at below cost.
- (b) One submission noted that retail rates needed to be set at levels that do not discourage investment. It noted that regulations do not apply to charges for installation, deposits, and ISDN line rentals, and argued that a “wider more consistent” approach is required. Narrowing of regulatory controls to one market is also viewed with concern as it implied that leverage of power across markets is missed. The submission also raised the need for controls regarding cost allocation practices and cross subsidisation by an incumbent (e.g. the introduction of cost accounting and accounting separation rules).
- (c) Competition is in general preferable to determine price levels than regulation. However, it noted the merit of regulation for natural bottlenecks. Price regulation has a number of shortcomings: (1) It assumes that the regulator has perfect information on costs and elasticities and is able to determine the optimal price (referring to Ramsey-Boiteux pricing). (2) Many markets are extremely fast-paced, which makes it difficult for regulation to keep up to date, especially when there is a tendency of technological innovation leading to lower costs. (3) There may be “regulatory capture”, for instance if two interest groups consume the same service at different prices, each will formally request the regulator for lower prices. (4) There may be “regulatory taking” where the regulator is too harsh on the firm in question and does not adequately compensate the firm for its investments and efficiency improvements. Overall it is thought that price regulation ought to be implemented after careful consideration of the regulatory structure, with periodic review.
- (d) It is further noted that there is a need to monitor quality of service, and the enforcement of non-discriminatory behaviour, especially vis-à-vis third party access seekers. It also referred to asymmetric regulation.

- (e) There is a view that regulation of the market has resulted in some prevention, but there are still many issues to be resolved. Difficulties resulting from the asymmetric bargaining power between 'Tier One telcos' and 'Tier Two telcos' are specifically highlighted.
- (f) There is also a view that the market is highly regulated, and that there is little scope for an operator to abuse a dominant position. The regulation of retail rates, and the introduction of Mandatory Standard on Access Pricing are cited as the relevant instruments. In fact the regulation of retail rates may even be counter-productive given that they have a negative impact on investment (giving incentives for investors to artificially focus on the cellular market).

The Commission's views

4.8.3. The Commission takes note that regulation is perceived as an instrument that contributes to restrict the ability to abuse a dominant position. Yet, it also notes concerns that the current regulatory regime is not sufficient. The Commission is of the opinion that abuse can occur in areas not pertaining to price and quality of service, and that there may be instances when regulatory measures are inappropriate and/or incapable of preventing a dominant operator from abusing its position.

4.9. Conclusions on assessment of dominance in fixed line telephony

4.9.1. The views and information submitted by the licensees gave support to the Commission's initial findings on market definition and assessment of dominance in the fixed line telephony market. Specifically:

- (a) The submissions concurred with the Commission's finding that concluded that access via fixed wireless links and direct exchange lines did not represent demand side substitutes in Malaysia. Further, access services via the two technologies were not supply substitutes and therefore fell within separate markets.
- (b) The submissions concurred with the Commission's finding that the majority of customers do not perceive mobile telephony as a viable substitute for fixed line telephony.
- (c) The submissions on the whole concurred with the Commission's finding that no new or emerging technologies were likely to alter the nature of competition in the market for the foreseeable future.

(d) The submissions supported the Commission's preliminary findings that Telekom Malaysia held a number of competitive advantages, and that barriers to entry were present in the fixed line telephony market.

4.9.2. Accordingly, the Commission maintains its finding that the relevant market in respect of fixed telephony is the supply of access to fixed line telephony services and that competition in the market can be viewed as occurring nationally across Malaysia. **The Commission retains its conclusion that Telekom Malaysia is in a dominant position in this market,** reinforced by the fact that it holds a number of strategic advantages relative to other fixed line providers and the presence of high barriers to entry.

SECTION 5: COMMENTS ON THE ASSESSMENT OF DOMINANCE IN MOBILE TELEPHONY

5.0.1. The PI Paper sought views on a number of findings underpinning the Commission's analysis of market definition in mobile telephony (including the substitutability between fixed and mobile telephony, and the substitutability between pre- and post-paid service offerings). The PI Paper also sought views on aspects relating to the assessment of dominance, including views on the strength and outcomes of recent price competition between the mobile operators, whether regulatory arrangements in the market pose a barrier to entry, and the likely impacts on competition of recent consolidation in the market.

5.0.2. This Section provides a summary of the comments received, and outlines the Commission's conclusions on its assessment of dominance in respect of mobile telephony.

5.1. Overview of the submissions received

5.1.1. The submissions received by the Commission were largely in support of the Commission's findings in relation to mobile telephony. Evidence and views submitted tended to support both the Commission's analysis of market definition and its assessment of dominance.

5.1.2. A number of licensees however expressed caution with respect to future evolution of the market. In particular, licensees indicated a possibility of future co-ordination between the operators and also the prospect of an operator(s) becoming dominant.

5.2. Comments on the strength of substitutability between mobile and fixed line telephony

5.2.1. To arrive at a market definition for mobile telephony, the Commission considered whether fixed line services offered a viable substitute. The Commission considered that fixed line services were unlikely to be substitutable for mobile services on the basis of evidence suggesting that: (1) mobile users were relatively insensitive to the price of calls (as such, if the price of mobile telephony services were to increase then users would not be expected to increase their use of fixed lines in response); and (2) mobile telephony is a distinct and different product offering as compared to fixed line services, as evidenced by the fact that the majority of mobile users also have a fixed line at home or business premise. The Commission therefore concluded that fixed line services were not effective demand substitutes for mobile telephony. The Commission also considered that the two were not supply substitutes. Accordingly, the Commission considered that the two services were in separate markets. The PI

Paper noted that this finding was consistent with the findings of other competition authorities.²⁷

5.2.2. The PI Paper consequently sought views on:

The extent to which consumers are likely to view fixed line services as a substitute for mobile telephony.

Comments received

5.2.3. The submissions received by the Commission concurred with its finding that the majority of customers did not view fixed lines as substitutes for mobiles:

- (a) Fixed line does not offer an effective substitute for mobile telephony primarily because of the differing attributes of the two services. In particular, fixed line is not a substitute for the mobility characteristics of mobile telephony, or the value added functions such as text messaging.
- (b) Fixed line is not a substitute for mobile telephony given that it could not offer full mobility.
- (c) The majority of customers did not view fixed lines as substitutes for mobiles, given the different characteristics and functionalities of the two services, the low price elasticity of demand for fixed line, and the observation that the majority of mobile users had chosen to subscribe to both a fixed line and mobile service (and not one or the other).
- (d) It is noted that fixed and mobile each offered a different product with different strengths, and that the two are more likely complementary rather than substitutable.
- (e) Fixed telephony could not substitute mobile for its mobility features or value added services such as text messaging.

The Commission's views

5.2.4. Given that the submissions concurred with its findings, the Commission maintains its position of viewing fixed line telephony in a separate market from mobile telephony.

²⁷ E.g. EC rulings in Telia/Telenor, Wind/Enel STC, and Vodafone/Mannesmann.

5.3. Comments on substitutability between pre- and post-paid mobile service offerings

5.3.1. To arrive at a market definition for mobile telephony, the Commission considered whether pre- and post-paid service offerings by mobile operators were demand and/or supply substitutes. The Commission considered that there was evidence to suggest that consumers viewed the two packages as substitutable, but left open its conclusions given the supply substitutability between the two services (i.e. the Commission noted its understanding that it would not be difficult for a provider of pre-paid packages to move swiftly into the provision of post-paid packages, and vice versa – only a minor change to the pre-existing billing system and internal operations would be required).

5.3.2. The PI Paper sought views on:

The extent to which pre- and post paid mobile services were likely to be substitutes.

Comments received

5.3.3. The submissions received by the Commission concurred with its finding that the two service offerings were supply substitutes, and offered further evidence that they also represented demand substitutes:

- (a) Pre- and post-paid are demand substitutes. The two offerings are also supply substitutes.
- (b) There is a view that pre- and post-paid service offerings are not distinct from each other but rather they merely reflect different payment mechanisms. Said submission however agreed with the Commission's conclusions that the two offerings are within the same market. The same submission also noted that there are no international precedent which considered the two offerings as being in separate markets.
- (c) Another submission agreed that the two offerings were supply substitutes, and the practice of "seamlessly" transferring customers from pre-paid to post-paid with a charge to recover administration costs was quoted in support.
- (d) Yet another submission observed that the services usually associated with post-paid packages could easily be adapted to a pre-paid environment and vice versa.

The Commission's views

5.3.4. Given that the submissions concurred with its findings, the Commission maintains its position that pre - and post-paid mobile service offerings represent supply substitutes. Accordingly, the Commission concludes on a single market for the two service offerings.

5.4. Comments on price competition and quality of service

5.4.1. In its assessment of dominance the Commission reviewed evidence which suggested that there was strong competition between mobile operators (e.g. evidence of strong price competition, the large number of advertising promotions and advertising spend).

5.4.2. The PI Paper sought views on:

- (a) the extent of price competition between mobile operators; and
- (b) the net effect of such competition in terms of quality of service to consumers and the industry as a whole.

Comments received

5.4.3. The submissions received by the Commission tended to support its findings of relatively strong price competition between mobile operators:

- (a) Competition between the operators is “healthy” and this is attributable to efforts by the operators to attract new customers. Such competition has not resulted in operators neglecting quality of service.
- (b) The mobile market is highly competitive, citing evidence of strong growth in new subscriptions, declining SMS prices, declining voice call tariffs, and the launch of new services. Price competition has also become stronger post-consolidation, although it is also noted that consolidation could result in an operator becoming dominant and/or the possibility of joint dominance arising in the future.
- (c) Competition between mobile providers has been strong, particularly post-consolidation, citing evidence of, e.g., reductions in the price of pre-paid starter kits, free airtime offers for pre-paid customers, rebates on monthly access fees for post-paid customers, more attractive call tariff packages (such

as “family and friends”), lower SMS tariffs, and rebates on handsets of post-paid customers. It also argued that this competition has been to the benefit of customers not only in terms of lower prices, but also in terms of quality of services. Expenditure on capital (to enhance service coverage and quality of service) and the introduction of initiatives to better manage relationships with customers are both further evidence of this competition.

- (d) There is price competition between operators, particularly in the pre-paid sector, which has benefited customers. At the same time there has also been a reduction in the quality of services, attributable to service disruptions as a result of network upgrades and increased network congestion.
- (e) The mobile market is very competitive. A high percentage of “churn” experienced by the mobile operators indicates that consumers are willing to switch operators rather easily. To stay ahead, quality of service and cost will be a key competitive advantage for the mobile operators in order to retain customer loyalty. It is also highlighted that the competitive environment could be made more vibrant with the implementation of number portability for mobile.
- (f) The recent price competition between mobile operators is healthy, and operators have an incentive to maintain quality of service in order to retain customers.

The Commission’s views

- 5.4.4. The views and evidence submitted by the licensees provided further support to the Commission’s findings of strong price competition between mobile operators.
- 5.4.5. On this issue of service quality, one submission suggested that consumers were experiencing difficulties, but provided no concrete evidence in support of the claim. Another submission contended that consumer satisfaction levels had increased in recent years (citing the findings of the Commission’s Consumer Wave survey in support). Further, the Commission’s ESAT test also showed that the quality of mobile services is currently at a level above the minimum requirements.²⁸
- 5.4.6. On balance, the Commission concludes that the recent round of price competition is likely to have benefited customers. While the Commission acknowledges that operators may be tempted to reduce service levels in an effort to retain profit levels in

²⁸ Based on the Commission’s Determination No. 2/2002 on Public Cellular Quality of Service.

the short term, it notes that this practice is not sustainable in the longer term in the presence of effective competition.²⁹

5.5. Comments on barriers to entry in mobile telephony

5.5.1. For the purposes of the PI, the Commission sought to review whether regulatory arrangements created barriers to entry in the mobile telephony market. The Commission acknowledged that regulatory arrangements might pose a barrier to entry for new entrants wishing to build a new mobile network (as they would need an NFP license with spectrum allocation). However, it noted that new entrants could readily enter the mobile market by obtaining an ASP license and make use of the mobile network facilities and spectrum allocation of another mobile operator (i.e. by becoming a Mobile Virtual Network Operator (MVNO)).

5.5.2. The PI Paper sought views on:

- (a) the extent to which regulatory features in the mobile market were likely to constitute barriers to entry; and
- (b) whether any of the regulatory features in the mobile market would increase barriers to entry (and if so, how would this affect the consumer)?

Comments received

5.5.3. The submissions indicated that licensees were relatively comfortable with existing regulatory arrangements, and that these did not pose unnecessary barriers to entry, with the following exceptions:

- (a) Attempts to force registration of pre-paid users is viewed with concern because consumers are likely to react negatively, thus dampening the future prospects for mobile broadband. There is also strong opposition to the introduction of domestic roaming due to the operational and technical difficulties associated with the service. It is argued that domestic roaming, is not a “must-have” in order to address coverage issues for a number of reasons: (1) each of the three mobile operators had the necessary licenses and financial resources to expand their own networks; (2) infrastructure sharing is a possibility; and (3) the Universal Service Provision scheme could be utilised to give incentives for operators to expand their coverage in rural areas.

²⁹ Customers will simply switch to alternative providers if they are dissatisfied with the service quality offering relative to price. This, of course, assumes no coordination between operators in the market.

- (b) Three features of the regulatory arrangements which posed barriers to entry in mobile telephony are identified: (1) the limited availability of NFP licenses; (2) the limited availability of spectrum and the absence of spectrum trading or other transfer mechanisms; and (3) license terms and conditions including coverage and Universal Service Provision funding requirements. However, it is also noted that there is in fact active competition in the market currently, implying that the presence of barriers to entry is immaterial. The submission also noted that the introduction of domestic roaming is likely to *reduce* barriers to entry.
- (c) The licensing of NFPs and spectrum controls are viewed as two possible regulatory barriers to entry. It is also noted that there may be regulatory features that could be conducive to reducing barriers to entry, but argued that domestic roaming, as practiced in Malaysia, is unlikely to be one of them. It is contended that domestic roaming could in fact increase barriers because: (1) customers experienced a poorer quality of service; (2) it required a dependence on the host network; (3) it introduced varying services and features between mobile operators; and (4) there are technical challenges in its adoption. A new entrant would be better off building its own network compared to relying on domestic roaming to expand its network coverage, and at best, it could be used by a new entrant as an interim measure. The policy hindered incentives to invest in the network.
- (d) There are no regulatory barriers to entry, apart from spectrum constraints and the possibility of entry in the market as an MVNO is acknowledged as increasing the prospects of competition in mobile services.
- (e) Access to spectrum remained the single largest impediment preventing new entry. Spectrum is a national resource, and that the Commission should consider mandating access to ASPs at cost-based prices to make full utilisation thereof. The viability of MVNOs are questioned given the need for access to spectrum. The same submission did not regard the introduction of domestic roaming as a barrier to entry.
- (f) One submission noted that there is nothing wrong with the present state of regulatory policy concerning mobile services. However, the required registration of prepaid users is viewed with concern as is the introduction of domestic roaming.

The Commission's views

5.5.4. The submissions identified no regulatory barriers to entry, other than those identified by the Commission,³⁰ with the key exceptions of registration of pre-paid users and domestic roaming.

5.5.5. A number of licensees claimed that registration of pre-paid users and domestic roaming create high barriers to entry in the mobile sector. However, the Commission notes that if active competition is already present in the market, high barriers to entry are of lower concern.

5.6. Comments on the possible impacts of recent market consolidation

5.6.1. The PI Paper highlighted that the Commission's assessment of dominance was based on historic data. As such, given the likely changes resulting from market consolidation in 2003, the Commission noted that its results should be treated with caution.

5.6.2. The PI Paper therefore sought views on:

The possible impacts on competition in mobile telephony as a result of the consolidation, and the net effects on consumers and domestic players.

Comments received

5.6.3. Most of the parties viewed market consolidation as pro-competitive, although a number of licensees were cautious with regard to the future evolution of the market:

- (a) Three players in the market is an "ideal" number for effective competition.
- (b) The market had reached an equilibrium point, but noted the longer-term prospect of an operator becoming dominant, particularly if the government allowed future consolidation and/or one operator significantly out-performed the other operators.
- (c) Consolidation had intensified competition between the players, as there are now three financially strong players in the market, and this is ultimately of benefit to consumers.

³⁰ That is, NFP licensing arrangements and spectrum management.

- (d) While the consolidation has created three large players in the market, no innovative pricing and packaging (which customers are “willing to die for”) has resulted from it, and there remain problems with coverage and quality of service. The same submission also alluded to the possibility of collusion between the operators.
- (e) The mobile market is still very dynamic and competitive, although the introduction of mobile number portability would further increase competition. In respect of the effect of consolidation on ‘Tier Two telcos’, it is argued that the impact of consolidation is not yet apparent. Consolidation might itself create opportunities for abuse, in particular given the fact that ‘Tier Two telcos’ are excluded from the benefits under the access regime.
- (f) It was too early to tell what the possible impact of the consolidations has been. The submission claimed that some operators may have consolidated its market position as a result, and might possibly meet tests for being in a dominant position. On this basis, it is suggested that the Commission postpone making a decision in relation to mobile telephony until a further market assessment is undertaken on the basis of current market data.

The Commission’s views

5.6.4. The submissions were somewhat mixed on the implications of market consolidation for competition and offered no or little direct evidence of the claims made. The Commission considers that this simply reflects the fact that it was too early to tell what the impact of market consolidation has been (or is likely to be in the future). As such, the Commission considers it reasonable to proceed on the basis of historic data, recognising that there may be a need to reconsider the market analysis at some stage in the future.

5.7. Conclusions on assessment of dominance in mobile telephony

5.7.1. The views and evidence submitted by the licensees lend support to the Commission’s initial findings on market definition and assessment of dominance in the mobile sector. Specifically:

- (a) The submissions concurred with the Commission’s finding that the majority of customers do not view fixed lines as substitutes for mobiles, and fixed line services are in a separate market to mobile services.

- (b) The submissions concurred with the Commission's finding that pre- and post-paid service offerings are supply substitutes, and are in the same market.
- (c) The evidence submitted by the licensees suggested that price competition between the operators is strong, and that this is likely to be of benefit to consumers. However, there was some reservation as to whether this reflected effective competition on a sustained basis.
- (d) Most of the submissions indicated that market consolidation was pro-competitive, although at least two licensees signalled a need to conduct a further analysis of the market at some point in the future.

5.7.2. Accordingly, the Commission maintains its finding that the relevant market in respect of mobile telephony is the supply of retail mobile telephony services and that competition in the market can be viewed as occurring nationally across Malaysia. **The Commission retains its conclusion that no operator is in a dominant position in this market.**

5.7.3. The Commission however is mindful that this conclusion on dominance may well change in the future. In particular, the Commission acknowledges the concerns raised by a number of operators regarding the possibility of co-ordination between the operators, and/or the possibility of dominance arising in the future.

SECTION 6: COMMENTS ON THE ASSESSMENT OF DOMINANCE IN UPSTREAM NETWORK ELEMENTS

- 6.0.1. In relation to the provision of upstream network elements, the PI Paper noted that the assessment of dominance was likely to vary on a case-by-case basis. Given the large number of potential relevant markets in the provision of upstream network elements, the PI Paper set out the broad framework, rather than analysing and assessing dominance with reference to a particular network element. This general framework was set out in Section 7 of the PI Paper. The broad conclusion from the framework was that an individual network element or a particular point-to-point route was likely to represent a distinct relevant market. In situations where the market was a single network element or a route that was supplied by a single operator, the respective operator would be likely to possess a dominant position in that market. If the relevant market was a route with multiple operators, dominance was likely to be less clear.
- 6.0.2. The Commission sought views on the extent of barriers to entry in the provision of network elements and on the proposed overall analytical framework for the assessment of dominance in this sector.
- 6.0.3. This Section provides a summary of the responses received by the Commission, and sets out the Commission's conclusions on the assessment of dominance in the provision of upstream network elements.

6.1. Overview of the submissions received

- 6.1.1. The responses to the PI Paper on the whole tended to support the Commission's analysis as set out in the PI Paper. With the exception of one particular submission, which had "serious questions concerning the analytical framework", asserting that the market for network elements was "poorly defined" and had no regulatory parallels in other jurisdictions, all submissions that commented on the issue expressed general agreement with the proposed analytical framework. The complexity was noted by another submission which agreed with the Commission's conclusion to analyse network elements on a case-by-case basis. Yet another expressed overall general agreement with the Commission's approach but encouraged the detailed investigation of a number of particular network elements on which it proceeded to provide more specific information.
- 6.1.2. As some of these comments went beyond the level of detail envisaged by the PI Paper, the Commission sets out its response to these points in Section 6.4.

6.2. Comments on barriers to entry in the provision of upstream network elements

6.2.1. The PI Paper sought views on:

- (a) the extent to which there were likely to be barriers to entry in the provision of network elements; and
- (b) how these barriers may be lowered, the means by which this may be achieved, and the likely net effect on market players and consumers.

Comments received

6.2.2. Summarised below are comments received on the issues regarding barriers to entry:

- (a) Capital investment requirements and associated scale is the primary barrier to entry, and the deployment of new facilities is generally limited even in competitive markets. The promotion of service-based competition or unbundling of network elements are clearly beneficial regulatory activities.
- (b) With respect to scale economies in the provision of network segments, new technologies could confer greater efficiency and cost advantages on entrants, relative to the legacy technology employed by an established licensee. Hence, a case-by-case assessment is required.
- (c) In the fixed line market, the high level of sunk costs is noted, particularly in the local loop and the sections between Digital Local Switches (DLS) and Digital Tandem Switches (DTS), and the scale and scope economies. Furthermore, incumbents would typically have reached a point where their initial capital outlay has been recovered. A first mover advantage confers an installed customer base and intricate knowledge of the subscribers.
- (d) The restrictions in Malaysia deriving from the NFP (I) licensing regime are highlighted. However, the same submission also conceded that any such restrictions are unlikely to have great impact since there are already numerous such licensees. Additionally, it noted that the Commission has shown flexibility in granting last-mile NFP (I) licenses.
- (e) Local authority permits, such as right of way, are a barrier to entry particularly in reference to the fixed telephony business, where many sites in strategic areas are no longer available. Streamlined standard approaches across the

country for local authority approval are proposed as a means to expedite the rollout of infrastructure.

- (f) The low rates for line rental and local PSTN charges are factors that do not make local loop investment attractive. Tariff-rebalancing of the Rate Rules is suggested, however the cost economics would still present a big hurdle for alternative providers.
- (g) Sunk costs, scale and scope economies, network effects, incumbent's reputational effects, access to essential "bottleneck" facilities and regulatory barriers (moratoria on new licenses and constraints on spectrum availability) are identified as barriers to entry.
- (h) Barriers to entry are substantial, as follows: (1) the need for an NFP license; (2) the various planning permissions and right-of-way issues; (3) that it generally would not make economic sense for a new entrant to duplicate the network that the incumbent already has, although there is still scope for niche players to work at the fringes; (4) even for niche players, there is a need for access to middle tier infrastructure. Streamlining the planning permission process and reducing administrative cost – perhaps facilitated by the Commission – would reduce barriers to entry.
- (i) Global and technology changes and significant reductions in the costs of call transport made it possible for new entrants to transport costs and switch them back at little cost. The submission referred to the reduced capital costs associated with the introduction of softswitches, and also expressed the opinion that the forward-looking costs faced by an entrant are lower than those of the legacy systems. The move to VoIP would further facilitate such changes. The quantity and scope of alternative infrastructure in Peninsular Malaysia, especially on the Western side is further noted. However, no views on how barriers to entry could be further lowered are presented. The submission also asserted that the PI Paper's analysis needs to be reassessed.
- (j) There are barriers to entry in the provision of network elements. The fact that NFP individual licenses are 'closed basket' type of licenses is noted. It is also noted that under the new licensing regime, NFP license holders could continue to own or provide facilities which they could own or provide under the old regime. The fact that the Commission had granted new NFP licenses for broadband services, indicates that there are no barriers to entry in the provision of network elements for the broadband market.

The Commission's views

- 6.2.3. The Commission is of the opinion that its preliminary assessment in the PI Paper was correct, and that this was largely confirmed by the submissions. Most of the factors listed in the submissions constitute barriers to entry in the provision of network elements. In particular, significant sunk capital costs were likely to deter entry; this would substantially be the case as long as the incumbent's *marginal* cost is below the entrant's *average* cost, i.e. even in many situations where more efficient technologies became available. Accordingly, the Commission is unconvinced that technology and global changes in the cost of participating in the communications sector is likely fundamentally to affect its analysis. In any case, such changes would need to be of a very significant magnitude to overcome the incumbency cost advantage, for which the PI Paper set out an indicative calculation.³¹ As regards to the opinion that the incumbent would have recovered the initial capital investment, the Commission is of the view that the accounting treatment of investments is not as directly relevant as the question of whether the investments are sunk.
- 6.2.4. The Commission is further of the opinion that network effects were unlikely to be important at the upstream level of network elements. Similarly, reputational considerations were more applicable at downstream levels of the communications sector.
- 6.2.5. The Commission remains committed to reducing barriers to entry. It is in particular committed to reducing barriers to entry to facilitate competition in achieving the National Policy Objectives.
- 6.2.6. The Commission will review tariffs as all tariffs will gravitate toward costs, which is in line with the principles set out in Section 198 of the CMA.
- 6.2.7. The Commission is committed to reducing barriers to entry associated with right of way and local authority permissions and is working closely with the relevant authorities to facilitate access to these.

6.3. Comments on the proposed analytical framework for the assessment of dominance in relation to upstream network elements

- 6.3.1. The PI Paper sought views on:

The proposed analytical framework for the assessment of dominance in relation to upstream network elements.

³¹ PI Paper, Section 7.4, page 74.

Comments received

6.3.2. Summarised below are comments received on the proposed analytical framework:

- (a) No comments on the proposed analytical framework are offered but it is noted that the market definition process might become excessively complex since each element is, in theory, a market in its own right.
- (b) Although there is a general agreement with the approach taken in the PI Paper, the fact that the Commission had not specifically identified any actual items, made it difficult to comment accurately on dominance.
- (c) In relation to the PI Paper's reference to 'element switching',³² it is unlikely that an operator would just offer switching capability as an upstream element without the actual wholesale end-to-end service.
- (d) Furthermore where a single operator is present for a given network element, the operator would only have a monopoly if the element is an essential bottleneck facility that could not be replicated feasibly on technical and economic grounds.
- (e) Although there is a general agreement with the Commission's proposed case-by-case approach, it is noted that a rigid framework of market definition would be difficult or even dangerous to apply.
- (f) Another view expressed uncertainty as to whether the approach is meant to be "an updated version of the 'bottleneck facility test'". It also noted that the market definition did not have any regulatory parallels in other jurisdictions. However, said submission did not propose an alternative framework.

The Commission's views

6.3.3. With one exception, the submissions were in broad agreement with the proposed analytical framework. Some responses commented on the complexity of assessing dominance in the provision of network elements, which had prompted the Commission to set out a general framework in the PI Paper, rather than considering specific network elements.

³² PI Paper, Section 7.3.1.1, page 72.

- 6.3.4. On the point that an operator would just offer switching capability without an actual end-to-end service, the Commission would like to refer to the overall analytical framework of the Study, which made it possible to abstract from prevailing ownership structures.³³
- 6.3.5. The Commission generally accepts the argument that where a single operator was present for a given network element, the operator would only have a monopoly if the element was an essential bottleneck facility that could not be replicated feasibly on technical and economic grounds. The PI Paper in fact considered the technical and economic feasibility of duplication. It performed an indicative calculation which suggested that the incumbent possessed a significant cost advantage. Yet, the Commission recommended a case-by-case analysis, which would duly consider the implications of feasible duplication on technical and economic grounds. In a case of duplicated elements, dominance would be less clear, although the presence of capacity constraints might still lead to the finding of a dominant position.
- 6.3.6. Objections to the proposed analytical framework were not clear to the Commission. As regards assertions that no regulatory parallel existed in other jurisdictions, the Commission does not share this view. In the *NYNEX/Bell Atlantic* decision, the Federal Communications Commission's Opinion and Order contains an explicit appreciation of the point that markets can be very narrow:

"54. A geographic market aggregates those consumers with similar choices regarding a particular good or service in the same geographical area. In the LEC In-Region Interexchange Order, we found that each point-to-point market constituted a separate geographic market. We further concluded, however, that we could consider groups of point-to-point markets where customers faced the same competitive conditions. We will therefore treat as a geographic market, an area in which all customers in that area will likely face the same competitive alternatives for a product. This approach allows assessment of the market power of a particular carrier or group of carriers based on unique market situations by recognizing, for example, that certain carriers may target particular types of customers, provide specialized services or control independent facilities in specific geographic areas."³⁴

- 6.3.7. The above suggests that grouping individual narrow markets together into a larger market is simply an instrument of convenience, which – in the presence of similar

³³ PI Paper, Section 3.2.9, page 26.

³⁴ Applications of NYNEX Corp., Transferor, and Bell Atlantic Corp., Transferee, For Consent to Transfer Control of NYNEX Corp. and Its Subsidiaries, File No. NSD-L-96-10, Memorandum Opinion and Order, 12 FCC Rcd 19985, 19987 (1997) (Bell Atlantic/NYNEX Order).

conditions across all the narrow markets – has no effect on the analysis. The Commission set out such an approach in Section 3.3 of the PI Paper, where it acknowledged the advantages of such an approach. Yet, this is only possible, if the competitive conditions do not differ significantly across the narrow markets. The UK communications regulator OFCOM also appreciated this point when it defined a separate geographic market for Kingston upon Hull on the one hand, and the rest of the UK on the other, since in Kingston upon Hull the incumbent was Kingston Telecommunications and not British Telecom.³⁵

6.3.8. The Commission's analysis is therefore in keeping with international best practice, and maintains the flexibility that is required to ensure competitive outcomes in the provision of network elements.

6.4. Comments on specific network elements

6.4.1. The PI Paper set out that the *“objective of the Commission's study on the assessment of dominance is essentially to study selected communications markets in order to determine if there are licensees that occupy a dominant position.”*³⁶ With regard to the sector of upstream network elements, the Commission had expressed the view that a case-by-case analysis was appropriate, the broad framework for which was set out in the PI Paper.

6.4.2. In addition, the PI Paper set out the important qualification that the Study only represented a first step, in that it was not intended to go beyond the assessment of dominance. Nevertheless, the Commission is committed to preventing the abuse of dominance, and accordingly welcomes all submissions in that respect.

6.4.3. One particular submission provided the Commission with particular network elements where it was of the opinion that competition issues may arise.

Comments received

6.4.4. Summarised below are comments from a particular submission received on specific network elements:

- (a) It is contended that, with reference to Domestic Network Transmission (DNT), crucial sections of bottleneck facilities such as local loop and DLS-DTS transmission are not mandated in the Access List, so that supply could be refused. With respect to Private Circuit Completion (PCC), the Access List

³⁵ See for example the consultation on the *Review of the wholesale local access market*
³⁶ PI Paper, Section 1.1, p4.

only provides for a private circuit between a POI and an end user, available at one end of a private circuit (rather than two tail ends). Thus, the Access List should be expanded to include local leased lines, and that PCC should not have restrictions and access seekers should be able to procure two tail ends of a private circuit. It is suggested that regulatory measures be used to impose fair-priced access, transparency and non-discrimination, and minimum standards of access.

- (b) The particular cost characteristics of the communications market, with low marginal cost and high common cost, would create scope for imaginative cost allocation for an unregulated incumbent. Yet, it is observed that this is not an issue in Malaysia, given the particular circumstances.
- (c) While referring to a series of network elements, further analysis of local loop issues, co-location space (including practices whereby property developers affiliated to some operators refused access to alternative providers, and access to cable landing stations), wholesale leased lines and transmission technologies like ATM transmission, bitstream local loop unbundling, frame relay and so on is recommended. As regards to the local loop, even in the Klang Valley, competitive local access provision might be only available along the key streets of KL Central Business District. The importance of co-location issues in situations where space and technical limitations arose is further emphasised. Finally, it might be too early to reach firm conclusions on Telekom Malaysia's position in bitstream services, and that regulators had in general not fully looked at alternative transmission technologies like ATM transmission, or Frame Relay.

The Commission's views

- 6.4.5. The Commission takes note of the remarks on the assessment of dominance in the provision of network elements. This issue is currently being reviewed by the recent exercise undertaken by the Commission on the Expansion and Review of the Access List items.

6.5. Conclusions on assessment of dominance in network elements

- 6.5.1. The views and information submitted in response to the PI Paper in general gave broad support to the Commission's analysis and initial findings, while at the same time noting the complexity of assessing dominance in network elements. The submissions tended to agree with the analytical framework and no objections were raised against the Commission's proposal of investigating network elements on a

case-by-case basis. Accordingly, the Commission will assess dominance in specific network elements on a case-by-case basis, following the analytical approach as set out in the PI Paper.

SECTION 7: COMMENTS ON THE ASSESSMENT OF DOMINANCE IN INTERCONNECTION

7.0.1. The Commission's preliminary conclusions on market definition and assessment of dominance in relation to interconnection were set out in Section 8 of the PI Paper. The PI Paper did not explicitly seek views on its analysis of the interconnection market, with the exception of inviting views on the extent to which existing regulatory arrangements might be expected to constrain dominant licensees' ability to abuse their position.

7.0.2. This Section provides a summary of the comments received, and outlines the Commission's conclusions on its assessment of dominance in respect of interconnection market.

7.1. Overview of the submissions received

7.1.1. The Commission received few comments relating to its assessment of dominance in the provision of call origination and call termination services.

7.1.2. No objections were raised about the Commission's findings in relation to market definition or assessment of dominance, and one licensee noted that it concurred with the Commission's conclusion that all licensees are dominant in origination and termination on their own networks.

7.1.3. The submissions expressed mixed views on whether regulatory arrangements are now likely to constrain the ability of dominant licensees in the provision of interconnection services to abuse their position, with the introduction of the Mandatory Standard on Access and the Mandatory Standard on Access Pricing in 2003.

7.2. Comments on the market definition and dominance findings in the provision of interconnection services

7.2.1. The Commission considered that the relevant competition markets, in respect of interconnection services, were call origination services from a single operator's network, and call termination services on a single operator's network. These market definitions imply that each operator is a monopoly supplier in the provision of these services from/to their own network. The Commission thereby concluded that each operator would be dominant in the provision of these services on their own network:

Comments received

7.2.2. Summarised below are comments received on the Commission's dominance findings in the provision of interconnection services:

- (a) Although there is concurrence with the Commission's conclusion that all licensees are dominant in origination and termination on their own networks. It is also observed that the so-called "dominance" in the provision of interconnection services is more a result of the nature of networks rather than the behaviour or size of the operators.
- (b) There is a view that dominance in the provision of interconnection services did not necessarily reflect dominance in the retail market.
- (c) There is strong support in favour of the Commission's finding that markets need to be aggregated by the network service provider, leading to monopoly suppliers. It is noted in the same submission that "[t]his is an important point which cannot be over-emphasised".

The Commission's views

7.2.3. The Commission agrees with the above observation regarding the nature of dominance. As noted in the PI Paper:

"There is nothing objectionable about a licensee being in a dominant position. In fact, there is a strong possibility in this sector [the communications sector] that some licensees will be able to gain a dominant position. This would be in keeping with the economies of scale and scope and the network economies prevalent in the industry."³⁷

7.2.4. That said, and as observed in the PI Paper, as a dominant player, the licensee still has an obligation to ensure that it does not abuse its dominant position. In other words, it must ensure that its conduct does not substantially lessen competition.

7.2.5. The Commission also concurs with the argument that dominance in the provision of interconnection services does not necessarily reflect dominance in the retail market.

³⁷ PI Paper, Section 1.1, page 4.

7.3. Comments on the effectiveness of regulatory arrangements

7.3.1. The PI Paper sought views on:

The extent to which prevailing regulatory arrangements constrained the behaviour of providers of interconnection services, and in particular, whether regulation was likely to constrain all potential types of abuses by a dominant provider of interconnection services.

Comments received

7.3.2. Summarised below are comments received on the issues regarding existing regulatory arrangements:

- (a) Regulatory arrangements are “more than adequate” to prevent abuse by a dominant provider of interconnection services, and that the Mandatory Standard on Access and Mandatory Standard on Access Pricing were extremely prescriptive.
- (b) Regulatory arrangements are likely to resolve many of the previous issues associated with interconnection (i.e. interconnect obligations had now been defined and standardised via the Mandatory Standard on Access), although it was too early to confirm the effectiveness of these arrangements. There remained difficulties associated with securing co-location services.
- (c) Regulatory arrangements are well designed to constrain the behaviour of dominant licensees in the provision of interconnection services, and they had so far proven to be effective.
- (d) Existing regulatory arrangements have been effective, especially in constraining the pricing of the domestic call origination and termination services. However, these prices are not extended to all players.
- (e) Serious concern is expressed in relation to “Tier Two telcos” ability to interconnect, with reference to numerous issues such as refusal to supply, double billing, arbitrary price increases as well as access issues. The possibility that vertically integrated firms would have some flexibility in exploiting their market power in areas that are not heavily regulated is highlighted.

- (f) Providers of interconnection services are heavily constrained, with the promulgation of the Mandatory Standard on Access and Mandatory Standard on Access Pricing in 2003. It is considered that the arrangements are among the most prescriptive in the world, and consequently that there are no avenues for abuse. It is also noted that the abuse of dominance had not been alleged with respect to interconnection.
- (g) The Mandatory Standard on Access provides an essential guide to interconnect arrangements, and these arrangements were able to constrain potential abuse by a dominant player (e.g. the provisions on line activation to facilitate equal access, non-discrimination, charging principles, etc). However the arrangements would cease to be effective if there was weak monitoring and slow action on complaints regarding abuse by a dominant player.

The Commission's views

- 7.3.3. Gauging from the submissions, it appears that many of the concerns associated with dominance in the provision of call origination and call termination have been addressed through the introduction of the Mandatory Standard on Access and the Mandatory Standard on Access Pricing.
- 7.3.4. Yet, the Commission observes a number of potential competition issues associated with the arrangements, and has noted that these issues arise. The access agreements were recently finalized and registered in October 2004, so that the implementation of the Mandatory Standard on Access and the Mandatory Standard on Access Pricing is still at its early stage. In any case, the Commission is of the view that current regulation is insufficient to address all potential issues, e.g. co-location.

7.4. Conclusions on the assessment of dominance in the provision of interconnection services

- 7.4.1. The views submitted by the licensees gave support to the Commission's initial findings on market definition and assessment of dominance for interconnection services. No objections were raised in respect of the underlying findings or broad conclusions outlined in the PI Paper. Accordingly, the Commission maintains its position on the relevant markets, given by call origination services from a single operator's network, and call termination services on a single operator's network. It follows that each operator is a monopoly supplier in the provision of these services from/to their network, and consequently **the Commission maintains its view that**

each operator is dominant in the provision of call origination and call termination services on their own network.

SECTION 8: COMMENTS ON THE ASSESSMENT OF DOMINANCE IN LEASED LINES

8.0.1. The PI Paper sought views on a number of findings underpinning the Commission's analysis of market definition with respect to leased lines (including the substitutability between IP VPN and leased lines, and whether any other services might be expected to represent a viable substitute for leased lines). The PI Paper also sought views on aspects relating to the assessment of dominance, including views on the significance of barriers to entry (and how these might be lowered), the degree of price competition in the provision of leased line services, the extent to which any licensee might be expected to hold strategic advantages relative to other licensees, and expectations relating to emerging technologies and their impact on competition. The Commission also sought views on whether there was a need for regulation of leased lines services. The Commission's preliminary conclusions on these matters were set out in Section 9 of the PI Paper.

8.0.2. This Section provides a summary of the comments received, and outlines the Commission's conclusions on its assessment of dominance in respect of the leased line market.

8.1. Overview of the submissions received

8.1.1. The views and evidence submitted by licensees tended to confirm the findings of the Commission with respect to the leased line market.

8.1.2. The key exception was in relation to digital leased lines between East Malaysia and Peninsular Malaysia. Since the time of the Study a new supplier has emerged that also provides digital leased lines for routes between East Malaysia and Peninsular Malaysia. Accordingly, the Commission's initial finding from the Study that Telekom Malaysia is the only supplier of digital leased lines between East Malaysia and Peninsular Malaysia is no longer valid.

8.2. Comments on the strength of substitutability between digital leased lines and IP VPN

8.2.1. The Commission considered that the closest substitute that could support the function offered by low bandwidth leased line services (less than 2Mbits)³⁸ would be an Internet Protocol - Virtual Private Network (IP VPN). However, the Commission concluded that leased lines and IP VPN were not demand substitutes at the prevailing time for two reasons. First, the Commission observed that the roll out of xDSL was in its infancy in Malaysia, and coverage was subsequently limited.

³⁸ That is, route-to-route connectivity between computer equipment at two or more customer sites.

Second, the Commission questioned whether IP VPN could offer a comparable level of security compared to leased lines (as required by the vast majority of leased line customers).

8.2.2. The PI Paper subsequently sought views on:

Whether customers were likely to view IP VPN as a viable substitute for digital leased lines.

Comments received

8.2.3. Summarised below are comments received on the issues regarding the substitutability between IP VPN and digital leased lines:

- (a) The strength of substitutability would depend on the end-user requirements. Specifically, only small firms might consider IP VPN to be an appropriate substitute for digital leased lines, while larger companies might not. Additionally, it is stated that the respondent, as one of the largest customers of digital leased lines in Malaysia, did not consider IP VPN to be a viable substitute for digital leased lines.
- (b) The adoption of IP VPN services in Malaysia is still at a stage of infancy, and large customers (such as financial institutions) are reluctant to adopt the services due to security concerns.
- (c) Customers with high security needs, such as banks and financial institutions, might not view IP VPN as a viable substitute for leased lines.
- (d) IP VPN had the potential to supplant digital leased lines. However, it faces challenges such as penetration and broadband availability.
- (e) IP VPN is “more than a viable substitute” for leased lines. With the right dimensioning IP VPN could be more cost effective than leased lines, while still providing network security. There is a trend in many countries for medium and large corporations to move to using IP networks for all their communication needs, including leased lines.

The Commission’s views

8.2.4. The submissions tended to confirm the initial findings of the Commission. The submissions confirmed that IP VPN may not offer a comparable level of service

compared to leased lines in all circumstances. As noted in submissions, the willingness to adopt IP VPN in place of leased lines was highly dependent on the level of security required by customers. In particular, a number of large customers requiring a high level of security (such as financial institutions) would choose to rely on leased line services rather than IP VPN networks. Further, due to general public perceptions,³⁹ the Commission understands that other customers may also choose not to adopt IP VPN in place of leased lines. That said, the Commission recognises that smaller customers, less concerned about security, may perceive IP VPN as a viable substitute to leased lines.

8.2.5. No submissions specifically addressed the Commission's observation regarding the limited availability of xDSL in Malaysia. Clearly, in areas where xDSL is not available (or only to a limited extent), IP VPN will not be a feasible alternative to leased lines.

8.2.6. The Commission concludes that the strength of demand substitutability is likely to differ on a case-by-case basis. Along some leased line routes, IP VPN may well provide a viable substitute for leased lines for a significant proportion of customers, and in others it will not. Substitutability will depend on the characteristics and needs of customers served by the route, the extent to which providers are able to price discriminate between these customers, and the extent to which xDSL (and therefore IP VPN) is available to customers. It is not possible to generalise and conclude on the likely substitutability between IP VPN and leased lines on a national basis, but rather this will need to be assessed on a case-by-case basis (route by route).

8.3. Comments on the strength of substitutability between digital leased lines and satellite, free space optics, microwave or other alternative services

8.3.1. The Commission noted in its investigations that higher bandwidth leased line services (more than 2Mbits) were most commonly used for multiplexing purposes (i.e. switchboard connection). Microwave, laser and satellite links were identified as potential alternatives to leased lines for these purposes. Further, information from several of the operators suggested that these services did provide a competitive constraint to leased line services in some instances (for example, where the line of sight was suitable). The Commission therefore concluded that satellite, free space optics and microwave links were likely to provide effective demand substitutes for leased lines, which suggested that they should be considered in the same market as digital leased lines.

³⁹ For example, the Commission understand that there is a general perception amongst customers that the Internet is more risky than lease lines, which serves to hamper the adoption of IP VPN to replace digital leased lines. The view of private leased lines being more secure also holds true in the analogue world where companies opted to have their own VPN using analogue leased lines as opposed to using VPN on the old X.25/X.21 data service.

8.3.2. The Commission did not identify other demand or supply substitutes for leased line services, noting that as the xDSL market matures in Malaysia this would warrant further assessment.

8.3.3. The PI Paper subsequently sought views on:

Whether there were likely to be any other services, other than satellite, free space optics, or microwave, which may provide a competitive constraint to digital leased lines.

Comments received

8.3.4. The licensees tended to agree with the Commission's initial assessment regarding the substitutability between leased line services and those provided via satellite and microwave links. A number of licensees identified additional services which may also represent viable alternatives to leased lines. These views are summarised below:

- (a) WiMAX is a potential substitute for leased lines, but the technology will not be commercially deployed within the next 3 years, the conclusion being that satellite, free space optics and microwave links would remain the only effective substitutes for leased lines for a substantial period of time.
- (b) Free space optics could, at best, only be considered as a limited substitute to leased lines (given that it required line of sight between the premises served).
- (c) Microwave has proven to be a viable substitute for leased lines at the wholesale level, but not at the retail level (due to the significant installation and administrative (regulatory) costs associated with utilising the service).
- (d) Managed services such as VPN over ATM or Frame Relay may offer viable alternatives to leased lines services. Experience in Hong Kong is evidence of this.
- (e) The speed of technological progress and the resulting need for periodic review is highlighted. Additionally, the respondent stated that there was no "hard and fast rule".
- (f) There are a "range of technical solutions" which provide and will in the future provide a greater competitive constraint to digital leased lines. The services are: VPN services and those services running over xDSL (such as Xlink), new satellite solutions (ipstar), laser, and area wide solutions.

The Commission's views

8.3.5. There is a range of services that may offer viable alternatives to leased line services, including VPN, satellite, microwave links, and free space optics. However, it appeared that, as in the case of the strength of substitutability to IP VPN, the strength of substitutability to these alternatives would differ on a case-by-case basis. For instance, free space optics is likely to only offer a substitute for leased lines if the premises to be connected are closely located; microwave is likely only to be a viable alternative to wholesale customers and large retail customers, and so on. It is therefore not possible to generalise and conclude on the likely substitutability between leased lines and the alternative services identified on a national basis, but rather this will need to be assessed on a route -by-route basis.

8.4. Comments on the barriers to entry in the provision of analogue leased line services

8.4.1. The Commission's initial assessment found Telekom Malaysia as the monopoly provider of analogue leased lines in Malaysia. Further, the Commission considered that there were high barriers to entry in the provision of analogue leased lines, given that this required access to the local copper network and the provision of third party access to the local network was not mandatory.

8.4.2. The PI Paper subsequently sought views on:

- (a) whether there were likely to be high entry barriers in the provision of analogue leased lines;
- (b) how these barriers to entry may be lowered;
- (c) whether there was any gain to any party in lower barriers to entry; and
- (d) the net effect of lower barriers to entry on the industry and consumers.

Comments received

8.4.3. The views of licensees confirmed the Commission's initial findings that there were high barriers to entry in the provision of analogue leased lines. Summarised below are the comments received by the Commission:

- (a) There are high barriers to entry due to the "cost economies" of deployment. Leased lines are demanded by customers seeking to connect bank Autoteller

Machines, to connect merchant credit card terminals, private networking, and local and area wide networking. Analogue leased lines are acknowledged as being “not appealing” (relative to digital lines), but concern is expressed about the ease with which customers might migrate to digital. In particular, work is needed to assess whether the prevailing pricing of local digital leased lines is reasonable (e.g. the prices appeared high against international standards).

- (b) Barriers to entry could be lowered by establishing wholesale access for leased circuits [i.e. by amending the Access List to expand areas covered for Domestic Network Transmission to include local leased lines (DLS-customer, DLS-DLS and DLS-DTS)].
- (c) There are high barriers to entry in the provision of analogue leased lines (as it requires access to the local copper network). The extensive network coverage of the incumbent acts as a disincentive to enter the market. Allowing reselling of services would lower entry barriers, although it is doubted whether there exist a high demand for analogue leased lines given the trend towards digital.
- (d) There are high entry barriers due to the incumbent’s large installed network. This might be of less significance in new developments, although an entrant would still need to connect to existing operators’ trunk networks. The standardisation of regulatory and local council approvals, as well as mandating access to the local loop, are measures to reduce entry barriers. This would encourage new entrants, although often even a mere threat of a new entrant might be a sufficient deterrent on an incumbent to prevent anti-competitive behaviour. The lowering of entry barriers was in keeping with the country’s K-economy initiatives.
- (e) There may be high barriers to entry in the provision of analogue leased line services, although this is because they are a redundant technology (customers are now demanding digital leased lines), and they offered low returns to investment.
- (f) If demand existed then an operator could relatively swiftly enter the market by using a VSAT solution or build direct to the customer seeking access.

The Commission’s views

8.4.4. The submissions confirmed that there were high barriers to entry in the provision of analogue leased lines. There was also a lack of substitute services for analogue

lines (the feasibility of VSAT is considered below). As such, the Commission maintains its initial conclusion, where it found that the monopoly provider of analogue leased lines, Telekom Malaysia, appears to be unconstrained in its pricing and delivery of quality in respect of these services.

8.4.5. The Commission does not accept the above view with respect to VSAT. VSAT is widely used in rural areas of Malaysia where physical access is difficult and it is more cost effective to use VSAT to connect to the local exchange or trunks. However, while it offers a quick solution to build to customers seeking access, the Commission considers that its high cost is likely to be prohibitive for widespread use. As such, the Commission considers that it does not represent a viable substitute for most customers requiring analogue leased line services.

8.5. Comments on competitive constraints to the provision of digital leased lines over routes between East Malaysia and Peninsular Malaysia

8.5.1. The Commission's initial assessment found that Telekom Malaysia was the only provider of digital leased lines over the routes linking East Malaysia and Peninsular Malaysia (i.e. from Kuala Lumpur to Kuching and Kuala Lumpur to Kota Kinabalu). Further, the Commission found that competition from substitute services appeared limited (e.g. competition from microwave or laser was not likely, given the vast distance covered by these routes; capacity constraints in satellite and the price differential between satellite and leased lines might limit the extent to which satellite constrained leased line pricing).

8.5.2. The PI Paper subsequently sought views on:

The extent to which satellite or any other services provided a competitive constraint to the provision of leased lines over routes between East Malaysia and Peninsular Malaysia.

Comments received

8.5.3. Summarised below are comments received on the issues regarding competitive constraints to the provision of digital leased lines over routes between East Malaysia and Peninsular Malaysia:

- (a) There exist satellite operators with the capacity to offer trunking capabilities over these routes (e.g. Measat). However, due to limitations in satellite capacity and service quality, satellite is not considered a viable substitute to

leased lines over these routes. Although, satellite might provide a viable back-up service to leased lines.

- (b) Microwave is not a viable alternative over these routes (due to the distances between the points of connection), and it is “generally accepted” that satellite services are “considerably higher” than conventional leased lines. The reality is that there are no options other than Telekom Malaysia’s submarine cables over this route.⁴⁰
- (c) Satellite services are more likely to be used as a complement to leased lines (i.e. as back-up services) rather than be in competition with leased lines, particularly given capacity and price differential issues.
- (d) Satellite solutions generally provide very little competitive constraints to leased line services. Satellite solutions have very limited capabilities and are not cost effective.
- (e) Satellite is one of the alternative options to customers over this route, and it is understood that the Sarawak government has also invested in an alternative submarine cable from East Malaysia to West Malaysia (which would provide an additional alternative to customers).

The Commission’s views

8.5.4. The PI Paper sought views on the extent to which satellite or any other services provide a competitive constraint to the provision of leased lines over routes between East Malaysia and Peninsular Malaysia.

8.5.5. Competition from substitute services appears limited, as these routes extend over a significant distance and across the sea; therefore competition from microwave or laser is not likely to be plausible. Capacity constraints in satellite and the price differential (at competitive price levels) between satellite and leased lines may limit the extent to which satellite is able to constrain the price of leased lines over these routes. However, the Commission accepts that the submarine cables from East Malaysia to Peninsular Malaysia which has commenced service in 2004 are likely to be a viable and strong substitute for leased lines in the near future.

⁴⁰ The Commission has assumed that the submission was referring to the pricing of satellite services relative to leased lines, however the drafting in the submission is not clear.

8.6. Comments on the competitive constraints to the provision of leased lines in Peninsular Malaysia

8.6.1. In its assessment of leased line services within Peninsular Malaysia, the Commission found that, nationwide, Telekom Malaysia had a significantly greater number of leased lines relative to the other operators. Nevertheless, owing to the presence of spare capacity, the Commission considered that the other operators would be able to respond reasonably swiftly if Telekom Malaysia tried to raise its price for leased lines.⁴¹ The significant price reductions offered by Telekom Malaysia in recent times tended to support this conclusion.

8.6.2. The PI Paper subsequently sought views on:

- (a) whether service providers competed on price and other terms and conditions in the provision of leased lines; and
- (b) the extent to which there was available and easily accessible network capacity, on a route by route basis within Peninsular Malaysia.

Comments received

8.6.3. Summarised below are comments received on the issues regarding the degree of price competition and the availability of capacity in the provision of leased lines:

- (a) Providers competed primarily on price although it is noted many operators take “their lead” from Telekom Malaysia. As a result of Telekom Malaysia’s price leadership, prices remained relatively high for leased line services.
- (b) Providers do “attempt” to compete on service level agreements, quality of service, and meeting clients’ wishes. However, the degree of competition is dependent on the availability of alternatives. Competition in leased lines, in reality, only occurred in the inner tandem areas of the Central Ring, Northern and Southern Corridors. For local lease lines, significant inroads had been made only in the Central Ring where tall buildings exist. The submission also suggests that Telekom Malaysia may be dominant in the Eastern (minor exceptions present) and the Sabah-Sarawak Corridors (inter tandem routes). For local leased lines, Telekom Malaysia may be dominant in all areas outside the Central Ring.

⁴¹ Although, the Commission recognised that this may differ on a route by route basis. On some routes there may be no available spare capacity, and as such, other operators would be unable to constrain the pricing behaviour of Telekom Malaysia in the short term.

- (c) The cross ownership structure of some providers which are either subsidiaries or affiliated companies implies that they are unlikely to enter into price wars with each other and could suggest the possibility of joint dominance.
- (d) Delays in the acquisition of leased line services, due to lack of capacity being cited as reasons for refusal to supply.
- (e) Competition ultimately takes place on the basis of price, since other factors like installation fees and deposits ultimately translated into price measures. Leased line provision by suppliers other than Telekom Malaysia is sporadic, and even when multiple suppliers are present there are still issues as to availability and accessibility, thus leaving room for increased competition.
- (f) Providers of leased lines “compete vigorously” amongst each other, including in terms of pricing. As evidence of competition taking place, there is little difference between the terms and conditions offered by operators.

The Commission’s views

8.6.4. The views of the operators, other than Telekom Malaysia, raised substantial reservations regarding the degree of competition between the providers of leased lines. It would appear that in many areas of Peninsular Malaysia there is a lack of strong competition between providers, often due to a lack of feasible alternative infrastructure to support leased line services sought by customers. The Commission notes however that the degree of competition appears to differ significantly on an area by area basis. For example, it was highlighted that competition was likely to be stronger in the Central Ring as compared to the Eastern Corridors. However, even within these broad corridors the degree of competition appeared to differ (e.g. within the Central Ring, a difference in competition appeared to have emerged in areas where tall buildings exist compared to other areas, or in inter tandem areas relative to other areas). As such, the Commission considers it inappropriate to generalise on the state of competition across Peninsular Malaysia, or even within broad corridors within Peninsular Malaysia. The Commission considers that competition needs to be assessed on a case-by-case basis, taking into consideration the specific characteristics of each leased line route (including aspects such as the number of operators offering leased lines services along the route, the availability of spare capacity, the extent of cross ownership between alternative suppliers, etc).

8.6.5. With respect to cross-ownership structure, the Commission observes that in other jurisdictions, if several firms are under common control, most competition policies

would imply that they be viewed as a single economic entity for purposes of competition assessment. Accordingly the Commission notes the importance of cross-ownership structure and will consider this in future assessments of dominance.

8.7. Comments on competitive advantages held by Telekom Malaysia

8.7.1. The Commission's initial investigation found that Telekom Malaysia was likely to hold a number of competitive advantages relative to other providers of leased line services, owing to the fact that: (1) it owned the local copper network, (2) it was better able to manage line of sight difficulties associated with microwave, given that it had access to a greater number of smaller exchanges and therefore had more launching sites; (3) its costs of installing fibre were likely to be less given that it held access to a greater number of ducts in the network and had a greater chance of avoiding trenching costs compared to other providers; (4) it was able to operate nationally, while some operators were limited in the extent to which they could provide point-to-point connectivity by licensing arrangements; and (5) it was likely to be better placed to compete, given its role as the national incumbent with the widest backbone network, the strongest brand name, and a wide portfolio of services.

8.7.2. The PI Paper subsequently sought views on:

- (a) the extent to which Telekom Malaysia was likely to enjoy a competitive advantage over new entrants in the supply of leased lines as a consequence of having a wider network and portfolio of services;
- (b) what other factors might contribute to Telekom Malaysia's competitive advantage; and
- (c) whether there were new developments or technologies which might reduce this competitive advantage in future.

Comments received

8.7.3. Summarised below are comments received on the issues regarding the relative advantages held by Telekom Malaysia:

- (a) There is concurrence with the contention of the PI Paper, namely: the key advantage held by Telekom Malaysia is its ability to offer full geographic connectivity across Malaysia and internationally. No other provider can offer a comparable service. Future technologies would not have a significant impact on Telekom Malaysia's position in the near future.

- (b) Telekom Malaysia holds a number of advantages over other providers of leased lines, owing largely to the fact that Telekom Malaysia has a large network and that other operators could not compete (especially when there are access issues with respect to private circuit completion). Other advantages include: a wide portfolio of products, familiarity with customers' requirements and usage patterns.
- (c) New technologies to change the advantages held by Telekom Malaysia are unlikely to emerge. Leased line technologies are stable and did not evolve quickly, while most alternative technologies such as Frame Relay and ATM also utilised the last mile held by Telekom Malaysia. IP VPNs, when perceived by end users to be more stable and reliable, could provide an alternative (this would be some time away). Also, IP V6 is another possibility, but it is yet to be implemented. Free space optics is a niche technology.
- (d) Telekom Malaysia enjoyed a number of advantages relative to other operators but wireless technologies could reduce these advantages in the longer term.
- (e) Telekom Malaysia benefited from an extensive network and from having secured most favourable sites. Having a portfolio of services does not confer any significant competitive advantage. Furthermore, wireless technologies would play an important role in mitigating Telekom Malaysia's advantage.
- (f) Telekom Malaysia might have advantages relative to other providers, including a wider network and portfolio of services, and branding advantages. However, alternatives such as IP VPN, Metro E, and other IP services would lead to a significant reduction in the attractiveness of leased line services.

The Commission's views

8.7.4. The views expressed in the submissions were unanimous with respect to the Commission's initial findings that Telekom Malaysia was likely to enjoy a number of competitive advantages over other providers of leased line services. Further, other than Telekom Malaysia, the licensees were generally of the view that new technologies were unlikely to impact on these advantages for the foreseeable future.

8.7.5. With respect to the views expressed by Telekom Malaysia on new technologies, the Commission has already noted that in many cases customers would not view IP VPN as a viable substitute to leased line services (either due to their explicit security needs, or due to a perception of the lack of security offered by IP VPN). It also notes

that, as yet, IP services are not widely deployed across Malaysia. The Commission therefore considers that leased lines will continue to offer greater stability and connectivity compared to alternatives and hence will remain popular with customers, maintaining Telekom Malaysia's position for the foreseeable future.

8.8. Comments on the need for regulation of leased line services

8.8.1. The PI Paper subsequently sought views on:

- (a) the need for regulation of leased lines (covering price regulation and quality of service);
- (b) whether the introduction of such regulation would be able to constrain all potential abuses by a dominant provider of leased line services; and
- (c) how regulation might be applied to leased line service providers (covering price regulation and quality of service) to limit abuse of a dominant position while ensuring profitability and growth of the market players.

Comments received

8.8.2. Summarised below are comments received on the need for regulation of leased line services:

- (a) Regulatory control on a dominant provider to promote better access terms is important for the Malaysian communications market. A comprehensive review of major routes needs to be undertaken to determine routes where a provider is dominant. Where fewer than three independent (non-affiliated) alternatives existed, selective regulation should be imposed (such as quality of service conditions, mandating response times to requests for service). Wholesale users should be granted flexibility to resell or reuse the leased circuits without having numerous restrictions on them. The Commission should undertake an internal benchmarking exercise to evaluate where prices are excessive or include supernormal profits.
- (b) The introduction of regulatory controls would take time, thus a short term solution in the interim is proposed, requiring a dominant provider to standardise discount structures and offer the same discounts to all customers who buy similar quantities, regardless of whether it is for resale or own use, unless there are technical and economic justifications. A dominant provider is

also to file all prices with the regulator such that the Commission can scrutinise the pricing scheme.

- (c) The need for regulation of leased line services is supported: NSPs should be able to obtain services at cost-based prices.
- (d) While noting the scope for regulation, caution is to be exercised in its support, given the difficulty of determining the right price, ensuring the appropriate flexibility and periodic review (especially in view of the anticipated learning curve that the industry would experience when it comes to implementation of regulation). However, the implementation of a mandatory minimum quality of service is fully advocated. Regulation is unlikely to be able to constrain all potential abuses.
- (e) There is no compelling rationale for extending regulation of leased lines beyond the recent quality of service determination.

The Commission's views

- 8.8.3. The Commission's view is that a comprehensive review of major routes needs to be undertaken to assess whether a licensee(s) holds a dominant position in a relevant market. As noted, the Commission considers that competition needs to be assessed on a route-by-route basis, taking into consideration the specific characteristics of each leased line route (including aspects such as the number of operators offering leased lines services along the route, the availability of spare capacity, the extent of cross ownership between alternative suppliers, etc).
- 8.8.4. With regard to the proposed regulation of leased lines, the Commission is currently in the process of reviewing the Access List Items and the Costing Model for Access and Retail Services. Both initiatives may cover the leased line market.

8.9. Other comments in relation to the nature of competition between providers of leased line services

Comments received

8.9.1. In addition to those addressed above, the Commission received the following general comments on the nature of competition in the provision of leased line services in Malaysia:

- (a) Prices for leased line services in Malaysia appeared high by international standards.
- (b) There is little price competition in the provision of leased line services, as providers tended to follow the price leadership of Telekom Malaysia.
- (c) It is normal for long term contracts to be signed in the leased line business, and this could be to the detriment of new entrants.

The Commission's views

8.9.2. The Commission observes that there is anecdotal evidence that competition in the provision of leased line services may not be as effective as it might. It also notes that there are likely to be barriers to entry not only in the provision of wholesale leased lines (owing to the significance of sunk costs involved in investing in infrastructure), but also in retail leased lines (due to the presence of long term contracts).

8.10. Comments on the conduct of leased line service providers

Comments received

8.10.1. The Commission received the following comments on the conduct of leased line service providers:

- (a) There is price discrimination between wholesale and retail customers.
- (b) Some leased line service providers do not offer quality of service standards to wholesale customers, despite the fact that they are prepared to offer these to retail customers.

The Commission's views

8.10.2. It is important to note that the focus on this inquiry is to determine which (if any) licensees hold a dominant position in a market within the communications sector of Malaysia. The Commission is mindful of the potential circularity involved in inferring dominance from anti-competitive conduct, since some conducts are only capable of having significant anti-competitive effects when practiced by a dominant firm. Accordingly, the comments raised by the parties in relation to providers' conduct are less relevant to this inquiry.

8.10.3. Nevertheless the Commission encourages the submission of evidence relating to abuse of dominance, under the current procedures as specified under the Information Paper on Process for Assessing Allegations of Anti-competitive Conduct.

8.11. Conclusions on the assessment of dominance for leased line services

8.11.1. The Commission observes that anecdotal evidence provided in submissions tended to suggest that competition in the provision of leased line services may not be as effective as it might. Furthermore, the submissions tended to confirm that Telekom Malaysia faced few constraints in the provision of leased line services over a number of routes, and that it is likely to enjoy a number of competitive advantages over other providers of leased line services. Further, other than Telekom Malaysia, the licensees were generally of the view that new technologies were unlikely to impact on these advantages for the foreseeable future.

8.11.2. However, the submissions also tended to confirm the Commission's preliminary findings that the characteristics of competition in the provision of leased lines services vary on a route-by-route basis. Specifically, the substitutability between leased line services and alternatives options (such as IP VPN, VPN services over ATM or Frame, satellite, microwave links, and free space optics) would vary by route, as would the degree of competition between existing providers of leased line services.

8.11.3. The Commission therefore maintains its position as stated in the PI Paper that competition needs to be assessed on a case-by-case basis, taking into consideration the specific characteristics of the given leased line route (covering aspects such as the number of operators offering leased lines services along the route, the availability of spare capacity, the extent of cross ownership between alternative suppliers, etc).

8.11.4. The PI Paper had also found that Telekom Malaysia was likely to be dominant in the provision of digital leased lines on the routes between East Malaysia and Peninsular

Malaysia. The Commission takes note of the new entry by Sacofa which provides a direct substitute to Telekom Malaysia's leased lines on those routes.

8.11.5. **There is, however, sufficient evidence to suggest that Telekom Malaysia is dominant in the provision of analogue leased lines.** The evidence contained in submissions confirmed that there are high barriers to entry in the provision of analogue leased lines, and that there is a lack of substitute services for analogue lines. As such, the monopoly provider of analogue leased lines, Telekom Malaysia, is unconstrained in its pricing and delivery of quality in respect of these services.

8.11.6. In relation to the licensees' suggestions concerning the need to regulate leased line services (and also concerns regarding pricing of services relative to other jurisdictions), the Commission notes that it is currently in the process of reviewing the Costing Model for Access and Retail Services. A costing study on leased lines will also be undertaken.

SECTION 9: COMMENTS ON THE ASSESSMENT OF DOMINANCE IN BROADBAND SERVICES

9.0.1. The PI Paper sought views on a number of findings underpinning the Commission's analysis of market definition (including the substitutability between broadband over mobile and broadband over fixed links, the substitutability between broadband over fixed links and broadband over wireless links or fibre). The PI Paper also sought views on aspects relating to the assessment of dominance. Specifically, the Commission sought views on the extent to which TMNet might be expected to hold a competitive advantage over its competitors owing to its relationship with Telekom Malaysia, the extent to which alternative technologies might be expected to alter this position, and the impact of the 2004 Budget announcements. The Commission's preliminary conclusions on these were set out in Section 10 of the PI Paper.

9.0.2. This Section provides a summary of the comments received, and outlines the Commission's conclusions on its assessment of dominance in the provision of broadband services.

9.1. Overview of the submissions received

9.1.1. The submissions received were largely in support of the Commission's findings in relation to broadband. Evidence and views submitted tended to support both the Commission's analysis of market definition and its assessment of dominance.

9.1.2. A number of licensees expressed deep concern as to the effectiveness of competition in the market, and called for mandatory access to be established for the local loop and bitstream services.

9.2. Comments on the strength of substitutability between broadband over mobile and broadband over fixed links

9.2.1. To arrive at a market definition for broadband services, the Commission considered whether broadband over fixed lines and broadband over mobile telephony were likely to be substitutes. The Commission found that while connecting to the Internet on a mobile phone was possible (using WAP/IP based applications and GPRS applications on existing GSM systems), broadband services were not yet available on mobiles on a wide scale. Further, while convergence might be expected to change this (particularly with the emergence of third generation networks), the Commission understood that the technology on a significant scale was several years away. Accordingly, the Commission concluded that mobile telephony and broadband services over fixed lines were not effective demand substitutes.

9.2.2. The PI Paper sought views on:

- (a) whether mobile services were likely to offer consumers a viable alternative for broadband services;
- (b) the constraints mobile services faced (technological or otherwise) that prevented them from being a viable alternative for broadband services, and how these constraints might be overcome;
- (c) how the development of mobile services as an alternative to broadband services might affect consumers and the industry;
- (d) whether the regulatory environment was sufficient for effective regulation of mobile broadband services providers.

Comments received

9.2.3. Summarised below are comments received on the issues regarding the strength of substitutability between broadband over mobile and broadband over fixed links:

- (a) Based on experience drawn from EDGE networks, mobile services are not considered to be substitutable for broadband for the following reasons: (1) different geographies of fixed line and higher speed mobile data networks (mobile services are expected to be deployed in urban areas); (2) different user interfaces (mobile screens are still inadequate in terms of screen size relative to a PC); (3) different delivery speeds (even WCDMA will not be able to provide the data rates that xDSL can; WCDMA may be able to provide speeds in excess of 10Mbps).
- (b) Fundamentally, a mobile network is a significantly different technology offering compared to fixed. The network costs are higher (arising from the radio network), there are physical limitations of conventional handsets, and it is an evolving technology (with broadband via GPRS and 3G still at an early stage of development).
- (c) Mobile may offer a viable alternative to broadband over fixed provided the network is available and consumers are made aware and are receptive to the use of mobile services for broadband. The rate of consumer take-up is not yet known. Affordable terminals and the acceptance of customers are the main constraints facing mobile.

- (d) The issue of broadband over mobile is as yet uncertain. Three features are constraints on mobile: (1) cost is likely to be higher, although some consumers may be prepared to pay a price premium for mobility, (2) reliability, and (3) mobile broadband is likely to centre around the device and its inherent characteristics, although this might change in the future as new products come onto the market. Mobile broadband would be a positive step for the market. A more transparent regulatory environment is needed especially relating to IMT-2000 as well as greater accountability for IMT-2000 spectrum holders.
- (e) There is a high probability that mobile services (including wireless) would offer a viable substitute for broadband. The main constraints facing mobile are network coverage, congestion, security, contents and pricing. However, sharing of mobile masts would allow service providers to extend their coverage, and proper monitoring and network planning could eliminate congestion.
- (f) Mobile services are unlikely to offer a viable alternative for broadband services (due to the high retail prices). A number of constraints face mobile, all stemming from the high network and equipment costs associated with mobile. Mobiles are essentially designed to handle voice rather than data applications, and therefore do not lend themselves to cost effective provision of broadband services.

The Commission's views

9.2.4. The submissions tended to support the Commission's preliminary findings. The Commission thereby concludes that its initial conclusions hold: mobile telephony and broadband services over fixed lines are not effective demand substitutes.

9.3. Comments on the roll out of broadband over wireless links and fibre networks

9.3.1. To arrive at a market definition for broadband services, the Commission considered whether the provision of wireless broadband, broadband over fibre and broadband over fixed lines were equally available across Malaysia. The Commission found that, in some regions, wireless broadband was likely to be more economic than in others, and that extensive fibre networks existed only in certain regions of Malaysia. This suggested that there was a difference across Malaysia as to the number of providers capable of competing to supply broadband services to a particular customer. However, the Commission noted that the penetration of wireless broadband and broadband over fibre was limited and therefore the distinction across regions in

Malaysia is likely to be immaterial. Accordingly, the Commission concluded that it was reasonable to consider the market for broadband services as a single national market.

9.3.2. The PI Paper sought views on:

- (a) the extent to which wireless broadband and/or broadband over fibre may pose a competitive constraint to broadband over fixed lines; and
- (b) the extent to which this might be expected to differ across regions in Malaysia.

Comments received

9.3.3. Summarised below are comments received on the issues regarding competition between broadband over fixed lines and broadband over fixed wireless links or fibre:

- (a) While Maxis and Time have both launched wireless broadband products, the deployment of the networks underpinning these services is limited. BFWA service deployment is limited to parts of KL; and the deployment of WiFi is limited to restaurants, cafes and other areas such as KLIA (but not homes or offices). Also, there is no evidence of large scale deployment of fibre in any urban area of Malaysia. There is little information available as to the take-up of Maxis' and Time's services, but a number of attempts to enter the business broadband market using BFWA have not been successful.
- (b) The Commission's finding that competition occurred on a national basis is noted, however, there is limited competition in the provision of broadband services, and this was concentrated in selected areas of Klang Valley, Penang, and some parts of Johor Bahru. Specifically, the footprint for wireless broadband was limited in Malaysia, with it being confined to selected pockets of urban and residential areas. On a national level, wireless would not pose a constraint on broadband over copper, as there would remain areas outside cities that would probably not be serviced by wireless broadband. Wireless could be hampered by congestion problems, line of sight limitations, and the process and costs of setting up upstream network elements. In addition, broadband over fibre was at a very early stage of implementation.
- (c) Emerging wireless technologies pose a viable alternative to broadband over fixed, but operators would initially focus deployment on cities and large towns – suggesting that the technologies are yet to be deployed on a large scale.

- (d) The Commission's initial findings that wireless broadband and broadband over fibre is in general not a constraint on broadband over fixed lines is agreed with. Yet, the position might be different when distinguishing between urban and suburban areas. Broadband wireless had potential as there had been much development in the area of the unlicensed band; with reference to several large corporations pushing platforms such as mesh networks, ZigBee, WiFi and WiMAX. There is great interest in WiMAX even though the standard has not yet been released or finalised.
- (e) There are a range of wireless technologies which pose a competitive threat to TMNet's ADSL offering, such as three new service offerings recently deployed in Australia.
- (f) The experience of South Korea and Japan is evidence that broadband over wireless and fibre could deliver services in competition with broadband over fixed; however this is not currently the case in Malaysia. These technologies are not widely deployed in the country, and the experience is that these are complementary to broadband over fixed (given that they are installed in locations where copper lines are not available). Fibre is more likely to be deployed in new areas (because of the cost and inconvenience of laying cable).

The Commission's views

- 9.3.4. The submissions tended to support the Commission's preliminary findings that there was a difference across Malaysia as to the number of providers capable of competing to supply broadband services to a particular customer, but that the penetration of wireless broadband and broadband over fibre was limited. The Commission therefore reaches the conclusion that its initial findings hold, so that it is reasonable to consider the market for broadband services as a single national market.
- 9.3.5. The key exception is the claims made in Section 9.3.3. (e) (which are generally contradicted by the other submissions). The Commission considered at length the maturity of fixed wireless and satellite solutions in Section 4.5, concluding that these were only emerging and not likely to be deployed to a significant extent in Malaysia for the foreseeable future. Further, it should be noted that "case studies" from Australia are not reasonable indicators of the future prospects for fixed wireless offerings, due to Australia's unique and liberal regulatory environment:

"Australia was chosen as the test-bed for the new wireless broadband system because of our unique spectrum licensing system."The Australian Government chose to release the unpaired spectrum (TDD) separately from the paired spectrum (3G)," said Slatyer [CKW Wireless board director Judy Slatyer], adding almost no other country did this. "They did it expressly to encourage new entrants into the market. ..."⁴²

9.4. Comments on the relative advantages held by TMNet

9.4.1. TMNet is the most significant provider of broadband services. While TMNet is a separate legal entity to Telekom Malaysia, it appears that TMNet's relationship with Telekom Malaysia enables it to enjoy a number of competitive advantages over its competitors in the market for broadband services. In the vast majority of localities, only Telekom Malaysia has the local facilities to provide broadband services.

9.4.2. The PI Paper further set out that TMNet is able to leverage from Telekom Malaysia's position and its access to potential broadband subscribers' contact details. The Commission further found that TMNet would be able to benefit from scale and scope economies due to its connection with Telekom Malaysia.

9.4.3. The PI Paper sought views on:

- (a) the extent to which TMNet, by virtue of its integration with Telekom Malaysia, might enjoy economies of scale and scope in the provision of broadband retail services; and
- (b) the potential technologies or developments which might negate such advantages.

Comments received

9.4.4. Summarised below are comments received on the issues regarding the relative advantages TMNet might enjoy in the provision of broadband services:

- (a) TMNet could achieve a great number of advantages over its competitors owing to its relationship with Telekom Malaysia (e.g. cost savings in marketing and advertising, and sales and distribution networks). The relationship between the two companies would give rise to the possibility to undertake anti-competitive behaviour in the broadband market and potentially

⁴² James Pearce, "Wireless broadband set to i-Burst into Australia", *ZDNet Australia*, 19 December 2002. Available at: <http://www.zdnet.com.au/news/communications/0,2000061791,20270786,00.htm>

across markets through mandatory bundling (a number of examples were cited). While there are alternative technologies available to TMNet's ADSL services (e.g. BFWA), these technologies are still relatively expensive. Regulated provision of wholesale broadband services would be the best way to facilitate competition in the provision of retail broadband services.

- (b) TMNet could achieve a number of advantages (including preferential terms and conditions for access to the local loop, first mover advantages, and economies of scale). Wireless technologies might have the potential to compete with ADSL in some circumstances and in some customer segments; however regulations are required in the market. This could take several forms: local loop unbundling (including the provision of co-location services and quality of service conditions); non-discriminatory wholesale provision (priced at a level taking into consideration the retail prices of TMNet and allowing for a reasonable margin); a requirement to publish an Access Reference Document; requirement to notify terms and conditions; and the introduction of accounting separation.
- (c) The vertical integration of the Telekom Malaysia group would enable TMNet to enjoy scale and scope economies, due to access to the local loop. With the backing of Telekom Malaysia, TMNet should have access to domestic transmission and interconnect link services at a favourable price and quality of service.
- (d) The ability to enjoy economies of scale by virtue of the connection with Telekom Malaysia is significant, although it is usually overstated. A vertically integrated firm would not be able to extract monopolistic rents at both levels because both levels did not maximise independently. But TMNet is able to leverage on Telekom Malaysia's existing networks and switches, and therefore is able to roll out more easily. Wireless broadband, in particular WiMAX and WiFi used in combination would be able to redefine the broadband market, and perhaps allow niche players to have a certain market share.
- (e) TMNet would not be able to secure greater economies of scale and scope in the provision of broadband retail services compared to other operators (citing another operator's ability to capture economies of scale and scope if it offers broadband 3G services).
- (f) TMNet had achieved a strong market position through legitimate means and this should not be penalised. Rather it should be allowed to prosper in an

already unregulated market. Telekom Malaysia provided last mile services to both Jaring and TMNet and so each had the same “competitive edge”. Also, the adoption of non-ADSL services is possible (e.g. these being deployed by companies such as Atlas One and NasionCom).

The Commission’s views

- 9.4.5. The submissions tended to support the Commission’s preliminary findings. However, the Commission is of the view that achieving a strong position in the market by legitimate means, as a matter of principle, is not directly relevant to an assessment of dominance.
- 9.4.6. Nor does the Commission accept claims that alternative technologies would significantly constrain TMNet’s provision of ADSL for the reasons set out in Section 9.3 and Section 4.5.
- 9.4.7. The Commission also is not convinced by the view in Section 9.4.4 (d) that a dominant firm cannot extract rents at the upstream and downstream level. This argument appears to be based on the Chicago Conjecture⁴³; the Commission is of the view that the Chicago Conjecture is not generally applicable. In particular, if gross downstream margins are significant – as is plausible for broadband services – then the conditions of the Chicago Conjecture would not be satisfied.
- 9.4.8. The Commission is of the view that the vertical integration between TMNet and Telekom Malaysia confers competitive advantages to the extent that they are able to operate independently of its competitors and customers. Furthermore, the deployment of alternative technologies to xDSL are unlikely to change this position in the foreseeable future. Thus, the Commission concludes that both entities are significant providers in the broadband services market.

9.5. Comments on other aspects of broadband services

- 9.5.1. The PI Paper sought views on:
- (a) the likely implications of the Budget 2004 announcement on access fees reduction relating to the broadband market; and
 - (b) the maximum sustainable number of players for the broadband market in Malaysia.

⁴³ Robert H. Bork, *The Antitrust Paradox*, Free Press, New York, 1993 (original edition published in 1978).

Comments received

9.5.2. Summarised below are comments received on the issues identified above, and also the comments of a more general nature regarding competition in the provision of broadband services:

- (a) There is insufficient competition in the market. It is difficult to be definitive about the maximum number of players that could be sustained in the market, but the Commission should facilitate new market entry (ideally through the introduction of mandated access to bitstream).
- (b) While understanding the government's desire to stimulate demand for broadband, it is suggested that the lower prices could unintentionally lower margins, which would squeeze out other players and cement Telekom Malaysia's position in the market. The government could achieve similar objectives by mandating local loop unbundling. Also it would be difficult to speculate on the sustainable number of providers in the market.
- (c) The government's initiative to make broadband more affordable is supported. However, there is the need to take account of cost when imposing prices. With regard to the appropriate number of firms: there should not be a limit, especially if such a limit would amount to the protection of inefficient firms. The likely effects of protection are complacency and the scope for tacit collusion. Conversely, competition would encourage innovation and variation, and allow niche players to establish themselves.
- (d) The revised prices in the 2004 Budget announcement, while extremely positive in terms of demand, made broadband services "even more non-profitable". This would reduce the propensity of alternative providers to enter the market, and in the medium to longer term, would have a "chilling effect" on investment in broadband facilities in Malaysia. There are a maximum sustainable number of players in the market however artificial limits should not be placed on the number of providers.
- (e) Take-up had increased significantly in response to the drop in prices (as a result of the Budget announcement). As to the maximum sustainable number of players in the market, the broadband market is small and can therefore support only a few providers.

The Commission's views

9.5.3. The result of the 2004 Budget announcement has been positive on the market in stimulating demand as can be seen by the rising broadband services take-up. The Commission does not foresee limiting the number of players in the broadband market as competition will further drive supply and provide better quality to the customers at competitive rates. However, the Commission takes note of the concerns raised by the operators on sustainability and will continue to monitor the movement of rates and margins of the operators. The industry may also note that the National Broadband Plan adopted by the Government will provide strategies to drive the penetration rate in the broadband market.

9.6. Conclusions on assessment of dominance in broadband services

9.6.1. The views and information submitted by the licensees gave support to the Commission's initial findings on market definition and assessment of dominance in the broadband services market. Specifically:

- (a) The submissions concurred with the Commission's finding that mobile telephony is unlikely to represent a substitute for the provision of broadband services over fixed lines.
- (b) The submissions concurred with the Commission's finding that the market for broadband services can be considered as a single national market.
- (c) The submissions supported the Commission's preliminary findings that TMNet, with its connection to Telekom Malaysia, holds a number of competitive advantages relative to its competitors.

9.6.2. Accordingly, the Commission maintains its finding that the relevant market in respect of broadband services is the supply of broadband services, without the need to segment the market by technology. The Commission further retains its conclusion that competition in the market can be viewed as occurring nationally across Malaysia. **The Commission also concludes that TMNet and Telekom Malaysia is in a dominant position in this market, owing to a large market share and reinforced by virtue of Telekom Malaysia's control of bitstream access and the group's upstream network elements.**

SECTION 10: COMMENTS ON THE ASSESSMENT OF DOMINANCE IN BROADCASTING TRANSMISSION SERVICES

10.0.1. The PI Paper sought views on a number of findings underpinning the Commission's analysis of market definition (including the substitutability between analogue terrestrial transmission and alternative broadcasting transmission services such as satellite or cable). The PI Paper also sought views on whether analogue terrestrial transmission might be constrained indirectly, due to competition between free-to-air terrestrial channels and satellite channels. Finally, the PI Paper invited submissions on barriers to entry in the market for transmission services. The Commission's preliminary conclusions on these issues were set out in Section 11 of the PI Paper.

10.0.2. This Section provides a summary of the comments received, and outlines the Commission's conclusions on its assessment of dominance in respect of broadcasting transmission services.

10.1. Overview of the submissions received

10.1.1. The submissions provided insufficient evidence to warrant the Commission overturning its conclusions. One of the submissions claimed that analogue terrestrial transmission and alternative broadcasting transmission services were direct substitutes, but offered no evidence to support this claim. In general the submissions painted a mixed picture on the issue of indirect substitution between terrestrial and satellite television services, and thus it was suggested that there were no barriers to entry in this sector.

10.2. Comments on substitutability between analogue terrestrial transmission and alternative broadcasting transmission services

10.2.1. In order to define the relevant market for analogue terrestrial broadcasting services, the Commission considered the extent to which alternative transmission technologies might constrain analogue terrestrial transmission services. The Commission examined four potential alternatives: (1) fibre optic cable, (2) satellite, (3) the PSTN (via the local loop), and (4) digital technologies. Its investigation concluded that the ability to deliver mass audiences to advertisers was a key component underpinning the business model on which free-to-air terrestrial transmission was based. In the Commission's opinion, none of the potential alternatives offered comparable capability in terms of its penetration.

10.2.2. The PI Paper sought views on:

Whether alternative broadcasting transmission services such as satellite or cable were demand substitutes for analogue terrestrial transmission.

Comments received

10.2.3. Summarised below are comments received on the issues regarding substitutability between analogue terrestrial transmission and alternative broadcasting transmission services:

- (a) There is general agreement with the Commission's conclusions however, it is argued that despite the fact that terrestrial and satellite/cable television dealt with seemingly identical content, satellite and cable television were technically more complex in that one required a set top box and for satellite in addition a smartcard and a satellite dish was needed.
- (b) Television transmission via the local loop is still in its infancy, in particular given the low broadband and PC penetration.⁴⁴ Fibre optic to buildings or houses is still a rarity in Malaysia.
- (c) Another submission supported the Commission's findings and observed that satellite and cable transmissions required set-top boxes/decoders and satellite dish/cable connection. The submission argued that these alternative technologies might be demand substitutes, provided that they are free-of-charge and that there are no ongoing subscription fees.
- (d) Satellite and cable are not direct demand substitutes to analogue terrestrial transmissions, in particular as they are costly and as cable is not very prevalent in Malaysia.
- (e) There is also a submission which disagreed with the Commission's conclusions. The submission asserted that "absolutely" alternative broadcasting transmission services are in fact demand substitutes although the submission did not expand on its reasoning. Reference is also made to a separate section in the submission which argued that the Commission investigate digital broadcasting transmission services; yet, this section offered no specific explanation on issues of substitutability. It also asserted as a third

⁴⁴ The Commission has come to the independent view that there are at least two service providers, Network Guidance and TMNet (Blue Hyppo), intending to pursue transmission via the local loop, but that the process is very gradual.

point that alternative broadcasting transmission services are substitutable for analogue terrestrial transmission in foreign markets.

- (f) There is a view that alternative broadcasting transmission services such as satellite or cable are not demand substitutes for analogue terrestrial transmission. The submission reasoned that the mass market could not afford special/additional gadgets like separate decoders. It also cited that the monthly subscription charges as a prohibitive factor for a large viewer segment.

The Commission's views

10.2.4. With the exception of one response, the submissions supported the Commission's preliminary analysis as set out in the PI Paper. The opposing response on the Commission's view, did not specifically deal with the arguments considered by the Commission in the PI Paper, nor did it offer any examples of where substitution had occurred, to back up its assertion.

10.2.5. Accordingly, the Commission maintains its preliminary conclusion of insufficient demand substitutability.

10.3. Comments on substitutability between satellite channels and free-to-air terrestrial channels

10.3.1 Given that the demand for analogue terrestrial broadcasting transmission services is a derived demand, so that competitive interaction could also occur at subsequent levels of the supply chain, the Commission also considered substitutability between free-to-air terrestrial channels and satellite channels. This was in keeping with its analytical approach for input markets as set out in Section 3.1.3 of the PI Paper. The investigation led to the finding that free-to-air terrestrial channels relied on their ability to deliver large viewing audiences to advertisers whereas satellite channels were based on a multi-channel television business model which tended to rely on its greater diversity of channels as well as the retention of some rights that viewers were prepared to pay for.

10.3.2 The Commission sought comments on:

Whether competition from satellite channels placed a close competitive constraint on free-to-air terrestrial channels.

Comments received

10.3.3 Summarised below are comments received on the issues regarding substitutability between satellite channels and free-to-air terrestrial channels:

- (a) Satellite TV as of 2004 only had a 24 percent household penetration, compared to more than 90 percent for terrestrial TV. Satellite channels can place some competitive constraints, but noted that significant differences (in terms of set-top boxes and/or long term commitment to purchase) meant that they are not a close substitute to free-to-air terrestrial channels. The submission also pointed out that satellite channels are indeed pay TV services. The variety on pay TV is a distinguishing factor. While free-to-air TV tended to have more advertisements, and finally noted RTM's public service commitments as a distinguishing factor.
- (b) Satellite channels may constrain free-to-air terrestrial channels if consumers found their content more relevant than that of free-to-air terrestrial channels.
- (c) Satellite channels do not pose a close competitive constraint on free-to-air broadcasting.
- (d) Satellite channels absolutely placed a constraint on free-to-air terrestrial channels and argued that the Commission investigate digital broadcasting transmission services, but offered no specific explanation on issues of substitutability. In addition there is competition from satellite channels in terms of securing advertising. In its view satellite channels could siphon off significant revenues from free-to-air channels and reduce the rates that these could charge for their advertising. It argued that satellite operators had been able to secure exclusive access to premium content such as sports and events. In contrast, free-to-air channels are constrained by greater local content requirements.
- (e) Free-to-air broadcasters are in poor health and faced significant downward pressure on pricing. This removes any opportunity for any abuse of dominance.
- (f) In countries like the UK, satellite operators have started to give out set top boxes for free, but with advertising being permitted. This model would certainly have an adverse impact on the free-to-air operators if implemented in Malaysia.

- (g) From a marketing perspective satellite channels posed a constraint. Partly attributed to the fact that despite being able to charge for subscription, satellite/pay based TV are allowed the same advertising duration of 10 minutes per hour. There should be a clear distinction between pay and free-to-air television in terms of the ability to accept advertisements. Finally, it argued that to compensate for the pay operators' 'bundling' of services, free-to-air operators should be given the option to operate unconditionally as a media house with multiple media services offerings.

The Commission's views

- 10.3.4 The submissions painted a mixed picture of whether or not there was strong competition between free-to-air and satellite channels. Many responses referred to distinguishing factors such as the need for set-top boxes, the subscription charges for satellite channels, the different business model of mass-market versus premium content, and different regulatory treatment. The Commission agrees with these distinguishing factors, but also takes note of some limited competitive interaction.
- 10.3.5 The Commission is unconvinced of the argument that very significant competition takes place in terms of securing advertising revenues. In the Commission's view the competition in the advertising sector is primarily determined by substitutability at the viewer level: advertising on two TV channels are substitutable if they reach the same viewers; if they have non-overlapping audiences, then advertisers are likely to optimise for each channel separately. The fact that in response to a price rise for one they would allocate a higher *percentage* of their budgets to the other channel is not indicative of substitution.⁴⁵
- 10.3.6 In any case, the Commission in the PI Paper reached the view that the competition between transmission technologies deriving from substitutability at the downstream level was an indirect mechanism, which required strong and quantitatively significant mechanisms for the effect to be substantial and not be diluted by the series of steps that were necessary in the indirect chain of competitive constraints. On the basis of the mixed responses in the submissions the Commission retains its view that downstream competition depends on a number of factors and that the link between an upstream and a downstream price rise is insufficiently strong for the indirect competition argument to be of appreciable magnitude. Accordingly, the Commission also retains its view that alternative transmission technologies are not substitutable for analogue terrestrial broadcasting transmission services.

⁴⁵ The Commission analysed this theory at 4.4.19, page 28.

10.4. Comments on barriers to entry

10.4.1. The Commission concluded in its PI Paper that there appeared to be barriers to entry for firms aiming to compete head-on with Telekom Malaysia. Barriers to entry identified by the Commission were: sunk infrastructure costs; the fact that the best strategic sites were already taken by Telekom Malaysia (implying that a new entrant would begin with a disadvantage in either terms of cost⁴⁶ or coverage)⁴⁷; redundancy in analogue terrestrial television (in light of digital); and licensing requirements.

10.4.2. The PI Report sought views on:

The extent to which potential new entrants to the market for transmission services face barriers to entry.

Comments received

10.4.3. Summarised below are comments received on the issues regarding barriers to entry:

- (a) There are unlikely to be new entrants investing in the television transmission market, given the demand for these services is restricted to the free-to-air television stations (several of which are suffering financially). It agreed with the Commission's preliminary findings; it claimed that the capital cost of transmission infrastructure are high and exhibited high sunk costs (creating high risk for new entrants), and Telekom Malaysia's sites are already placed in many strategic locations.
- (b) There are no barriers to entry to many elements of the broadcasting business. It is noted that the main issue in the market is the provision of back-up/alternative routes for the distribution of signals. It also claimed that major routing of signals between city markets (e.g. KL to Penang) are already contestable, and the specific routes to hilltop broadcasting sites are also often contestable if a cellular provider had its own transmission facilities located at the site.
- (c) There is also a submission which is of the view that in addition to the physical and "real" barriers listed in the PI Paper, there are artificial barriers created by Telekom Malaysia.

⁴⁶ The need to use less desirable sites may require more masts to be utilised in order to give an equivalent level of coverage.

⁴⁷ That is the entrant could use the same number of sites as Telekom Malaysia, but suffer poorer coverage because they are less well placed.

The Commission's views

10.4.4. The Commission acknowledges Telekom Malaysia's point that the routing of signals between key city markets and the specific routes to hilltop broadcasting sites are contestable. However, Telekom Malaysia has superior broadcast transmitter sites and not many mobile phone providers enjoy such a strategic location. Accordingly, the Commission maintains its position; there appear to be barriers to entry for firms aiming to compete head-on with Telekom Malaysia.

10.5. Conclusions on the assessment of dominance in the provision of broadcast transmission services

10.5.1. The Commission concludes that it is appropriate to maintain its preliminary conclusions which suggested that there is insufficient demand substitutability between terrestrial and alternative transmission technologies, in both upstream and downstream markets, and at least some barriers to entry were present.

10.5.2. Accordingly, the Commission maintains its finding that the relevant market in respect of broadcast transmission services is the provision of transmission services for analogue television broadcasting. As Telekom Malaysia does not appear to face effective competition in the transmission of analogue terrestrial broadcasting, and due to the presence of at least some barriers to entry; **the Commission concludes that Telekom Malaysia is dominant in the provision of transmission services for analogue television broadcasting (in most localities and nationally).**

SECTION 11: COMMENTS ON THE PROPOSAL TO ADOPT MARKET SHARE THRESHOLDS

11.0.1. In Section 3 of the PI Paper, the Commission invited views on whether there was a need to establish dominance thresholds, what these thresholds should be, whether assigning a numerical threshold to determine dominance was sufficient and, if not, what other factors ought to be taken into consideration. The Commission's own views were set out in Section 3 and in Section 13 (which looked specifically at the issue of dominance thresholds) of the PI Paper.

11.0.2. This Section provides a summary of the comments received, and outlines the Commission's conclusions in relation to market share thresholds.

11.1. Overview of the submissions received

11.1.1. Two licensees expressed the view that dominance thresholds should not be used. A further two licensees questioned the appropriateness of setting an upper and lower bound. Of those who agreed with the principle of using a dominance threshold, two to three believed that the appropriate upper bound should be set at 45 percent whilst two believed that 50 percent was more appropriate.

11.1.2. All licensees were of the view that dominance could not be established on the basis of market share alone. Many supplementary indicators were suggested in the submissions (such as barriers to entry, countervailing buyer power and the closeness of substitutes).

11.1.3. Several licensees expressed concern that it was unclear what methodology the Commission would adopt in its calculation of market share. Two licensees were of the view that sales revenue should be used; one respondent believed that subscriber numbers would be preferable.

11.2. Comments on the need to establish market share dominance thresholds

11.2.1. The PI Paper sought views on:

Whether there was a need to set numerical market share thresholds to indicate dominance in a relevant communications market.

Comments received

11.2.2. The comments received on the need for the Commission to establish dominance thresholds are summarised below:

- (a) The use of dominance thresholds could result in the assessment of dominance becoming too rigid.
- (b) Market share thresholds should be used as an indicator of dominance.
- (c) The use of numerical market share thresholds is agreed to, however the need to define the market correctly is emphasised. In particular, the mechanical aggregation of products or services into a generic definition is dangerous and would not be accurate. However, given the degree of discretion in market definition, thresholds are useful only as an indicative test.
- (d) Market share thresholds are acceptable, subject to certain qualifications. Whilst high market share could be construed as an indication of significant market power, it is asserted that a firm with high market share could not automatically be presumed dominant; high levels of market share served only as a means of identifying cases that required closer scrutiny. A lower dominance threshold is unnecessary as it is unclear as to how a range between an upper and lower bound would fit into current competition provisions (as established in the CMA).
- (e) Whilst dominance is unlikely in the event of a low market share, a high market share does not confirm the existence of a dominant position. Thus, the use of market share is not recommended to indicate dominance.
- (f) A market share threshold of 45 percent would be acceptable as a preliminary indication of dominance, although it is noted that it would be inappropriate to adopt an upper and lower threshold.

The Commission's views

11.2.3. Market share thresholds can play an important role in competition policy enforcement. Competition authorities in many jurisdictions have made use of market share thresholds, whether published or internal, as a screening device to identify markets in which firms potentially have market power. They have been used in a very wide range of contexts in competition policy, including merger control, the analysis of anti-competitive agreements and as identification of firms holding a dominant position. That said, the Commission is mindful that:

- (a) thresholds are only useful if markets have been correctly defined; and

- (b) high market shares are not a sufficient condition for substantial market power.

11.2.4. This is in keeping with the views expressed in the submissions received by the Commission.

11.2.5. The Commission does not propose that a firm will automatically be found dominant if it has a market share that is greater than or equal to the upper market share threshold. Rather, in such circumstances there will be a presumption of dominance, which can be rebutted by the firm (for example, by demonstrating that barriers to entry are low).

11.2.6. The Commission believes that establishing a lower bound market share is desirable. It is very unlikely that a firm with a market share of less than 25 percent will be dominant. Hence the Commission can be confident that such a firm does not hold a dominant position without the need for a lengthy or protracted investigation. A lower bound will increase legal certainty with minimal risk of overlooking dominant positions.

11.3. Comments on the appropriate level of the dominance thresholds

11.3.1. The PI Paper sought views on:

- (a) the level of market share thresholds for the communications market in Malaysia (assuming these are to be established); and
- (b) the appropriateness of adopting upper and lower market share thresholds of 45 percent and 25 percent, respectively.

Comments received

11.3.2. The comments relevant to the appropriate level of the dominance thresholds are summarised below:

- (a) One submission agreed with the establishment of dominance thresholds at 25 percent and 45 percent. The submission made reference to antitrust and merger guidelines from the European Commission and the Hong Kong communications regulator (OFTA) as well as the South African Competition Act.
- (b) The appropriate threshold should be 50 percent instead of the proposed 45 percent, in line with EU practice and the proposed threshold in Hong Kong.

OFTA regarded that a market share persistently above 50 percent was the ideal trigger to launch a dominance investigation, and that it is considered unlikely that a licensee with a market share of less than 40 percent would be dominant in the absence of further evidence. Thus, 45 percent is too low a threshold for Malaysia, especially in the mobile telephony sector; in particular, because the licensing regime allowed three players to compete on a level playing field, it is not an artificially erected entry barrier. In support, reference is made to the policy stance of the Telecommunications Regulatory Authority of India (TRAI)⁴⁸, which had indicated that low market share thresholds should not apply to the mobile market for two reasons. Firstly, efficient utilisation of the spectrum required fewer players in the market. Secondly, the mobile market had been opened up only in phases: any current high market shares were likely to be ephemeral. A threshold that is too low could be counter-productive for competition and could retard growth in the market.

- (c) A market share of 50 percent should lead to a presumption of dominance, whilst a firm with a market share below 25 percent is not likely to be dominant. However, a dominant position would arise when a service provider had at least a 40 percent share of the market. *It is not clear to the Commission whether the submission favours a dominance threshold of 40 percent or 50 percent.*
- (d) Another submission proposed 40-45 percent, while noting that the thresholds should only be used as an indicative test.
- (e) A market share threshold of 45 percent would be acceptable as a preliminary indication of dominance.

The Commission's views

11.3.3. While there is no single indicator of dominance and there are no hard-and-fast tests, precedents from established competition law practice use market shares as a presumption for dominance.

11.3.4. The table below provides a summary of dominance thresholds from jurisdictions around the world. Merger guidelines have not been included unless they make a specific reference to dominance: merger assessment is generally concerned with a *change* in competitive conditions, which distinguishes it from the assessment of dominance.

⁴⁸ TRAI Recommendations on Intra-Circle Merger and Acquisitions Guidelines, January 2004

Table 2: Market share thresholds for the assessment of market power

Jurisdiction	Market share threshold	Interpretation	Source
EU merger control	>50%	<i>"(...) may in themselves be evidence of the existence of a dominant market position. However, smaller competitors may act as a sufficient constraining influence if, for example, they have the ability and incentive to increase their supplies."</i>	Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ [2004] C 31/5
	40% - 50%	<i>"(...) may also raise competition concerns in view of other factors such as the strength and number of competitors, the presence of capacity constraints or the extent to which the products of the merging parties are close substitutes. The Commission has thus in several cases considered mergers resulting in firms holding market shares between 40% and 50%, and in some cases below 40%, to lead to the creation or the strengthening of a dominant position."</i>	
	<25%	<i>"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. 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."</i>	
EU antitrust	>50%	An undertaking with market shares in excess of 50% is presumed dominant; the burden of proof is the undertaking to show that it is not.	Case-62/86 AKZO Chemie v Commission [1991] ECR I-3359
UK antitrust	>50%	<i>"The European Court has stated that dominance can be presumed in the absence of evidence to the contrary if an undertaking has a market share persistently above 50 per cent."</i>	Office of Fair Trading Guideline 415, The Competition Act 1998: Assessment of Market Power, September 1999
	<40%	<i>"The Director General considers it unlikely that an undertaking will be individually dominant if its market share is below 40 per cent, although dominance could be established below that figure if other relevant factors (such as the weak position of competitors in that market) provided strong evidence of dominance."</i>	
UK Communications Regulator (OFCOM)	>50%	<i>"an undertaking will be presumed to be dominant if its market share has been persistently above 50 per cent"</i>	The Application of the Competition Act in the Telecommunications Sector, 2000

Table 2: Market share thresholds for the assessment of market power (continued)

Jurisdiction	Market share threshold	Interpretation	Source
Hong Kong Telecom Regulator (OFTA)	>75%	<i>"A licensee with a greater than 75% market share will be presumed to be dominant"</i>	Competition Guidelines
	25%-75%	<i>"A licensee with a market share of between 25-75% will not be subject to any presumption."</i>	
	<25%	<i>"A licensee with a less than 25% market share will be presumed to be non-dominant"</i>	
South Africa	>45%	<i>"A firm is dominant in a market if (a) it has at least 45% of that market; (b) it has at least 35%, but less than 45%, of that market, unless it can show that it does not have market power: or (c) it has less than 35% of that market, but has market power."</i>	Competition Act, 1998
Germany	>33.33%	<i>"It is presumed that an undertaking is dominant if it has a market share of at least one third"⁴⁹</i>	Act against Restraints of Competition, 1958
Austria	>30%	<i>"If an undertaking, as supplier or customer, on the whole national market or another relevant geographic market has a market share of at least 30%, then the burden of proof falls on the undertaking to show that the conditions for dominance are not present"⁵⁰</i>	Cartel Act, 1988

11.3.5. In the PI Paper the Commission referred to the 50 percent market share presumption for dominance under EC law. Yet, it expressed the view that where there is no question of penalties or remedial action without a fuller investigation of the position of the firm and also of its behaviour, the Commission's preliminary view was that a slightly more aggressive standard of 45 percent is appropriate.

11.3.6. The Commission further notes that, while with reference to the dominance presumption under EC law a 45 percent threshold might look low, other jurisdictions, in particular Germany and Austria, use even lower market share thresholds, at one third of the market and 30 percent respectively.

⁴⁹ Original text: "Es wird vermutet, daß ein Unternehmen marktbeherrschend ist, wenn es einen Marktanteil von mindestens einem Drittel hat. »

⁵⁰ Original text: "Wenn ein Unternehmer als Anbieter oder Nachfrager am gesamten inländischen Markt oder einem anderen örtlich relevanten Markt [...] einen Anteil von mindestens 30 % hat [...] dann trifft ihn die Beweislast, daß die Voraussetzungen [für den Tatbestand der Marktbeherrschung] nicht vorliegen."

11.3.7. The Commission proposes to embark on a review of its *Guideline On Dominant Position In a Communications Market*, with the intention of incorporating the upper and lower market share thresholds in a revised draft of these guidelines.

11.3.8. Below, the Commission addresses five issues raised above that have not been dealt with so far.

11.3.9. First, it is claimed that a threshold of 45 percent would be too low, especially in the mobile sector. While the submission is in support of a dominance threshold that would apply to all markets under the Commission's jurisdiction. It predicated the argument for a 50 percent threshold on the characteristics of the mobile sector only. The Commission considers this approach to be erroneous. Further, no other licensee presented any arguments suggesting why any particular communications markets should be subject to a higher threshold. Alternatively, it could have presented its arguments in the context of sector-specific thresholds. The Commission is of the view that imposing different thresholds in different sectors would undermine the rationale for clear and transparent dominance thresholds that are easy to apply. Further, the Commission is of the view that the communication sector is sufficiently homogenous to justify a single threshold level. The Commission reiterates that a licensee would not be defined as dominant on the basis of market share alone; licensees would have an opportunity to present evidence to the Commission relating to other countervailing factors (such as evidence of low barriers to entry).

11.3.10. Second, in support of the argument that a 45 percent threshold is inappropriate for the mobile sector, the submission also commented that the licensing regime allowed three players to compete on a level playing field and was not an artificially erected entry barrier. The Commission accepts that the licensing regime may not be an endogenous market barrier but it is a barrier to entry nonetheless – a new entrant could not be relied upon to defeat the anti-competitive behaviour of a dominant firm. A barrier to entry is likely to support, rather than undermine, a dominant position. The Commission wishes to emphasise that the competition implications of the licensing regime can be raised and subsequently assessed in any dominance investigation. However, the Commission does not believe that the argument provided above (in combination with all other arguments relating to the appropriate level of the dominance threshold contained in the submissions) warrants a special threshold for mobile telephony.

11.3.11. Third, in further support of the argument that a 45 percent threshold is inappropriate for the mobile sector, reference is made to the Telecommunications Regulatory Authority of India, which stated that efficient utilisation of the spectrum required

fewer players in the market. The proposition that market participants are more efficient when they are fewer in number does not preclude the possibility that any one of them may be dominant. For example, natural monopolies exist in many utility industries – the incumbents are often regarded as dominant, hence there has traditionally been extensive regulation of such industries. Further, the Commission would like to reiterate that *possession* of a dominant position is not to be regarded as an offence, only the *abuse* of a dominant position. Efficiency arguments may explain the existence of a dominant position, but the Commission will not accept such arguments as justification for abuse.

11.3.12. Fourth, according to the submission, the Telecommunications Regulatory Authority of India also stated that the mobile market in India had been opened up only in phases, hence any prevailing high market shares were likely to be ephemeral. The Commission is of the view that the situation in the mobile sector in Malaysia was not analogous to the situation in India as reported above: The market in Malaysia had been liberalised since 2000. However, the Commission does recognise that dominance assessment should be dynamic rather than static. A market in which the leaders constantly change market position is unlikely to contain a dominant firm. The dominance assessment also needs to be forward looking; any future liberalisation should be noted.

11.3.13. Lastly, the claim that a threshold of 45 percent would be “counter-productive for competition”. The Commission does not agree with this, since the threshold only acts as a presumption which is rebuttable. A firm will only be defined as dominant after having been afforded a chance to raise any countervailing effects (such as barriers to entry, etc). Furthermore, remedial action will only be taken if abuse of that dominant position is established. Accordingly, a presumptive threshold of 45 percent is unlikely to harm competition. On the contrary, establishing a higher threshold would increase the risk of failing to identify a dominant position. This is potentially far more damaging to competition because a dominant firm will be in the position to exclude potential entrants, predate on existing rivals and restrict output and innovation.

11.4. Comments on whether using a numerical threshold to determine dominance is sufficient and what additional factors ought to be considered when making a dominance assessment

11.4.1. The PI Paper sought views on:

- (a) whether assigning a numerical threshold to determine dominance was sufficient.

- (b) whether this would result in an inaccurate assessment of a market player's dominance.
- (c) what factors other than market share should be taken into account in an assessment of dominance.

Comments received

11.4.2. All firms expressed the view that dominance cannot be established by examination of market share alone. The comments received on what other factors ought to be considered when making a dominance assessment are summarised below.

- (a) Barriers to entry, pricing behaviour, profitability and vertical integration should all be considered.
- (b) The number of operators, market shares of other firms, market concentration (e.g. HHI figures), historical changes in market structure, competitive strength of market participants (e.g. access to capital), nature of the market (e.g. mature or nascent), barriers to entry, evidence of entry or expansion, cost of achieving minimum efficient scale, cost of exit, likely response to market entry, countervailing buyer power, ease of switching and evidence of the ability to act independently of competitive forces (such as internal business documents or third party documentation of anti-competitive behaviour) should be considered.
- (c) Market share should be considered over a period of time, preferably one year (a time frame used by the Canadian authorities). Other factors included: market elasticity of demand, maturity of the market, past conduct, barriers to entry, lack of countervailing power, lack of potential competition, lack of technical innovation and stagnant market growth.
- (d) The overall size of the market, control of infrastructure that is inherently difficult to duplicate, access to capital markets and financial resources, bundling, economies of scale and scope, advanced distribution and sales network and ease of market entry are all factors to be taken into consideration.
- (e) Having a "dominant market share" is different from having a dominant position. Thus, it would be dangerous to solely use a numerical threshold for

dominance assessment. In particular, reference is made to decisions by the European Commission in which mergers with relatively high market shares were approved. Market share as an indicative test is consistent with Section 138 of the CMA. This is supported by the Commission's *Guideline on Dominant Position in a Communications Market* whereby a three stage procedure of assessing is advocated: (i) the market position of the entity under investigation, (ii) the supply structure and residual competition, and (iii) demand structure and consumer power. It is proposed that the Commission use the Lerner index, which relates to the price-cost mark-up.

- (f) There is a view that for a firm to be dominant it must be able to exercise unilateral power (act without competitive constraint) and be able to restrain the behaviour of other competitors.
- (g) The ability of smaller firms to expand, countervailing buyer power, switching costs, the closeness of substitutes, vertical integration and the conduct of market participants are relevant factors to be included.

The Commission's views

11.4.3. The Commission concurs with the majority of views expressed by the licensees in their submissions. A firm with a high market share may still lack substantial market power. In order to reach a definite view on whether the firm is dominant, it may be necessary to examine other indicators, such as barriers to entry and the nature of competition in the market. For example, if entry into the market is sufficiently easy, then an attempt to raise prices above the competitive level would be thwarted by new entrants attracted by the profit opportunity. There is a range of additional factors, which can shed light on whether a firm has substantial market power. These include, but are not limited to:

- (a) the ability of the smaller firms to expand;
- (b) buyer power on the part of the customers of the dominant firm;
- (c) the extent of switching costs; and
- (d) the closeness of substitutes outside and inside the market.

11.4.4. The Commission is of the view that whilst innovation and market growth rates may be shaped by competitive pressures within the market they are also determined by exogenous factors and features inherent to the market in question (e.g. innovation

tends to be more limited in the service sectors). The Commission does not believe that innovation and market growth rates are highly relevant for the assessment of dominance.

11.4.5. The Commission is also of the view that the requirement – being able to restrain the pricing or behaviour of others – is not necessary for a firm to be held dominant. For example, a firm may have a large market share consisting mainly of ‘captured’ customers (perhaps due to high switching costs), such a firm will be able to act independently of its rivals without the need to constrain their behaviour.

11.5. Comments on the calculation of market share

Comments received

11.5.1. Several licensees expressed concern that the Commission had not clarified how market shares would be calculated; would revenue or subscriber numbers or some other measure be used. A number of licensees provided a view on which methodology would be preferable:

- (a) The Commission’s initial report contained insufficient clarity with respect to the process and parameters to be used in the determination of market shares. Generally, revenue should be used.
- (b) Market share should be defined according to a firm’s active subscriber-base and this is in line with the practice in other jurisdictions. Inactive consumers, those that are characterised as ‘bad debt’ or those who have not activated their lines, should be excluded from the market share calculations. Three reasons are offered in support of the use of subscriber numbers: (1) revenues did not provide an accurate picture of the welfare impact - a subscriber count is more appropriate as it determined how many people are affected by the abuse of dominance; (2) inclusion of non-business related income might unduly affect the level of revenue - since the Commission had not developed accounting guidelines on computing revenue, leaving revenue calculations to licensees’ discretion may not yield an objective basis for assessment; and (3) subscriber figures are more tangible and unambiguous.
- (c) Market share could be assessed using either volume or sales figures. When a service provider had a higher share by value than by volume, it might indicate that it could price above rivals due to ‘market power’.
- (d) Revenue is the correct basis for calculating market share.

The Commission's views

11.5.2. The Commission is of the view that both revenue and subscriber numbers can be useful in calculating market shares. It is noted that different regulators have different preferences in this regard. That said, the Commission recognises the need for legal certainty. As such, the Commission intends to adopt sales revenue as the primary basis for market share calculations.

11.5.3. The Commission accepts that a firm with a higher market share by value than volume *may* have market power. Yet a firm may also be able to charge higher prices than its rivals because it offers a better quality service, for example.

11.5.4. Below, the Commission offers a direct response to the three issues raised in support of the use of subscriber numbers.

11.5.5. First, the Commission is not of the view that subscriber numbers necessarily provide a better indication of any welfare impact. In any event, this argument is of more relevance to the quantification of welfare loss once an abuse of dominance has been established; it is less relevant to the initial task of identifying a dominant position.

11.5.6. Second, the Commission accepts the view that it is necessary to develop accounting guidelines on calculating revenue. In fact, the Commission is currently embarking on two initiatives: Record Keeping Rules (RKR) and Accounting Separation. The Commission accepts that inclusion of non-business related income might unduly affect the level of revenue reported but notes that firms will have an incentive to understate, not overstate, their revenues. The Commission is of the view that unscrupulous reporting by firms is just as likely when using subscriber numbers as when using revenue figures, perhaps more so given that revenue figures are scrutinised by external auditors for the purpose of presenting financial accounts whereas subscriber figures are not.

11.5.7. Third, the Commission does not believe that subscriber numbers are any more tangible or unambiguous than revenue figures.

11.6. Conclusions on the role of market share thresholds

11.6.1. Market share thresholds can play an important role in competition policy enforcement. The Commission believes that thresholds provide a transparent way to initiate an investigation of dominance. At the same time, however, the Commission recognises that determining a firm dominant should not be solely based on market share information but other factors, including but not limited to the following:

- (a) barriers to entry;
- (b) the ability of the smaller firms to expand;
- (c) buyer power on the part of the customers of the dominant firm;
- (d) the extent of switching costs;
- (e) vertical integration; and
- (f) the closeness of substitutes outside and inside the market.

11.6.2. In addition to the upper threshold, the Commission believes that establishing a lower bound market share is also desirable. It is very unlikely that a firm with, say, a 20 percent market share will be dominant. A lower bound will increase legal certainty with minimal risk of overlooking dominant positions. The Commission intends to use 25 percent as the lower threshold.

11.6.3. The Commission will adopt a dynamic and forward-looking approach to dominance assessment. The Commission is in agreement with those licensees that stressed that a static assessment would be inappropriate, especially as technological developments in the communications market are frequent and can have a material impact on the nature of competition. A market where firms often change leadership and where market shares are highly volatile is unlikely to contain a dominant firm. A static assessment of such a market, which only considered the current position of firms, may lead to spurious conclusions.

11.6.4. The Commission is of the view that both revenue and subscriber numbers can be useful in calculating market shares. In the interests of legal certainty, the Commission concludes that sales revenue will be used as the primary basis for market share calculations.

SECTION 12: COMMENTS RECEIVED REGARDING BROADER POLICY ISSUES

12.0.1. The PI Paper also sought views on a number of issues that relate to competition and the global market as well as some regulatory measures and future developments regarding competition in the communications market. Furthermore, the Commission also noted that there are additional policy issues raised in the submissions.

12.1 Comments on National champions

12.1.1. The PI Paper sought views on:

- (a) the need to promote competition as well as allow for National champions that would be able to compete in the global market.
- (b) how the dual objectives of promoting competition as well as the development of National champions could be reconciled.
- (c) what benefits the policy of fostering National champions had on the domestic market and other market players as well as in the areas of consumer protection and quality of service .
- (d) whether the Government should take a more active role in fostering National champions or whether market forces should determine market leaders that would be globally competitive .

Comments received

12.1.2. The opinions received were balanced and in general the licensees were of the opinion that market forces should determine the National champions rather than Government's intervention. The following is a summary of the comments received:

- (a) The existing competition policy is sufficient to cultivate healthy competition and that the Commission should nurture one or more National champions. Balancing these dual objectives would not be difficult because the current regulatory regime is capable of meeting the National Policy Objectives satisfactorily. Many benefits were stated in support of the National champions.
- (b) The promotion of market competition is necessarily incompatible with the development of National champions. However, operators classified as National champions should not be given preferential treatment with respect to competition policy. The existence of a National champion per se was said to

have no positive impacts on consumer protection and quality of service. Market forces should be responsible for developing globally competitive market operators that have the scope and ability to expand internationally. Government role should be limited and should not include preferential treatment in the application of competition policy.

- (c) The emergence of companies who are willing to compete abroad is already happening without the need for any specific action by the Government or regulator. The lack of definite objectives of the National champions policy creates regulatory uncertainty that should be avoided. The policy of fostering national champions appears to be of little benefit to the domestic market. Thus, market forces should determine National champions.
- (d) The requirement of National champions has become redundant. The Government's role is ideally to create a regulatory and investment environment which is conducive to facilitate the growth of the industry. The actual growth should be spearheaded by the industry players. Market forces should determine market leaders that will be globally competitive.
- (e) Market forces should determine the National champion in this industry as most of the major players are already acting like 'national champions' in terms of international investment.
- (f) The right to be a National champion had to be earned through effective competition. The Government should take an active role in fostering National champions in certain circumstances, i.e. when National champions are aspiring to go global as there is a key difference in incentives given to companies competing in the domestic market and those competing in the global market place. However, it is noted that providing incentives also encourages complacency and might be counter-productive. Therefore the structuring of the incentive scheme is important. The dual objectives of promoting competition and development of National champion would depend on the incentives given which may be complementary. If all companies aspire to be National champions through competing in providing better services, innovation, etc. then the benefits to the consumer are obvious.
- (g) Market forces should determine market leaders that will be globally competitive.
- (h) In support of having dual goals: there is a need to increase competition especially if it promotes allocative efficiency whilst simultaneously promoting

the continued growth of National champions. Market forces should determine any National champions rather than appointment by the Government or the Commission.

- (i) The appointment of National champions should be determined by market forces rather than being directly appointed by the Government or the regulator. The dual objectives can be reconciled through a managed competition environment. National champions policy would give benefits to the consumers and the domestic market in terms of product innovation, R&D efforts, improved quality of service to meet international standard.

The Commission's views

12.1.3. In achieving the national policy objectives outlined in the CMA, the Commission views the comments on the National champions by the industry as supportive of the Government's effort thus far. The Commission also recognises that healthy rivalry amongst firms in domestic markets will enhance efficiency, lower the overall cost of doing business and will benefit consumers.

12.1.4. In respect of National champions, the Commission will move in tandem with the aspiration of the Government and the importance of having strong industry players to compete with international companies in a globalised market.

12.1.5. The Commission concurs with the view that market forces should determine National champions. It reiterates that a National champion is merely a concept whereby a strong market player evolved naturally from the CMA framework, and made itself into a strong global player.

12.2 Legislative impact on being found dominant

12.2.1. Additional comments were received from various parties regarding the implications of being found dominant or otherwise, encompassing among other things, the subjects of asymmetric regulation and additional obligations to be issued to a dominant licensee.

Comments received

12.2.2. The following provides a summary of the comments received by the Commission:

- (a) Dominant operators should be subjected to more onerous obligations and prohibitions than non-dominant operators, i.e. requirements to undergo

structural and accounting separation and to be subject to price regulation. This would ensure that any attempt by a dominant operator to engage in anti-competitive behaviour that relates to an abuse of dominant position would be prohibited. Predatory pricing should only be prohibited to dominant operators whilst new entrants should be allowed to do so. The absence of the imposition of a more onerous obligation specific to dominant operators made the competition framework redundant. Price regulation is not sufficient to prevent a dominant operator from abusing its market position.

- (b) There is a similar omission in the CMA and the MSA. Although the *Guideline on Substantial Lessening of Competition* identifies business conduct that may have a negative impact on competition, it is noted that this is not exclusive (for example, there is no reference to price squeezing or price discrimination). Furthermore, it is not clear that these represent specific prohibitions or potential forms of business conduct that may be prohibited if found to lessen market competition. This approach creates a far weaker competition framework than specific prohibitions on the business conduct of an operator classified as dominant.
- (c) The concern with the interpretation of Section 133 of the CMA and the associated *Guideline on Substantial Lessening of Competition* is that all market operators may be potentially prohibited from undertaking forms of business conduct including pricing below cost and mandatory product bundling. The potential application of such prohibitions to all operators rather than just dominant operators represented a significant divergence from international best practice. The internationally agreed principle of competition regulation is that all operators should be able to undertake any form of business conduct with the exception of agreements that have potentially adverse consequences on market competition (e.g. market sharing, price fixing or market foreclosure).
- (d) Additional obligations should be issued to dominant operators, i.e. regulations specifically aimed at the dominant player, as an effective way to contain abuses. It is noted that such a regulatory framework is not unique and is practised by many jurisdictions across the world. Some of the measures that can be applied specifically to the dominant player include the publication and submission of price and discount structures to the regulator, accounting separation rules and controlling the relationship between the dominant player and its related companies. Finally, the principle of proportionality is important in that the regulation should be no more than necessary to achieve a legitimate goal, such as the National policy objectives.

- (e) The regulatory arrangements are governed by economic regulation under the CMA, including the regulation of access to connectivity services, competition and monitoring anti-competitive behaviour. One of the key elements in economic regulation is the Access Regime as it enables licensees to gain access to the necessary facilities and services on reasonable terms and conditions. This is done through Access Agreements among the licensees. The Commission Determination on Mandatory Standard on Access (MSA) provides essential guides for interconnection arrangements. This is able to constrain potential abuse by a dominant player. However, effective competition could only be realized if there is vigilant monitoring and prompt action on complaints regarding abuse by a dominant provider.

The Commission's views

- 12.2.3. Under Section 139(1) of the CMA, the Commission may direct a licensee in a dominant position in a communications market to cease conduct which has, or may have, the effect of substantially lessening competition in any communications market, and to implement appropriate remedies.
- 12.2.4. A finding of a dominant position is not compromised by the presence of regulatory provisions which may represent a constraint on the ability to exercise market power. It is possible to find a firm dominant, even though its ability to exploit that dominance will be constrained to some degree by regulation. Price regulation is not in itself likely to be a complete tool for addressing the range of potential abuses of dominance that may occur, particularly those aimed at preventing or restricting the emergence of effective competition.
- 12.2.5. That said, there is nothing objectionable about being in a dominant position, as dominant firms and monopolies are bound to emerge in the marketplace, due to either policy or commercial reasons, or both. The prohibition here is merely on the abuse of a dominant position.
- 12.2.6. The Commission noted the comments made, in particular regarding monitoring and enforcement issues. The Commission encourages licensees to come forth with information and evidence to assist in investigations on the issues highlighted in their comments.
- 12.2.7. The finding of a dominant position does not have any immediate impact on a licensee determined as such, except where that licensee engages in any conduct which has, or may have, the effect of substantially lessening competition in any communications market. In the event that such conduct does take place, the Commission will apply

the provisions contained under Section 139 of the CMA to direct the said licensee to cease such a conduct. The Commission encourages licensees to come forth with information and evidence to assist in such investigations. Moreover, the Commission intends to handle such matters in accordance with the current procedures as specified under the Information Paper on Process for Assessing Allegations of Anti-competitive Conduct. At this juncture, there is no provision for asymmetric regulation in the CMA 's competition framework. However, the concerns raised are noted.

SECTION 13: COMMENTS RECEIVED REGARDING OTHER ISSUES

13.1 Allegations of abuse of a dominant position

13.1.1. During the PI some submissions also included allegations regarding conduct. As stated earlier 3.3.6 above, the Commission is of the opinion that some of the issues highlighted by respondents are out of the scope of this Study.

Comments Received

13.1.2. Allegations of anti competitive conducts received:

- (a) Difficulties in securing reasonable access service arrangements, despite the establishment of the Mandatory Standard on Access.
- (b) The incumbent insisted that equal access service shall not be offered within the same Closed Number Area, when in fact there is no such limitation. Some of the equal access service customers are also allegedly threatened with delayed repair and maintenance services and withdrawal of other services provided by the incumbent to the customers;
- (c) Abuse of a dominant position relating to interconnection; for example, difficulties in securing co-location services as well as allegations of predatory pricing and blocking strategies; and
- (d) The incumbent practicing product bundling for instance in terms of asking customers to take end-to-end solutions or not at all, even though there are other telcos offering more competitive rates for various components within the distribution network.

The Commission's views

13.1.3. The Commission noted the comments made, in particular regarding monitoring and enforcement issues. The Commission encourages licensees to come forth with information and evidence to assist in investigations on the issues highlighted in their comments.

13.1.4. The Commission would be pleased to handle the issues separately in accordance with the current procedures as specified under the Information Paper on Process for Assessing Allegations of Anti-competitive Conduct. In respect of the Access Agreements which have been registered recently in October 2004, they are currently

enforceable and would allow parties to the Access Agreement to seek resolution under the mechanism provided.

13.2 Burden of proof

13.2.1 In the course of the PI process, issues on the burden of proof on the Commission were raised.

Comments received

13.2.2 The Commission needs proof beyond reasonable doubt prior to issuing a direction under Section 139 of the CMA.

The Commission's views

13.2.3 The Commission firstly notes that the PI Paper relates to the assessment of dominance. Specifically, the PI Paper stated in Section 1.1:

“The objective of the Commission’s study on the assessment of dominance is essentially to study selected communications markets in order to determine if there are licensees that occupy a dominant position. This will further enhance the Commission’s ability to monitor and promote competition in the relevant communications markets and for the sector generally.”

13.2.4 Accordingly, the Commission does not regard questions on the burden of proof required for a direction under Section 139 of the CMA as being within the scope of the present PI. However, for guidance it is sufficient to note that to issue a direction under Section 139 the Commission is not required to satisfy proof beyond reasonable doubt. Proof beyond reasonable doubt is a standard applicable in a court of law in criminal matters. The decision making process of the Commission does not fall within these circumstances.

13.3 Appeal Tribunal

13.3.1. In the course of the PI process the role of the Appeal Tribunal was raised.

Comments received

13.3.2. One submission articulated the view that prior to the Commission utilising any of the provisions of Chapter 2, Part VI of the CMA, the Appeal Tribunal should be

established. In particular, it expressed the view that any direction under Section 139 of the CMA should be subject to appeal.

The Commission's views

13.3.3. The Commission notes that the Appeal Tribunal is in the process of being established and the rules on appeals as provided for in the CMA will apply as appropriate.

13.4 Comments on the Malaysian convergence model

13.4.1. The Commission's analysis was conducted as part of its activities to ensure that communications markets in Malaysia are competitive. As explained in Section 3 of the PI Paper, the Commission relied on international best practice in carrying out this assessment of dominance, while being mindful of the Malaysian context. However, one of the submissions expressed doubts on whether the Commission had paid sufficient attention to the particular circumstances and the regulatory regime of the Malaysian communications markets. The Commission takes note that no other submission raised similar concerns.

Comments received

13.4.2 Summarised below are comments received on the issues regarding the Malaysian convergence model:

The PI Paper contained few references to the "key concept of convergence", which underpins the CMA and Malaysia's communications policy. There is no assessment of how a traditional analysis of dominance in a communications market, say in Europe, differs from the convergence assessment as required by the CMA. Further, any communications market definition utilised by the Commission should use "convergence models".

The Commission's views

13.4.3 The Commission does not accept the opinion that the PI paid insufficient attention to the Malaysian convergence framework.

13.4.4 The implication of convergence for dominance assessment is stated in the *Guideline On Dominant Position In a Communications Market*

“Licensees who might be regarded as dominant in a narrowly defined market may face significant competitive threats, now or in the foreseeable future, as convergence enlarges markets and brings traditionally separate industry operators into competition.”⁵¹

13.4.5 Further, the Commission’s *Guideline on Substantial Lessening of Competition* explains the meaning of the Malaysian “convergence model”:

a. The Malaysian regulatory regime is not confined to the telecommunications sector alone. It must have regard to all sources of actual or potential competition in a communications market. This includes the use of mobile and other wireless access technologies (including, for example digital broadcasting and datacasting). It is for this reason that the Act specifically defines a “Communications Market” as an economic market for:

- a network service;*
- an applications service;*
- goods or services used in conjunction with a network service or an applications service (eg., television and telephone equipment, or billing services); or*
- access to facilities used in conjunction with a network service or an applications service.*

b. It is important to recognise that these market definitions do not correspond to traditional telecommunications markets. These definitions are underpinned by a “convergence” model of communications industry activity which recognises the trend for traditionally separate service markets to merge as technological change generates new opportunities for competitive rivalry. A communications market is generally larger and more competitive than a telecommunications or broadcasting market.⁵²

13.4.6 At the outset, the Commission emphasises that competition policy markets are ultimately not determined by the empirical issue of substitutability. The regulatory framework contributes to that empirical analysis – however, it is not the only factor entering such an assessment. In other words, markets cannot be “dictated” by regulatory arrangements.

⁵¹ Commission, *Guideline On Dominant Position In A Communications Market*, Section 6.2.f.
⁵² Commission, *Guideline On Substantial Lessening of Competition*, Section 7.2.a. and b.

13.4.7 The Commission further contends that even a 'traditional' dominance assessment would also incorporate current and expected technological and consumer changes where and when appropriate. For example, in the Australian *Merger Guidelines* it is stated that:

“Regulatory or technological changes may change market boundaries or lower barriers to imports or new entry in the foreseeable future. For example, deregulation may remove geographic restrictions on distribution, remove import quotas or reduce tariffs, or increase the number of potential entrants through the removal of restrictive licensing requirements. New technology may increase supply side substitution between products, facilitate global distribution of services, or facilitate new small scale entry into a market.”⁵³

13.4.8 For the purposes of defining markets and assessing dominance in each of the sectors considered by the Commission, careful consideration was given to the strength of competition between operators and services utilising differing technologies to meet customers' needs. The Commission considered both existing technologies and emerging technologies, irrespective of whether these are network services, applications services, goods or services used in conjunction with a network service or an applications service, or services utilising access to facilities and used in conjunction with a network service or an applications service.

13.4.9 For example, in its assessment of dominance in the fixed line sector, the Commission considered the extent to which fixed line operators' behaviour is constrained by the actions of, e.g., providers of telephony services via fixed wireless links, mobile operators, providers of telephony services via power line technology, providers of fibre cable, and satellite operators. As such, in its assessment of fixed line telephony, the Commission considered the offerings of the following "market and service structures" in the convergence sector: other network service providers (e.g. service providers of fixed wireless links), networked applications providers (e.g. mobile telephony operators), networked content providers (e.g. satellite operators). Similar examples could be given for all of the sectors assessed by the Commission.

13.4.10 The Commission further notes that the EC new regulatory framework for electronic communications equally seeks to be technologically neutral, i.e. to treat firms on the basis of services or products they offer, regardless of what kind of technology is used to provide:

⁵³ ACCC, *Merger Guidelines*, para 5.163.

“In a sector increasingly based on convergence between various technologies, the former [European telecom regulatory framework of 1997] has demonstrated some deficiencies. First, it runs the risk of over-regulation as competition develops as it is linked to an automatic 25% market share trigger for intervention. Second, it can lead to inappropriate regulation, as it is technology specific. Finally, it is unable to respond to dynamic change and encourage innovation. To deal with these deficiencies, a new, technology neutral and convergence-based legislation will take effect in the European Union from July this year.”⁵⁴

13.4.11 The Commission therefore considers that the analytical framework adopted in the PI Paper was appropriate; specifically, it gave due consideration to the Malaysian “convergence model”.

⁵⁴ “Commission puts in place final piece of new framework for electronic communications”, European Commission press release IP/03/221, 12 February 2003.

SECTION 14: COMMENTS ON FUTURE DEVELOPMENTS

14.1 Other markets to be included in the Study

14.1.1. The PI Paper sought views on the focus of the markets identified in the Study, in particular whether the Study should consider any other relevant communications market where problems relating to dominance are likely to exist.

Comments Received

14.1.2. There were comments from three parties that the Commission should also include satellite broadcasting in the Study.

The Commission's views

14.1.3. The Commission welcomes feedback suggesting that satellite broadcasting should be included in the Study. The Commission may in the future undertake an assessment of dominance study on the suggested market.

SECTION 15: CONCLUSIONS

15.0.1 On the basis of the PI the Commission reaches the following conclusions on dominance:

- **Fixed line telephony**
Telekom Malaysia is dominant.
- **Mobile telephony**
No operator is dominant.
- **Upstream network elements**
A case-by-case assessment would be required to assess dominance.
- **Interconnection**
Each operator is dominant in call origination and call termination on their respective networks.
- **Analogue leased lines**
Telekom Malaysia is dominant in analogue leased lines.
A case-by-case assessment would be required to assess dominance in digital leased lines.
- **Broadband services**
TMNet and Telekom Malaysia are dominant.
- **Analogue broadcasting transmission**
Telekom Malaysia is dominant.

15.0.2 Determinations under Section 137 of the CMA will be issued accordingly.

15.0.3 The determination shall remain in force for a period of two years, in accordance with the expiry period suggested in the PI Paper and deemed appropriate in submissions received by the Commission.

15.0.4 The Commission also concludes that a market share of at least 45 percent and above leads to a rebuttable presumption of a dominant position, and that a market share below 25 percent establishes a presumption of non-dominance.