

A Consultation Paper on Market Determination in Vanuatu for Regulatory Purposes

INVITING PUBLIC COMMENT AND INPUT

16/10/2015

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1. CONSULTATION FEEDBACK INFORMATION

TRR welcomes and invites comments and feedback in response to this consultation document from all interested parties.

We would appreciate your provision of information to be clear by quoting the corresponding main sections and sub sections when providing your comments;

More general comments on the consultation document should be indicated accordingly;

In the interests of transparency, TRR will make public all or parts of any submissions made in response to this Consultation Document unless there is a specific request to treat all or part of a response in confidence. If no such request is made, TRR will assume that the response is not intended to be confidential. TRR will evaluate requests for confidentiality according to relevant legal principles;

Respondents are asked to clearly mark any information included in their submission that they consider confidential. They shall provide reasons why that information should be treated as such. Where information claimed to be confidential is included in a submission, respondents are required to provide both a confidential and a non-confidential version of their submission. TRR will determine, whether the information claimed to be confidential is to be treated as such, and, if so, will not publish that information. In respect of the information that is determined to be non-confidential, TRR may publish or refrain from publishing such information at its sole discretion.

TRR will accept comments in English, French or Bislama;

Comments on this consultation document should be provided to TRR via the following means:

- Email address consultation@trr.vu
- Faxed to (678) 24470
- Posted or hand delivered to:

Public Input – Market Determination in Vanuatu for Regulatory Purposes

Telecommunications and Radiocommunications Regulator
P O Box 3547, Port Vila, Vanuatu

The deadline for public Comments is **4pm, Friday 27 November;**

For any phone enquiries regarding this Consultation document, please call the following numbers:

- (678) 27621 or (678) 27487

For more information about TRR's Consultation Guidelines, please visit the following website **<www.trr.vu>**

2. INTRODUCTION TO MARKET DEFINITION

The justification for the intervention of regulators in any market is the actual or anticipated failure of the market to produce sustainable competitive outcomes. If competition is effective and sustainable then regulators are generally well-advised to allow market forces to operate and to deliver the outcomes that benefit all stakeholders.

This approach has been the basis of telecommunications market regulation in Vanuatu since liberalisation and the introduction of additional competitive service providers in 2008.

In order for regulators to determine whether markets are effectively competitive or whether they are characterised by participants who possess significant market power, it is necessary for the regulators to define the boundaries of a market. Market power can only exist within the boundaries of a defined market – it is not power at large or in a non-specific context that is the subject of inquiry.

It is important to note that 'market' for the purposes of economic or competition regulation is a concept that is based on the boundaries within which competition occurs. This concept does not necessarily coincide at any point with the popular concept of market or the concept of market that informs sales and marketing activities. The latter is concerned to identify segments of existing and potential customers for products and services and with identifying their preferences and how they might be accessed. By contrast, market for the purposes of the present consultation is about the process of identifying and determining markets for the purpose of assessing whether they contain structural and other characteristics that would support the maintenance and extension of significant market power by one or more participants, or whether they are effectively competitive.

3. INTERPRETATIONS

Some abbreviations and acronyms are used in this public consultation document. Unless the Act or the context suggest otherwise the following terms having the meanings listed against them:

Term	Meaning
Act	Telecommunications and Radiocommunications Regulation Act 2009
TRR	The Office of the Telecommunications and Radiocommunications Regulator
Regulator	The Regulator established under the Act
TVL	Telecom Vanuatu Limited
Digicel	Digicel (Vanuatu) Limited

4. PURPOSE

The purpose of the present public consultation is to seek the views of all sector stakeholders in Vanuatu to a more explicitly-defined and contemporary approach to market definition for regulatory purposes, and to the list of markets that TRR has developed as a result.

The markets identified in the 2008 Order by the Interim Regulator were based on the principle of substitutability – that is, that the boundaries of discrete markets would be defined where close demand substitution (of services) and close supply substitution (of service providers) ceased to apply. This principle is still the basis used by regulators and competition economists. However, much more detail can be added to increase the transparency of the analytical process and to enable others to test the plausibility of conclusions at each stage in the analytical process.

We are living through a period of rapid and wide change in the industry brought about by technical development, convergence at services, market and supplier levels, substantial changes to value and supply chains, and changes in cost levels and cost relationships. These factors all affect the availability of services and of service choices and of the competitive interplay between services. In other words they impact substantially on the traditional market relationships and definitions that formerly applied in the sector.

It is timely therefore to revisit the application the market definition process to ensure the adequacy and currency of telecommunications service markets being used for regulatory purposes by TRR.

5. REGULATORY IMPACT ASSESSMENT

The process by which telecommunications service markets are defined for regulatory purposes will have significant impact on the way in which the sector is regulated. It is not appropriate to apply ex ante regulation where markets are effectively competitive. In such circumstances regulatory intervention risks seriously distorting the growth and development of the markets. Whether specific markets are determined to be effectively competitive or in need of regulatory intervention to address problems associated with dominance will depend to a large degree on how the markets are defined in the first place. Broadly defined markets in which requisite levels of service and supplier substitution are assumed are more likely to be considered to be competitive, and more narrowly defined markets are less likely to be so considered. Ex ante regulation is more likely to be reduced or withdrawn in the first case than in the second case.

However it is important to note that market definition is only the first of a number of stages that need to be undertaken by regulators when they conduct market analyses for dominance. Regulators need to undertake assessment of the susceptibility of proposed markets, once defined, to regulation for dominance and then to assess whether one or more of the participants in the market is/are actually dominant. These stages are followed by a determination of the appropriate and proportionate remedies that might be applied to address the risks of the dominance that is found to exist.

6. EXECUTIVE SUMMARY

The Paper sets out a recommended approach and conclusions for the following:

- (1) The review and determination of existing markets or services for fixed, mobile, internet and wholesale service markets;
- (2) The determination of relevant product markets and potential substitute services for each market in Vanuatu; and
- (3) The determination of additional markets and relevant services for Vanuatu.

6.1 THE APPROACH IN THIS PAPER

The approach to market definition followed in this Paper has four steps:

1. The existing markets, as determined in 2008 and then expanded in 2009, have been reviewed to check whether they remain relevant and discrete markets. A new set of currently applicable market definitions has thus been created to replace those markets defined in 2008 and 2009.
2. A long list of potential additional wholesale markets has been created, based on identifying the market value-chain through which telecommunications infrastructure is converted into end-user telecommunications services.
3. This set of candidate wholesale markets have then been defined based on an analysis of the potential substitutability of products and services within the markets. An assessment has also been made of their priority for detailed analysis by TRR to determine whether any supplier has a position of dominance.
4. Finally, the defined markets have been assessed to ensure that they are appropriate for ex-ante regulation¹.

6.2 CONCLUSIONS AND RECOMMENDATIONS

TRR proposes a change in approach from earlier ex-ante regulation in Vanuatu. Instead of starting with retail market regulation, TRR proposes to firstly examine the potential for wholesale market regulation and then proceed to regulate retail markets if and only if wholesale regulation is inefficient or ineffective. However, the existing regulation of retail markets will and should remain in place during the transition period, and retail market regulation will and should continue until the relevant wholesale markets are either effectively competitive or effectively regulated.

TRR proposes to define 11 markets that are suitable for ex-ante regulation in Vanuatu. These markets are:

- (1) **Retail market for national voice calls.** This market includes all voice calls that originate and terminate in Vanuatu, regardless of the means of carriage. It includes calls made from and received by landline, mobile and any form of computer.

¹ Throughout this Paper only competition regulation, as defined in s.22 and s.23 of the Act, is being considered. Other forms of regulation (e.g. consumer protection) may also be needed, but these forms of regulation are outside the scope of this Paper.

- (2) **Retail market for international voice calls.** This market includes all voice calls that originate in Vanuatu and terminate internationally, regardless of the means of carriage. It includes calls made from landline, mobile and any form of computer.
- (3) **Market for retail mobile services.** This market includes all communications that originate on a mobile network in Vanuatu. It includes voice, messaging (SMS and MMS), internet access, data, video and TV services.
- (4) **Market for retail internet access services.** This market includes access to any applications based on the internet, from any device on any network in Vanuatu. For the avoidance of doubt, it includes both fixed and mobile internet access.
- (5) **Market for retail leased lines.** This market includes services that provide dedicated capacity over the fixed network on a point-to-point or point-to-multipoint basis.
- (6) **Wholesale market for termination of calls on individual networks.** This market is for the termination of incoming calls to individual networks (e.g. TVL or Digicel) that originate on another operator's network whether in Vanuatu or internationally.
- (7) **Wholesale mobile access and call origination services.** This market includes all services that allow Mobile Virtual Network Operators (MVNOs) to provide retail mobile services over another operator's mobile network, including voice and data services. It includes access to passive infrastructure (e.g. towers), carrier selection and national roaming.
- (8) **Wholesale fixed access and call origination services.** This market includes access to passive infrastructure such as ducts and dark fibre, unbundled local loops, wholesale line rental and carrier selection - i.e. wholesale services that allow a service provider to offer retail internet access and voice calls over another operator's fixed network.
- (9) **Wholesale broadband access.** This market comprises wholesale services for the provision of broadband access to end users and conveyance of internet traffic to a point of presence for handover to an Internet service provider (ISP). This wholesale service is commonly known as "bitstream" or "bitstream access", and includes access using any available fixed or mobile technology.
- (10) **Wholesale leased line services.** Leased line services provide dedicated capacity over fixed network infrastructure between any two points within Vanuatu. The market includes local segments, where the leased line terminates at a customer's premises, and trunk segments where both termination points are at fixed network nodes.
- (11) **Wholesale access to international bandwidth.** The market includes access to, and provision of capacity on, international submarine cables and satellite systems.

Each of these markets is susceptible to ex-ante regulation, but they are not all of equal importance, so we TRR is proposing three key steps in the prioritisation of the markets:

- Regulatory best practice suggests that wholesale markets should be considered first because effective regulation or competition in wholesale markets may be the best guarantee of effective competition in retail markets, without the need for direct regulatory intervention into the latter markets. Ex-ante regulation at the wholesale level may not always completely remove the need for some form of ex ante regulation at the retail level. However, as wholesale regulation will have flow on effects in the downstream retail markets it is important to focus on correcting competition problems at the wholesale level before considering whether the downstream retail markets still require any ex ante regulation of their own.
- When prioritising between wholesale markets TRR will be mindful of:
 - The current and potential demand for the wholesale services in question;
 - The relative importance (both actual and potential) of the particular wholesale service in enabling the competitive supply of downstream retail communications services;
 - The potential value (to the effectiveness of the communications sector generally) of the downstream retail market supported by the wholesale market in question.
- Where wholesale regulation is likely to take considerable time to gain traction and direct regulation of retail markets is adopted as an interim measure, priority should be given to markets based on:
 - The extent of current and potential competition in the retail market;
 - The extent of consumer participation and the consequential risk to consumer welfare
 - The probability that effective wholesale regulation will resolve the market failure.

Applying these principles we conclude that the TRR proposes to adopt the following order of priority for detailed market analysis and regulation:

- a) Wholesale access to international bandwidth (Market 11)
- b) Wholesale leased line services (Market 10)
- c) Wholesale broadband access (Market 9)
- d) Wholesale market for call termination on individual networks (Market 6)
- e) Wholesale mobile access and call origination services (Market 7)
- f) Retail internet access services (Market 4)
- g) Retail mobile services (Market 3)
- h) Retail national voice calls (Market 1)
- i) Wholesale fixed access and call origination services (Market 8)
- j) Retail leased lines (Market 5)
- k) Retail international voice calls (Market 2).

7. THEORY OF REGULATORY MARKET DEFINITION

7.1 THE DIMENSIONS OF A MARKET

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

- **User.** A group of users has requirements that are satisfied by services/products.
- **Product.** A supplier offers services/products to a market to satisfy user requirements.
- **Geography.** Consumer requirements, and the services/products that meet those requirements, have to be available in a defined location, for a transaction to take place, and a market to exist.

The user dimension is particularly relevant because the existence of distinct sub-sets of users with different service requirements may well indicate that there are really two distinct markets. Most obviously there is a clear distinction between retail markets (serving end users) and wholesale markets (providing services to intermediary agencies which on-sell to end users). Even within retail markets there may be a clear distinction between the requirements of consumers and the requirements of government and business customers.

The boundaries that separate different markets are understood in terms of the services/products that comprise each market, and specifically in terms of the ability of one product to be **substituted** for another. The degree of **substitutability** will depend on factors such as the characteristics of the underlying technology, the utility of the product, costs and prices, and trends in each of these areas (e.g. convergence of technologies, costs or service features). Substitutability can either be on the demand side (when customers switch to a different supplier) or the supply side (when alternative suppliers are attracted into the market).

User markets may also be defined in terms of geography. Within telecommunications regulation there is a general pre-disposition to define markets as national unless there are demonstrable regional variations in supply or demand. For example, the European Commission dealing with competition matters, which is generally regarded as setting best practice in market definition, makes the rebuttable presumption that all telecommunications markets are national in scope².

It is important to note that market definition in the current circumstances is to assist in the application of competition laws and rules by the regulator. This is quite different from the purposes of commercial marketing or market segmentation, which are the underlying purposes that inform the common view of market definition. In commercial marketing there is a presumption that every service should be in one market and one market only. However, in regulatory market definition this is not the case: services can be located in multiple markets simply because there is substantial substitutability between them. Further explanation and examples of this point are contained in Annex B.

² SEC(2007) 1483, Explanatory Note accompanying [European] Commission Recommendation on Relevant Product and Service Markets, p12

7.2 THE HYPOTHETICAL MONOPOLIST TEST

The best practice approach to defining the scope of relevant markets is known as the Hypothetical Monopolist Test (HMT)³. The HMT starts by identifying a focal product, i.e. the most narrowly-defined product that is obviously in the named market. Other candidate products will be included in the same market depending on the extent to which any of the following forms of substitution applies between the candidate product and the focal product:

- Supply-side substitution
- Wholesale demand-side substitution
- Retail demand-side substitution.

The HMT considers a hypothetical monopolist and asks whether a small but significant (taken to mean a 5-10% increase) non-transient (at least 1-year's duration) increase in price for the focal product is likely to be profitable. This will depend on the number of customers that move to a substitute service or/and the extent to which alternative suppliers are enticed into the market. If the small but significant non-transient increase in price ("SSNIP") is profitable, then this will be evidence of the absence of appropriate substitutes, and therefore that a discrete market exists. If the increase is not profitable, the service definition needs to be expanded to include the substitute service(s) in the same market.

The HMT is best explained through a worked example: here we consider the case of access to international bandwidth from Vanuatu.

7.3 ACCESS TO INTERNATIONAL BANDWIDTH – AN EXAMPLE

The focal product

The focal product is the most narrowly defined product set that is obviously in the defined market. It is used as the key input to the HMT so as to determine the scope of the market. In the case of international bandwidth the focal product is wholesale capacity on the Interchange Limited (ICL) international submarine cable. This capacity is provided by ICL to other licensees and may be used for the provision of any retail service, including voice, data and internet services. ICL is the only licensee in Vanuatu operating a cable landing station to distribute capacity from a submarine fibre-optic cable.

Possible substitute products

The candidate substitute products are:

- Wholesale access to another international submarine cable
- Wholesale international access provided via satellite.

No other technically feasible alternatives are currently available to the degree that they may be considered to be an adequate or appropriate substitute, and to benefit consumers.

³ See, for example, 2007/879/EC, Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services

Wholesale supply-side substitution

Wholesale supply-side substitution arises when an alternative supplier is attracted into the market in response to a SSNIP being implemented by a hypothetical monopolist. It may be assumed that this would only happen if the substitute supplier were able to transfer its existing resources to supplying the focal product within a period of no more than a year and without significant new investment. The question is whether this would occur to such an extent that the SSNIP would be unprofitable.

This substitution is inconceivable in the case of access to the ICL cable. Although other submarine international cables are currently being laid around the Pacific, we are not aware of any concrete plans for a second landing point in Vanuatu and no application has been made to the TRR for a licence in this regard. As has been evident in the case of ICL, substantial investment would be required to create a new landing point, and the lead time for achieving this would be several years. There is therefore no realistic opportunity for wholesale supply-side substitution in response to a SSNIP by a hypothetical monopolist.

Wholesale demand-side substitution

This is where the wholesale purchaser of international bandwidth is persuaded to use alternative products in response to a SSNIP taking place in relation to the cost of access to international bandwidth provided by a hypothetical monopolist. The question is whether this would occur to such an extent that the SSNIP would be unprofitable.

As there is no realistic prospect of a second cable landing point in Vanuatu, there is consequently no opportunity for wholesale customers to access an alternative submarine cable in response to a SSNIP by a hypothetical monopolist.

Wholesale customers may of course use satellite-based international connectivity (e.g. Telesat). However it is precisely because of substantial cost and service quality improvements that ICL is attractive when compared to satellite alternatives. It is highly unlikely that service providers would be prepared to return to satellite in response to a SSNIP from ICL (or the hypothetical monopolist). The situation may change in the future if low earth-orbiting satellites such as O3B were to provide comparable price and quality of service to submarine fibre-optic cables, however at present there is no clear evidence if or when this will happen. Hence international access via satellite is not currently an effective supply-side substitute.

Retail demand-side substitution

In this context, the retail purchaser of services that depend on international capacity (e.g. retail internet access) is persuaded to use alternative products in response to the SSNIP by a hypothetical monopolist supplying wholesale access to capacity on international submarine cables. The question is whether this could occur to such an extent that the SSNIP would be unprofitable.

Retail customers would in this scenario, be able to choose an alternative service provider for international calls and internet access (e.g. Speedcast or Digicel or TVL). However, they would either have to accept the service degradation and substantial price increases associated with satellite communications, or they would be faced with the choice of another service provider which is dependent on the same hypothetical monopolist for its wholesale

international access. Neither choice is likely to be preferable to accepting the SSNIP. So once again, there appears to be no credible substitute product for ICL capacity.

Conclusions on product market definition

Under the conditions presented in the HMT, there is currently no credible substitute for the focal product of wholesale access to the ICL international fibre-optic submarine cable. However, it is conceivable that in the future another submarine cable may land in Vanuatu and/or satellite services such as O3B may provide a competitive alternative in terms of price and quality, so the market may be expressed more generally as:

- *The market for wholesale international bandwidth capacity.*

The benefit of this wider definition is that TRR would not need to amend the market definition if and when credible substitutes for ICL's services emerge.

7.4 PUBLIC CONSULTATION QUESTIONS

- Q1. Please comment on the proposed approach to market definition based on the limits of product substitutability.
- Q2. Are there any reasons not to define all telecommunications markets in Vanuatu as national markets?

8. MARKETS PREVIOUSLY REGULATED BY TRR

8.1 MARKETS THAT HAVE BEEN REGULATED

TRR has identified those markets that have been defined and determined to be appropriate for ex-ante regulation in previous work by TRR, including in formal determinations and rulings. These markets are summarised below and their respective service coverage is more comprehensively documented in Annex A.

In 2008 TRR designated TVL as dominant in the following markets:

- (1) Retail market for local calling services
- (2) Retail market for national and fixed-to-mobile calling services
- (3) Retail market for international calling services
- (4) Retail market for cellular mobile services
- (5) Retail market for internet access services
- (6) Retail market for leased line services
- (7) Wholesale market for termination of calls on TVL's network

By Order 1/2009 TRR designated Digicel as dominant in the following markets:

- (8) Market for retail mobile services
- (9) Wholesale market for termination of calls on Digicel's network

Subsequent TRR decisions have addressed the question of which operators are dominant in which markets, but the market definitions have remained essentially unchanged⁴. Order 4/2012 reviewed and confirmed Digicel's position of dominance in Markets (8) and (9). Order 1/2013 reviewed and revoked the designation of TVL as dominant in Market (4).

8.2 DO THESE MARKET DEFINITIONS STILL APPLY?

Several years have passed since these markets were designated by the Interim Telecommunications Regulator. During this time there has been significant development in technology and the commercial services offered in Vanuatu. It is now appropriate to review whether these markets remain well defined and appropriate for regulation.

At least the following four significant market developments need to be taken into account:

- Distance is no longer a significant factor in determining the cost and price of telecommunications services. Modern telecommunications networks generally deploy the Internet Protocol (IP) that splits communications into small packets, sends them from origin to destination by dynamic routing using an algorithm that is based on network congestion rather than distance, finally re-assembling the packets at the destination. Service costs (other than for passive infrastructure) are not materially affected by distance, and it usually makes no sense to price calls on the basis of distance. Accordingly, TVL now charges a flat rate for local, national and fixed-to-

⁴ There was one small change to the definition of the retail mobile market that was extended by Order 4/2012 to include MMS.

mobile calls (although there is a supplement for calls to another network). On this basis, it no longer makes sense to separate markets (1) and (2).

- Mobile is no longer a premium voice service. For example, TVL currently charges 20vt per minute for post-paid mobile-originated calls and 25vt per minute for pre-paid mobile-originated calls, compared with 25vt per minute for calls originating from landlines (fixed services). This suggests that there is a high degree of substitutability between fixed and mobile. In particular, it will rarely be the case that a call using a fixed service could not also be made on a mobile device. On the other hand, mobile networks provide additional functionality (e.g. mobility and personal communications), offer lower prices for on-net traffic and for post-paid customers incorporate a bundle of “free” calls within the monthly rental – all of which means that consumers may have a preference for making calls from their mobile handsets. In the terms relevant to market definition, fixed-mobile substitutability is not entirely symmetric: mobile is almost always an adequate substitute for fixed, whereas fixed is only sometimes a substitute for mobile. Nevertheless, the implication is that Markets (1), (2) and (3) should all now explicitly incorporate mobile-originated calls.
- Retail mobile services are increasingly sold as bundles comprising voice, SMS/MMS, data and video/TV services. TVL, for instance, offers a range of bundles under the “*Life*” brand name. However, not all customers require all of these services, and even if they do wish to use mobile data they may purchase an add-on bundle purely for that purpose (e.g. TVL offers a range of mobile data bundles under the “*Surf*” brand name; Digicel offers data bundles under its *DigiFlex* and *Digicel Select* brands). These mobile data bundles clearly offer an alternative to fixed internet access, but the degree of substitutability should not be overstated because the services have completely different price structures (mobile is charged on the basis of total data transmitted; fixed on the basis of the download speed with no limit to the amount downloaded). The price premium of mobile broadband is justified on the supply-side by higher network costs resulting from the scarcity of radio spectrum, and on the demand-side customers are prepared to pay these higher prices for the increased utility of accessing the internet while on the move. It therefore appears that mobile data services form part, but not all of the market for cellular mobile services, but equally those same services form part, but not all, of the market for retail internet access.
- Voice communications (as well as messaging, data and video) are increasingly being performed using over-the-top Internet applications. For many users, applications such as Skype and Viber offer a suitable alternative to fixed and mobile calling. Although these services come without quality of service guarantees, they generally offer a comparable service level and are provided either free (for on-net calls) or discounted rates (for calls to fixed or mobile numbers). The lack of any-to-any connectivity means that these applications are not effective substitute for all calls (and therefore neither are they substitutes in terms of monthly subscription) but they do offer an effective substitute on a call-by-call basis.

Given these substantial market developments there is a need to amend the markets as defined by the Interim Telecommunications Regulator in Orders 1/2008 and 1/2009. TRR proposes that the nine markets previously defined are replaced with six new markets defined as follows:

- (1) **Retail market for national voice calls.** This market includes all calls that originate and terminate in Vanuatu, regardless of the means of carriage. It includes calls made from and received by landline, mobile and any form of computer.

- (2) **Retail market for international voice calls.** This market includes all voice calls that originate in Vanuatu and terminate internationally, regardless of the means of carriage. It includes calls made from landline, mobile and any form of computer.
- (3) **Market for retail mobile services.** This market includes all communications that originate on a mobile network in Vanuatu. It includes voice, messaging (SMS and MMS), internet access, data, video and TV services.
- (4) **Market for retail internet access services.** This market includes access to any applications based on the internet, from any device on any network in Vanuatu. For avoidance of doubt, it includes both fixed and mobile internet access.
- (5) **Market for retail leased lines.** This market includes services that provide dedicated capacity over the fixed network on a point-to-point or point-to-multipoint basis.
- (6) **Wholesale market for termination of calls on individual networks.** This market is for the termination of incoming calls to individual networks (e.g. TVL or Digicel) that originate on another operator's network whether in Vanuatu or internationally.

The definitions of these markets, based on the limits of substitutability, are determined through the HMT. A summary of this analysis is presented in Figure 1 (on the next page).

8.3 PUBLIC CONSULTATION QUESTIONS

- Q3. Do you agree with the proposal to combine fixed and mobile calls in the definitions of Market 1 and Market 2? If possible, please provide evidence to support your answer.
- Q4. Please comment on whether it is necessary to retain a market for retail mobile services (Market 3) as well as including the same services in Markets 1, 2 and 4.
- Q5. Do you agree with the defined scope of these retail markets based on the application of the Hypothetical Monopolist Test (Figure 1)? If not, please provide evidence in support of your alternative view.

Figure 1: Limits of substitutability for the retail markets

Retail Market	Focal product	Possible substitute products	Likelihood of substitution with the focal product	Conclusion: services included in the market definition
(1) National voice services	National voice call from mobile	<ul style="list-style-type: none"> (1) Call from fixed line (2) Over-the-top (OTT) voice application 	<ul style="list-style-type: none"> (1) Likely, but not for all calls: similar price and functionality. But some features cannot be replicated (e.g. mobility and personal nature of communications) (2) Likely, for some calls: OTT is cheaper and offers similar call quality, but requires internet access (either 3G or Wifi) and may have an inconvenience premium. 	<p>Significantly overlapping markets with a high degree of product substitutability.</p> <p>National voice calls from fixed and mobile devices and from OTT applications are all part of this market.</p>
(2) International voice services	International voice call from mobile	<ul style="list-style-type: none"> (1) Call from fixed line (2) Over-the-top (OTT) voice application 	<ul style="list-style-type: none"> (1) Likely, but not for all calls: similar price and functionality. But some features cannot be replicated (e.g. mobility and personal nature of communications) (2) Likely, for some calls: OTT is cheaper and offers similar call quality, but requires internet access (either 3G or Wifi) and may have an inconvenience premium. 	<p>Significantly overlapping markets with a high degree of product substitutability.</p> <p>International voice calls from fixed and mobile devices and from OTT applications are all part of this market.</p>
(3) Retail mobile services	Pre-paid mobile service bundle	<ul style="list-style-type: none"> (1) Post-paid mobile service bundle (2) Fixed network service bundle 	<ul style="list-style-type: none"> (1) Likely, but only for customers who can afford monthly subscription. Post-paid bundles tend to offer greater volumes of voice, text, data at lower prices, but require bigger user commitments. (2) Unlikely. Whereas individual fixed services may substitute on some occasions for individual mobile services, when purchasing a bundle consumers require substitutability most if not all the time. 	<p>A variety of different mobile bundles exists, with differing degrees of substitutability, but all bundles overlap so all may be seen as being in the same market. There is much less overlap with fixed network bundles that do offer the same functionality.</p> <p>Post-paid and pre-paid mobile bundles are part of this market.</p>

Retail Market	Focal product	Possible substitute products	Likelihood of substitution with the focal product	Conclusion: services included in the market definition
(4) Retail internet access	Internet access over Digital Subscriber Line (DSL)	<ul style="list-style-type: none"> (1) Internet access over fibre (2) Internet access over WiMax (3) Internet access over satellite (4) Internet access over cellular mobile 	Each of these possible substitute products offers the same service (access to the internet) but at radically different functionality (i.e. bandwidth) and price. Not all users will have access to all of the technologies, and will tend to choose the best price/performance mix from those that are available. At a national level some degree of substitution is likely between all the technologies.	All technologies offering retail internet access are in the same market.
(5) Retail leased lines	64kbit/s leased line over DSL	<ul style="list-style-type: none"> (1) Leased lines at alternative bandwidths (2) Leased lines of alternative technologies 	<ul style="list-style-type: none"> (1) Substitution is highly likely – users require connectivity between two specified points, but the selected bandwidth is almost entirely based on comparative prices. (2) Substitution is highly likely –the selected technology will be based on comparative price/performance. 	All retail leased lines are in the same market, regardless of bandwidth or technology.

9. OTHER CANDIDATE MARKETS FOR REGULATION

It is possible that other markets, not previously regulated by TRR, may be candidates for ex-ante regulation. In this section there is an identification of what those candidate markets might be and a preliminary analysis as to how critical it is for TRR to carry out more detailed market analysis.

There are three steps to this process:

- (1) A review of the market supply chain – that is the process through which network elements and facilities are aggregated to make up end-user services. The key components of the value chain may be seen as candidate markets for regulatory purposes
- (2) The preparation of a list of candidate markets, drawing upon the understanding of the market value chain and upon experience from other countries and identifying the limits of substitutability of products and services relevant to each market.
- (3) Prioritisation of the candidate markets so that TRR can focus its limited resources on areas where there is the greatest need for regulatory attention.

9.1 THE MARKET SUPPLY CHAIN

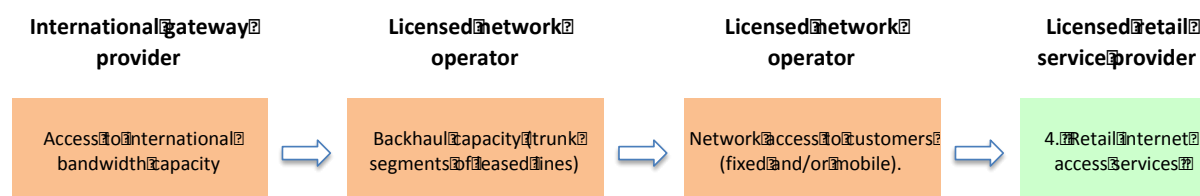
To date regulation in Vanuatu has focused on retail markets: apart from call termination which has special bottleneck characteristics, TRR has not regulated any wholesale services in competition terms. However, each retail service comprises a number of wholesale elements that are combined to create the end-user services, and potentially each of the elements could form a separate market for regulatory purposes.

To illustrate how the supply chains work, consider the case of retail internet access services. The relevant supply chain for this service is shown in more detail in Figure 2, and comprises:

- 1) Wholesale international capacity is purchased, either from a submarine cable or a satellite provider,
- 2) A national backhaul component is either self-provided or purchased from another operator,
- 3) Access to the customer is either self-provided or purchased from another operator, either using fixed or mobile network infrastructure, and
- 4) The relevant retail service elements (e.g. billing, customer care) are added by the retail service provider that supplies the end user.

Note that all of the providers and operators might be different licensees or the same licensee or some combination in between.

Figure 2: Supply chain for Market (4) - retail internet access services



TRR therefore considers that there are potentially three different but closely-related wholesale markets that can be identified in this supply chain:

- Wholesale provision of international bandwidth (with the possibility that this market is further split into two parts: submarine cable and satellite)
- Wholesale national backhaul services (leased line capacity)

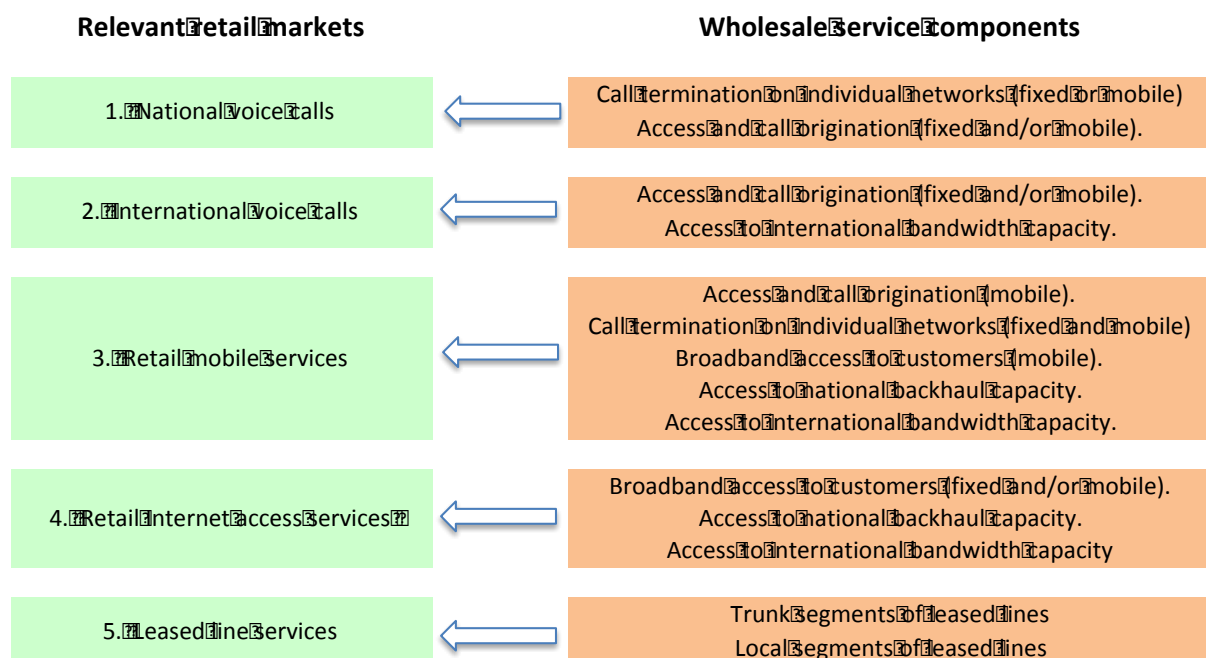
- Wholesale access to customers (with the possibility that this market is further split into two parts: access of fixed networks and access over mobile networks).

Any retail service provider of internet access services will need either to purchase these wholesale components from another company or it will need to provide them itself (assuming it is licensed to do so). Each of these markets therefore comprises both self-supply and wholesale provision.

A similar analysis can be carried out for each retail market. Figure 3 below summarises the wholesale components that comprise the supply chain for each of the retail services markets that have been described in the previous section. It should be noted that these various wholesale components may or may not define a market – that will depend on the limits of supply-side and demand-side substitutability. In particular, absent further analysis, it is not clear whether there is a single market for network access, or separate markets for access to fixed and to mobile networks.

In the case of Vanuatu most wholesale markets are inoperative (i.e. there is very little wholesaling of telecommunications services in Vanuatu)—the notable exceptions being the market for call termination services and the market for capacity on the submarine cable. This explains why regulatory attention to date has been directly focused on retail service markets, but it is clear that a range of additional wholesale markets exist, at least theoretically, and many of these markets have been defined and regulated in other countries.

Figure 3: Wholesale components for each defined retail market



9.2 CANDIDATE WHOLESALE MARKETS

Based on the analysis contained in the previous section, the following candidate markets may be identified (numbered to follow on from those markets already covered in section 8.2):

- (7) **Wholesale mobile access and call origination services.** This market includes all services that allow Mobile Virtual Network Operators (MVNOs) to provide retail mobile services over another operator's mobile network, including voice and data services. It includes access to passive infrastructure (e.g. towers), carrier selection and national roaming.
- (8) **Wholesale fixed access and call origination services.** This market includes access to passive infrastructure such as ducts and dark fibre, unbundled local loops, wholesale line rental and carrier selection - i.e. wholesale services that allow a service provider to offer retail internet access and voice calls over another operator's fixed network.
- (9) **Wholesale broadband access.** This market comprises wholesale services for the provision of broadband access to end users and conveyance of internet traffic to a point of presence for handover to an Internet service provider (ISP). This wholesale service is commonly known as "bitstream" or "bitstream access", and includes access using any available fixed or mobile technology.
- (10) **Wholesale leased line services.** Leased line services provide dedicated capacity over fixed network infrastructure between any two points within Vanuatu. The market includes local segments, where the leased line terminates at a customer's premises, and trunk segments where both termination points are at fixed network nodes.
- (11) **Wholesale access to international bandwidth.** The market includes access to, and provision of capacity on, international submarine cables and satellite systems.

In deriving these candidate wholesale markets the following factors have been taken into account:

- Separate markets need to be defined for fixed access and call origination and for mobile access and call origination. Whereas these are substitutable wholesale components for retail voice services in Markets (1) and (2), mobile access and call origination needs to be identified separately as a component of retail mobile services in Market (3).
- Similarly, a separate market needs to be defined for wholesale fixed broadband access as distinct from fixed access and call origination. Whereas the latter products are wholesale components for retail voice services in Markets (1) and (2), fixed broadband access is separately required as a component of retail internet access services in Market (4). A different situation applies with mobile networks, where there is no physical access line to the customer, which means that a single wholesale mobile access service is sufficient for a service provider to offer voice and data services.
- A single market for wholesale leased line services is sufficient to incorporate all the wholesale inputs necessary for the provision of retail internet access services and retail leased line services (Markets (4) and (5)). Whereas each leased line could be defined as a separate market – "the market for leased lines between point A and point B" – there is sufficient uniformity in functionality and price that a collective market may be defined.

The definitions of these markets, based on the limits of substitutability, are determined through the HMT. A summary of this analysis is presented in Figure 4 (on page 25).

9.3 PUBLIC CONSULTATION QUESTIONS

- Q6. Please comment on the wholesale components for each defined retail market as presented in Figure 2. Have any important wholesale components been omitted?
- Q7. Do you agree with the 5 wholesale markets that have been identified and, in particular, with the proposal that separate markets are defined for fixed and mobile services? Please provide supporting evidence for your views.
- Q8. Do you agree with the defined scope of these wholesale markets based on the application of the Hypothetical Monopolist Test (Figure 4)? If not, please provide evidence in support of your alternative view.

Figure 4: Limits of substitutability for the wholesale markets

Wholesale Market	Focal product	Possible substitute products	Likelihood of substitution with the focal product	Conclusion: services included in the market definition
(6) Call termination	Call termination on an individual network	(1) Call termination on an alternative network (2) Call origination	Only retail demand-side substitutability is possible, and even that is unlikely: (1) The called party would need to have a subscription to an alternative network and the calling party would need to know of this subscription. This is possible for some calls, especially with OTT applications, but is not generally possible. (2) This requires a reversal of the call – e.g. by sending a text message and requesting call-back. This is possible for some calls but is not generally possible.	A separate market exists for call termination on each individual network (fixed or mobile).
(7) Mobile access and call origination	Connectivity between a mobile handset and a mobile base station	(1) Resale (2) Carrier selection (3) MVNO (4) Passive infrastructure sharing (e.g. towers) (5) National roaming (6) Connectivity to a base station on a different mobile network.	The focal product is currently self-provided by the mobile network operators. None of the alternatives (1) – (5) currently exists in Vanuatu, but in other national markets where they are offered they present effective alternative routes to access the mobile customer. Hypothetically there is a high likelihood of substitution with the focal product. Option (6) is available as a retail demand side substitute, but generally it requires a second mobile phone (except where dual-SIM phones are in use or the customer swaps SIM card). Supply-side substitution is unlikely because of the high level of network investment required and the relatively long-time to market.	This market includes all forms of wholesale mobile access and call origination, including self-supply, resale, carrier selection, MVNO, passive infrastructure sharing and national roaming.

Wholesale Market	Focal product	Possible substitute products	Likelihood of substitution with the focal product	Conclusion: services included in the market definition
(8) Fixed access and call origination	Connectivity between a fixed network handset and the main distribution frame at the local switch/concentrator.	<ul style="list-style-type: none"> (1) Resale (2) Carrier selection (3) Wholesale Line Rental (WLR) (4) Local loop unbundling (LLU) (5) Passive infrastructure sharing (e.g. ducts or dark fibre) (6) Connectivity to a different fixed network. 	<p>The focal product is currently self-provided by TVL. None of the alternatives (1) – (5) currently exists in Vanuatu, but in other national markets where they are offered they present effective alternative routes to access the mobile customer. Hypothetically there is a high likelihood of substitution with the focal product.</p> <p>Option (6) is not available as TVL operates the only fixed network in Vanuatu. Even if it were available retail demand side substitute would require a second phone line to be installed; and supply-side substitution is unlikely because of the high level of network investment required and the time to market.</p>	This market includes all forms of wholesale fixed access and call origination, including self-supply, resale, carrier selection, WLR, LLU, duct sharing and dark fibre.
(9) Wholesale broadband access	Bitstream access over Digital Subscriber Line (DSL)	<ul style="list-style-type: none"> (1) Bitstream access over fibre (2) Bitstream access over WiMax (3) Bitstream access over satellite (4) Bitstream access over cellular mobile 	Each of these possible substitute products offers the same service but different technologies offer radically different functionality (i.e. bandwidth) and price. Not all users will have access to all of the technologies, and will tend to choose the best price/performance mix from those that are available. At a national level some degree of substitution is likely between all the technologies.	All technologies offering wholesale broadband access are in the same market.

Wholesale Market	Focal product	Possible substitute products	Likelihood of substitution with the focal product	Conclusion: services included in the market definition
(10) Wholesale leased lines	64kbit/s leased line over DSL	<ul style="list-style-type: none"> (1) Leased lines at alternative bandwidths (2) Leased lines of alternative technologies 	<ul style="list-style-type: none"> (1) Substitution is highly likely – users require connectivity between two specified points, but the selected bandwidth is almost entirely based on comparative prices. (2) Substitution is highly likely – the selected technology will be based on comparative price/performance. 	All wholesale leased lines are in the same market, regardless of bandwidth or technology.
(11) Access to international bandwidth	STM1 access to ICL's submarine cable	<ul style="list-style-type: none"> (1) Access to ICL's submarine cable at alternative bandwidths (2) Access to an alternative submarine cable (3) Access to satellite bandwidth 	<ul style="list-style-type: none"> (1) Substitution is highly likely – the selected bandwidth is almost entirely based on comparative prices. As ICL wholesales units of bandwidth <STM1 via Fidelity, a different dynamic may exist in this market segment, but the potential for product substitution remains. (2) Substitution is highly likely – but only if and when a second international cable lands in Vanuatu. (3) Satellite tends to provide lower quality and higher cost connectivity. However it may represent an effective substitute in remote islands where the cost of backhaul to the cable landing station is prohibitive. 	The market for access to international bandwidth includes all submarine cables and satellite systems.

10. SUITABILITY AND PRIORITISATION

10.1 SUITABILITY FOR EX-ANTE REGULATION

In this final section we assess whether the candidate markets are suitable for ex-ante regulation. In other words, might further regulatory scrutiny of these markets be justified in order to determine dominance and implement remedies that may prevent anti-competitive practices and/or abuse of dominance, consistent with section 22 and section 23 of the Act? Around the world regulatory authorities have concluded that markets are suitable for ex-ante regulation if, and only if, three criteria⁵ are met:

- the telecommunications market under consideration is subject to high and non-transitory barriers to entry;
- the telecommunications market under consideration would not naturally tend, in the short or medium term, toward sufficient competition to protect the interests of customers, even without regulatory intervention; and
- ex-post remedies⁶ alone, in the absence of ex-ante remedies in the same telecommunications market, would likely be sufficient to address concerns related to market dominance.

These criteria all need to apply. If the barriers to entry are not enduring, or if there is evidence of recent increased competition and likely further increased competition in the short to medium term, or if there is some reason to believe that ex-post intervention by TRR might be effective, then there is good reason to refrain from ex-ante regulation. Instead TRR might decide to monitor developments to see if the identified market actually does develop in a competitive manner.

In Figure 7 each of the 11 candidate markets is assessed against these three criteria. At the present time all of the markets appear to pass the test and may be deemed suitable for ex-ante regulation. However, it is most likely that once the effective remedies are in place within the wholesale markets, none of the retail markets will pass the test. Thus TRR should be planning to introduce wholesale regulation within the next 2-3 years (Markets 6-11) and subsequently to phase out ex-ante regulation of retail markets (Markets 1-5).

⁵ This test is sometimes referred to as the Three Criteria Test. See EC (2007) 5406, page 8.

⁶ That is, regulatory or judicial intervention to address situations after anti-competitive conduct is alleged to have occurred, in contrast to ex-ante remedies which are applied in response to or in anticipation of market failure, but before any allegation might have been made of anti-competitive conduct.

Figure 7: Are the candidate markets suitable for ex-ante regulation?

Market	High and non-transitory barriers to entry?	Insufficient tendency towards competition in lifetime of this review?	Ex-post remedies insufficient to resolve competition problems?	Suitable for ex-ante regulation?
(1) National voice services	Yes. Absent wholesale inputs there is a high cost and delay in network build.	Yes. Pending availability of wholesale inputs on fair and reasonable terms. Although competition exists it is limited to two suppliers.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(2) International voice services	Yes. Absent wholesale inputs there is a high cost and delay in network build.	Yes. Pending availability of wholesale inputs on fair and reasonable terms. Although competition exists it is limited to two suppliers.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(3) Retail mobile services	Yes. Absent wholesale inputs there is a high cost and delay in network build.	Yes. Pending availability of wholesale inputs on fair and reasonable terms. Although competition exists it is limited to two suppliers.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(4) Retail internet access	Yes. Absent wholesale inputs there is a high cost and delay in network build.	Yes. Pending availability of wholesale inputs on fair and reasonable terms. Although competition exists it is limited to two suppliers.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(5) Retail leased lines	Yes. Absent wholesale inputs there is a high cost and delay in network build.	Yes. Pending availability of wholesale inputs on fair and reasonable terms. Currently TVL is the only supplier.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(6) Call termination (on individual networks)	Yes. There is no effective means of a competitor entering this market.	Yes. There is no effective means of a competitor entering this market.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(7) Mobile access and call origination	Yes. Construction of radio access network is expensive and time-consuming.	Yes. Although there are two mobile networks neither supplies wholesale access to third parties.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.

Market	High and non-transitory barriers to entry?	Insufficient tendency towards competition in lifetime of this review?	Ex-post remedies insufficient to resolve competition problems?	Suitable for ex-ante regulation?
(8) Fixed access and call origination	Yes. Construction of fixed access network is expensive and time-consuming.	Yes. TVL is the only potential supplier and it offers no wholesale services.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(9) Wholesale broadband access	Yes. Construction of fixed access network is expensive and time-consuming.	Yes. Although there are two potential suppliers neither supplies wholesale access to third parties.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(10) Wholesale leased lines	Yes. Construction of fixed network infrastructure is expensive and time-consuming.	Yes. TVL is the only potential supplier and it offers no wholesale services.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.
(11) Access to international bandwidth	Yes. Negotiating access to international communications infrastructure is expensive and time-consuming.	Yes. There is no effective competitor to accessing ICL's fibre-optic submarine cable.	Yes. Without Competition Law or legal precedent to help resolve cases in a timely and predictable way.	Yes.

10.2 PRIORITISING THE CANDIDATE MARKETS

The previous section demonstrated that the eleven candidate markets are all suitable for ex-ante regulation, but the extent to which regulation is necessary and urgent varies considerably. TRR must therefore address these markets in priority order, based on an analysis of the scale of likely benefits that would arise from effective regulation. Prioritisation is also important because TRR needs to focus its limited resources on areas where there is the greatest need for regulatory attention.

We suggest that there are three key steps in the prioritisation of markets:

- Regulatory best practice suggests that wholesale markets should be considered first because effective regulation or competition in wholesale markets may be the best guarantee of effective competition in retail markets, without the need for direct regulatory intervention into the latter markets. Ex-ante regulation at the wholesale level may not always completely remove the need for some form of ex-ante regulation at the retail level. However, as wholesale regulation will have flow on effects in the downstream retail markets it is important to focus on correcting competition problems at the wholesale level before considering whether the downstream retail markets still require any ex-ante regulation of their own.
- When prioritising between wholesale markets TRR will be mindful of:
 - The current and potential demand for the wholesale services in question;
 - The relative importance (both actual and potential) of the particular wholesale service in enabling the competitive supply of downstream retail communications services;
 - The potential value (to the effectiveness of the communications sector generally) of the downstream retail market supported by the wholesale market in question.
- Where wholesale regulation is likely to take considerable time to gain traction and direct regulation of retail markets is adopted as an interim measure, priority should be given to markets based on:
 - The extent of current and potential competition in the retail market;
 - The extent of consumer participation and the consequential risk to consumer welfare
 - The probability that effective wholesale regulation will resolve the market failure.

These criteria demand a change in approach from earlier ex-ante regulation in Vanuatu. Instead of starting with retail market regulation, TRR should firstly examine the potential for wholesale market regulation and then proceed to regulate retail markets if and only if wholesale regulation is inefficient or ineffective.

TRR's tentative view on the prioritisation of wholesale markets is given in Figure 5, with the equivalent analysis of retail markets shown in Figure 6 (on the next page). In both cases the markets are scored against three significant criteria on a high (✓•✓•✓) medium (✓•✓) low (✓) basis, with the overall priority level based on the aggregate of the scores.

Applying these principles TRR tentatively proposes to adopt the following order of priority for detailed market analysis and regulation:

- a) Wholesale access to international bandwidth (Market 11)
- b) Wholesale leased line services (Market 10)
- c) Wholesale broadband access (Market 9)
- d) Wholesale market for call termination on individual networks (Market 6)

- e) Wholesale mobile access and call origination services (Market 7)
- f) Retail internet access services (Market 4)
- g) Retail mobile services (Market 3)
- h) Retail national voice calls (Market 1)
- i) Wholesale fixed access and call origination services (Market 8)
- j) Retail leased lines (Market 5)
- k) Retail international voice calls (Market 2).

10.3 PUBLIC CONSULTATION QUESTIONS

- Q9. Do you agree that currently each of the 11 candidate markets is suitable for ex-ante regulation?
- Q10. Please comment on the suggestion that, once effective wholesale remedies are in place, the retail markets (Markets 1-5) may no longer be suitable for ex-ante regulation. Over what timescale do you envisage this change happening?
- Q11. What are your views on the recommended procedure for the prioritisation of markets to be defined for the purposes of ex-ante regulation?
- Q12. Please comment on the proposed priority markets. If you wish to suggest an alternative set of priorities please provide supporting evidence.

Figure 5: Prioritisation of wholesale markets

Wholesale Market	Downstream retail markets affected	Scale of current and potential demand	Importance for downstream retail markets	Economic value of downstream retail markets	Overall priority score
(6) Call termination	(1) National voice services	✓✓	✓✓✓	✓✓	7
(7) Mobile access and call origination	(1) National voice services (2) International voice services (3) Retail mobile services (4) Retail internet access	✓✓	✓✓	✓✓✓	7
(8) Fixed access and call origination	(1) National voice services (2) International voice services	✓	✓	✓✓	4
(9) Wholesale broadband access	(4) Retail internet access	✓✓	✓✓✓	✓✓	7
(10) Wholesale leased lines	(4) Retail internet access (5) Retail leased lines	✓✓✓	✓✓✓	✓✓	8
(11) Access to international bandwidth	(2) International voice services (3) Retail mobile services (4) Retail internet access	✓✓✓	✓✓✓	✓✓	8

Figure 6: Prioritisation of retail markets

Retail Market	Lack of competition in existing market*	Scale of consumer participation	Likelihood of wholesale products <u>not</u> resolving retail market failure within 2-3 years	Overall priority score
(1) National voice services	✓	✓✓✓	✓✓	6
(2) International voice services	✓	✓✓	✓	4
(3) Retail mobile services	✓	✓✓✓	✓✓	6
(4) Retail internet access	✓✓	✓✓✓	✓✓	7
(5) Retail leased lines	✓✓✓	✓	✓	5

* Taking into account competition between fixed and mobile services.

11. SUMMARY OF PUBLIC CONSULTATION QUESTIONS

The following questions are suggested for a TRR public consultation on defining markets.

- Q1. Please comment on the proposed approach to market definition based on the limits of product substitutability.
- Q2. Are there any reasons not to define all telecommunications markets in Vanuatu as national markets?
- Q3. Do you agree with the proposal to combine fixed and mobile calls in the definitions of Market 1 and Market 2? If possible, please provide evidence to support your answer.
- Q4. Please comment on whether it is necessary to retain a market for retail mobile services (Market 3) as well as including the same services in Markets 1, 2 and 4.
- Q5. Do you agree with the defined scope of these retail markets based on the application of the Hypothetical Monopolist Test (Figure 1)? If not, please provide evidence in support of your alternative view.
- Q6. Please comment on the wholesale components for each defined retail market as presented in Figure 2. Have any important wholesale components been omitted?
- Q7. Do you agree with the 5 wholesale markets that have been identified and, in particular, with the proposal that separate markets are defined for fixed and mobile services? Please provide supporting evidence for your views.
- Q8. Do you agree with the defined scope of these wholesale markets based on the application of the Hypothetical Monopolist Test (Figure 4)? If not, please provide evidence in support of your alternative view.
- Q9. Do you agree that currently each of the 11 candidate markets is suitable for ex-ante regulation?
- Q10. Please comment on the suggestion that, once effective wholesale remedies are in place, the retail markets (Markets 1-5) may no longer be suitable for ex-ante regulation. Over what timescale do you envisage this change happening?
- Q11. What are your views on the recommended procedure for the prioritisation of markets to be defined for the purposes of ex-ante regulation?
- Q12. Please comment on the proposed priority markets. If you wish to suggest an alternative set of priorities please provide supporting evidence.

ANNEX A: MARKETS PREVIOUSLY REGULATED BY TRR

A1 Markets defined by previous regulatory Orders

On 14th March 2008 the Interim Telecommunications Regulator designated TVL as dominant in the following markets:

- (1) Retail market for local calling services
- (2) Retail market for national and fixed-to-mobile calling services
- (3) Retail market for international calling services
- (4) Retail market for cellular mobile services
- (5) Retail market for internet access services
- (6) Retail market for leased line services
- (7) Wholesale market for termination of calls on TVL's network.

On 18th June 2009 the Interim Telecommunications Regulator designated Digicel as dominant in the following markets:

- (8) Market for retail mobile services
- (9) Wholesale market for termination of calls on Digicel's network

A2 Market definitions

The full definitions of these markets can be drawn from these Orders together with the subsequent reviews of dominance in the retail mobile market that were published on 16th July 2012 (Digicel) and 6th October 2013 (TVL). The current market definitions are as follows.

1. RETAIL MARKET FOR LOCAL CALLING SERVICES

This market is not defined in the 2008 Order. It is plainly intended to incorporate calls over the public telecommunications network, where the caller and the called party are both located within Vanuatu, and where a local tariff applies. It clearly includes calls made from a fixed network location (as those are not included within any other defined market). It may be assumed (but is open to question) that this market excludes calls made from a cellular mobile (as those calls are included in Market (4)), and calls made via over-the-top applications that use the Internet (as those calls are included in Market (5)).

2. RETAIL MARKET FOR NATIONAL AND FIXED-TO-MOBILE CALLING SERVICES

This market is not defined in the 2008 Order. It is plainly intended to incorporate calls over the public telecommunications network, where the caller and the called party are both located within Vanuatu, and where either a national or fixed-to-mobile tariff applies. It clearly includes calls made from a fixed network location (as those are not included within any other defined market). It may be assumed (but is open to question) that this market excludes national calls made from a cellular mobile (as those calls are included in Market (4)), and national calls made via over-the-top applications that use the Internet (as those calls are included in Market (5)).

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3 RETAIL MARKET FOR INTERNATIONAL CALLING SERVICES

This market is not defined in the 2008 Order. It is plainly intended to incorporate calls over the public telecommunications network, where the caller is in Vanuatu but the called party is located internationally, and thus an international tariff applies. It clearly includes calls made from a fixed network location (as those are not included within any other defined market). It may be assumed (but is open to question) that this market excludes international calls made from a cellular mobile (as those calls are included in Market (4)), and calls made via over-the-top applications that use the Internet (as those calls are included in Market (5)).

4 RETAIL MARKET FOR CELLULAR MOBILE SERVICES

This market is not defined in the 2008 Order. However, it may be assumed to be synonymous with Market (8) as defined by the 2009 Order and amended in 2012. For example, TRR stated⁷ that the 2009 Order “also designated Digicel as a dominant service provider in that market” thus indicating that Market (4) and Market (8) are one and the same market.

5 RETAIL MARKET FOR INTERNET ACCESS SERVICES

This market is not defined in the 2008 Order. It is plainly intended to incorporate internet access services provided at a fixed location (as those are not included within any other defined market). It is unclear whether it is intended to include mobile internet access within this market as such services are explicitly excluded from the definition of Market (4).

6 RETAIL MARKET FOR LEASED LINE SERVICES

This market is not defined in the 2008 Order. However, it plainly incorporates services that provided dedicated point-to-point capacity across the fixed telecommunications network.

7 WHOLESALE MARKET FOR TERMINATION OF CALLS ON TVL'S NETWORK

The wholesale market for call termination is defined as the market for incoming calls to each respective network, and in this case the network of TVL. Incoming calls are calls that originate in networks other than the operator's mobile network. These calls are paid for by the companies that interconnect with the respective operator's network. They are not sold directly to end-users. The interconnecting companies generally add a margin to the price paid to the operator in order to cover calling costs in the other network. Thus the operators sell these incoming calls on a wholesale basis.

The wholesale market for call termination on each operator's network is considered separately from the market for retail mobile services because it serves a different group of customers (other network operators), and there is no contestability for services in this market. This is because each operator is the only company who can currently provide direct connections to that operator's customers through the operator's mobile network.

8 MARKET FOR RETAIL MOBILE SERVICES

This is a national market that includes:

⁷ TRR Statement supporting Order 1/2013, page 2.

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- a) all mobile-originated calls, including on-net and off-net calls, or national and international calls, and calls to voicemail (both for deposit and retrieval of voicemail messages);
- b) SMS and MMS messaging; and
- c) both pre-paid and post-paid mobile services, and both residential and business services.

This definition was based on relevant factors, including that the pre-paid and post-paid mobile calls are the same service (although priced differently) and there is a high degree of demand and supply-side substitutability between the mobile call and the mobile SMS services. The mobile call and SMS services also are usually if not invariably provided in a single package or bundle in the sense that the customer is required to, and does, acquire the services together.

That definition also explicitly excluded:

- a) call/message termination services (which are wholesale services);
- b) data services other than SMS/MMS (which are regarded as a complementary service to voice calling);
- c) inbound and outbound services to roaming customers;
- d) value added services such as lotteries, ring tone sales and credit transfers; and
- e) the sale or lease of mobile handsets and other associated hardware items.

In reaching this definition TRR noted that⁸:

“Mobile services and devices also enable access to other types of services—such as mobile data and value added services—but such services are not substitutes for mobile voice and, although they may be included as part of a product bundle, they are also sold separately from mobile voice (unlike SMS).”

9 WHOLESALE MARKET FOR TERMINATION OF CALLS ON DIGICEL'S NETWORK

The wholesale market for call termination is defined as the market for incoming calls to each respective network, and in this case the network of Digicel. Incoming calls are calls that originate in networks other than the operator's mobile network. These calls are paid for by the companies that interconnect with the respective operator's network. They are not sold directly to end-users. The interconnecting companies generally add a margin to the price paid to the operator in order to cover calling costs in the other network. Thus the operators sell these incoming calls on a wholesale basis.

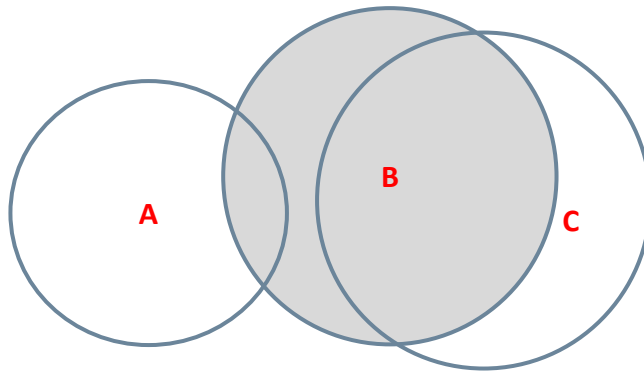
The wholesale market for call termination on each operator's network is considered separately from the market for retail mobile services because it serves a different group of customers (other network operators), and there is no contestability for services in this market. This is because each operator is the only company who can currently provide direct connections to that operator's customers through the operator's mobile network.

⁸ TRR Statement supporting Order 1/2013, page 3.

ANNEX B: HOW REGULATORY MARKETS ARE DEFINED

It is important to note that market definition for the purpose of competition regulation is quite different from market definition for commercial purposes. In commercial marketing there is a presumption that every service should be in one market and one market only – this is properly known as market segmentation. However, in regulatory market definition this is not the case: services can be located in multiple markets simply because there is substantial substitutability between them. This is illustrated in Figure B1.

Figure B1: Market definition with partly substitutable services



In Figure B1 each circle represents a service. Service A is partly substitutable for service B. This means that some customers use services A and B as substitutes for certain purposes. There is a judgment to be made as to whether the degree of substitutability between services A and B is sufficient to regard those services as being in the same market. It might be that the purpose or application of services A and B need to be incorporated in the market definition. For example, for most purposes trucks and passenger vehicles are in separate markets, but for military purposes there is a degree of substitution. We have attempted to avoid referring to purposes in the definition of telecommunications markets in Vanuatu because the resultant increase in the number of services might cause increased regulatory administration without offsetting benefits in terms of improved competition outcomes.

In Figure B1, there is substantial, but incomplete substitution between services B and C. This suggests that there is a more compelling case for regarding services B and C in the same market than there is for including services A and B in the same market. There is no substitution of service A for service C and vice versa.

In Figure B1, for the purpose of telecommunications regulatory market analysis, the following options would need to be considered:

- (1) That services A, B and C are all in separate markets (that is, that the degree of substitutability is insufficient to place any of the services in the same market);
- (2) That there are at least two markets: one comprising A and B; and one comprising B and C;
- (3) That there are at least three markets: one comprising A and B; one comprising B and C; and one with A being in a separate market of its own;
- (4) That there is a single market comprising all three services, notwithstanding that the services are not all directly substitutable with one another.

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There may be other permutations that constitute options for analysis as well. For the telecommunications services market the example in Figure B1 takes on specific meaning if Service A is mobile voice, Service B is mobile text (or messaging such as SMS), and Service C is mobile data (and especially internet access).

There is some substitution between SMS and mobile voice because there are circumstances where a text message might be acceptable where a voice call would not be (for example, very late at night or in the early morning when the called party could be asleep). SMS and mobile voice have been sold as complementary services as part of the mobile service bundle from the commencement of mass mobile services in the late 1980s and early 1990s.

There is much more substantial substitution between mobile text and mobile data (B and C, respectively), and social and other network applications on the internet are eroding the demand for SMS in many countries. This is evidence of substantial one-way substitution. Lastly there is very little direct substitution between mobile voice and mobile data (although, arguable social networking might substitute for calls in some very limited circumstances).

Traditionally services A, B and C have been considered to be in a single market, the retail mobile services market. But service C could also be in a market with fixed voice (the retail voice market). Similarly, service A could be in a market with fixed internet access. There may therefore be at least three markets to be considered in the market definition and market analysis framework.