Consultant Summary Report

submitted to

Malawi Communications Authority (MACRA), Blantyre

Final Summary Report on Market Analysis and Competition Assessment

researchICTsolutions

FINAL

26 January 2015

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1 Introduction and Terms of Reference

The consultant Andrew Dymond was initially retained by the ITU in response to the request from MACRA initiated on 4th July "Request for Technical Assistance in Economic Regulation". The consultant fulfilled the obligations contained in his TOR, namely:

> Under the guidance of the Regional Director of the ITU Regional Office for Africa, the Regulatory Market Environment Division (RME) and working in close collaboration with the ITU Programme Officer; Harare Area Office, the expert shall provide training and technical assistance to the Malawi Communications Regulatory Authority (MACRA) to enhance their economic regulatory function and help MACRA to define a framework for competition assessment and market analysis for the electronic communications sector (telecommunications and multi-media) as well as provide guidance on retail and wholesale (interconnection) regulatory regime.

The TOR's specific requirements were to visit Blantyre on two occasions to provide:

- Provide two 4 day training courses to MACRA
- **The first training course** will address retail and wholesale tariffs and market definitions for ex ante regulation. Output of the training will be a request for information (RFI) that MACRA can send out to operators. The data collected will be used in the second training workshop. The first workshop also includes retail and wholesale price benchmarking and covers supply and demand side substitutability analyses and hypothetical monopolistic tests.
- **The second training workshop** aims at developing remedies to address performance shortcomings in Malawi's telecommunication sector. Data from the RFI will be used to define markets for Malawi by MACRA.
- **MACRA will be guided in a consultation process with relevant stakeholders** to develop criteria for market definition and define the relevant markets for electronic communications segments which will form the basis for the significant market power (SMP) assessment.
- The team (Consultant) will assist MACRA in identifying and assessing remedies and approaches for the regulatory treatment for SMP or dominant operators in Malawi and enhanced consumer protection.
- Based on the data collected from the RFI review MACRA's retail and wholesale (interconnection) regimes for the electronic communications

The first training course was fulfilled during the week 3-7 November 2014, during which, in consultation with MACRA, the training was integrated with a consultation workshop which covered all aspects of ex ante regulation in the field of competition, market definition and analysis, culminating in the creation of an RFI to the telecommunications and ISP industry by MACRA during the week of 10-14 November with the request to submit responses during by end November, prior to the consultant's second visit.

The Consultant's second visit between 1-5 December combined formal training of the Economics Department staff with "training visits" to operators and ISP industry leaders, and two joint working sessions to evaluate the partial RFI submissions from 6 leading companies – Airtel, TNM, Access (ACL), MTL, ESCOM, Globe Internet. The Consultant and MACRA staff were able to jointly agree that the submitted data combined with the interviews enabled market definitions, analyses, determination of significant market power, and *interim conclusions* to be made on appropriate remedies. However, the time did not allow for the planned second industry consultative workshop to take place. The Consultant provided MACRA with a PowerPoint summarising the evaluation process, conclusions and interim recommendations on remedies and a Summary Report of outcomes on 19th December 2014.

MACRA subsequently has engaged the Consultant to provide follow-on assistance to cover the follow-up and receipt and analysis of the final RFI submissions from industry, to attend and lead the second industry consultative workshop to present conclusions and recommendation on 14th January 2015, and to incorporate industry responses within a final report presenting the market analysis and recommendations to MACRA.

This Final Report describes all activities undertaken by the consultant in collaboration with MACRA, the trainings, the analyses, the outcomes, the remedies developed and recommended at the conclusion of the second consultant visit, and the final analysis and conclusions upon completion of the third visit and second industry consultative workshop.

It is accompanied by the final set of PowerPoint slides presented at the second industry workshop.

2 First Mission Activities

2.1 Prior to arrival

During the preparation phase the consultant sent a training workshop outline designed to meet the requirements for the work scope. During consultation with MACRA's coordinator, Mr Andrew Nyirenda, and the ITU Program Officer, Miss Anne Rita Ssemboga, ahead of the first mission, a draft format was agreed that would divide the training sessions into three separate sessions, namely:

1. One-day introductory training with MACRA's senior staff involved with economic regulation, in which the overall methodology of market review and analysis, competition and dominance assessment, market definitions and ex-ante regulation would be reviewed.
2. Two-day repeat workshop in which industry stakeholders would be taught on the methodology and detailed analytical processes, complete with retail and wholesale pricing and benchmark analysis, with relevant country case studies as examples. The consultant would also produce the draft RFI for review and comment by the stakeholders.
3. Half-day final review session with the MACRA staff to assess the outcome of the industry workshop and to refine and complete production of the RFI.

The following table describes the final agreement made with the Project Team Leader and MACRA staff on Monday 3rd November and accepted for the first mission training and technical assistance sessions.

No.	Topic	MACRA Session	Stakeholders Session
1	**Basics of Competition, Market Assessment, ex ante and ex post regulation**	●	○
2	**Overview of the Malawi ICT Market**	●	○
3	**Retail and wholesale Prices**	●	●
4	**Regulating Wholesale Prices & Practices**	●	●
5	**Market Definitions in Practice, EU 2003-14 and Africa**	●	●
6	**Measures of Significant Market Power (SMP)**	●	○
7	**Relevant practical indicators and their relation to Policy Development & Monitoring**	●	○
8	**Request for Information (RFI)**	●	●
9	**Final Review and Next Steps**	●	

Legend

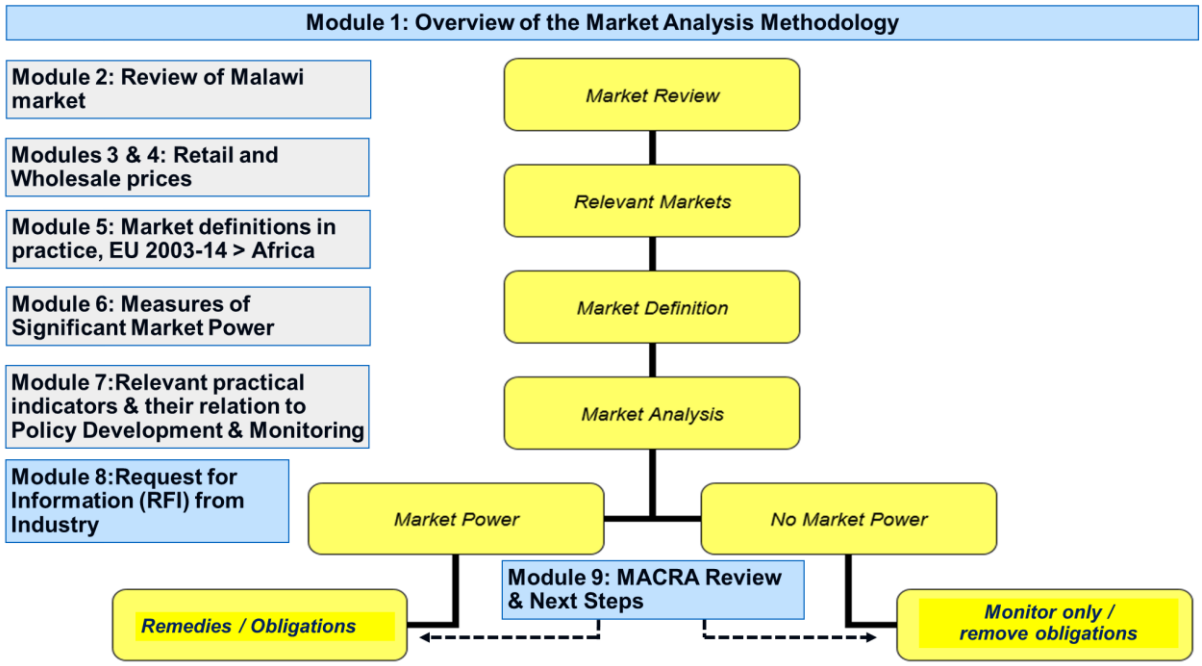
- ● **Detailed Session**
- ○ **Overview Session**

Both MACRA staff and the industry participants received a full and detailed presentation of Module 1 (The Basic Methodology). The MACRA staff received Sessions 1 and 2, as well as a preview of Modules 3 – 8 on the first day, while all were repeated in full at the 2-day Industry Workshop, with app MACRA and industry participants present.

2.2 Inception meetings

The senior MACRA staff present at the inception meeting with the consultant and ITU Program Officer included the coordinator, Andrew Nyirenda (economist) as well as Acting Director General and Director of Finance & Administration, Ben Chitsonga. The staff present reviewed the approach proposed by the consultant and were in broad agreement.

The consultant emphasized the *ideal scenario* and the MACRA team leadership accepted that all participating MACRA staff should be present for the whole of the first training day. All 10 participating MACRA staff (see Annex A) were present for the whole of the industry workshop. Module 1 (Methodology Overview) and Module 2 (Malawi Market Review) were thus used for intensive preparation. Thus MACRA's understanding and ownership of the methodology was enabled, and an open exchange and consultation with the industry ensued. The slide illustrates the overall workshop content flow.



Following agreement on the overall structure, the consultant finalized all training and analytical material for PowerPoint presentations in order to maximize both the training and the cross-country research evidence to be presented during the market analysis and price benchmarking modules. During the MACRA Training session on Day 1, some "fill-in" details on the Malawi Market Review slides were also provided where the available information on the Malawi ICT Market from published reports and the desk review had left some gaps which needed to be filled by attendees during the training sessions.

2.3 The two-day Industry Workshop

The two-day combined industry MACRA workshop was attended by senior representatives of all three of the main telecom operators (MTL, TNM and Airtel), as well as the major fibre wholesaler ESCOM, a small number of ISP representatives, the Manager of the Malawi ISP Association (MISPA) as well as a representative of the Consumers' Association of Malawi.

The list of attendees are provided, with contact details, including the job tiles of the ten MACRA staff in attendance, in re provided in Annex A.

Overall, the attendance (26 total) was strong, were committed to both days and provided a good forum for active interaction and discussion on the essential issues related to market definitions, retail and wholesale pricing. All modules were completed as planned and a comprehensive Draft RFI was introduced for discussion.

2.4 The Request for Information (RFI)

The RFI was finalised on Friday 14th November in final consultation with the MACRA team and was formally sent out by MACRA to all operators and ISPs during the subsequent week of 17 – 21st November.

The ISPs requested information in the following categories and for the last four quarters:

Topic	Sub-topic	Q3 2014	Q2 2014	Q1 2014	Q4 2013
Infrastructure	**Fibre routes**	●			
	Microwave routes	●			
	BTS	●			
	POPs	●			
	Wi-Fi Hotspots	●			
Subscribers, active, SIMs, etc.	**Fixed**	●	●	●	●
	WiMAX	●	●	●	●
	CDMA	●	●	●	●
	CDMA-EVDO	●	●	●	●
	GSM 2G	●	●	●	●
	GSM 3G	●	●	●	●
	Fibre customers	●	●	●	●
Traffic		●	●	●	●
Prices		●	●	●	●
Distribution Network		●			
Financial Report					●

2.5 Workshop Discussions on the RFI Response

During the final of the Industry Workshop, the consultant, ITU Program Officer and MACRA coordinator all presented to attendees the importance of industry responding to the RFI within two weeks. Whereas MTL expressed some doubt on the feasible speed of response, it was believed that NMT, Airtel and ESCOM would be able to provide much of the material in a timely fashion. The MISPA representative was asked to promote and encourage ISPs to respond in a timely fashion also.

3 Industry responses and other data collection activities

3.1 Overview

During the time allotted and agreed for operator responses, no responses were received. Hence the consultant, together with the MACRA project team leader agreed on a revised and adapted mission activity schedule in order to accomplish project objectives as follows:

Monday 1st December	▪ Review of Initial training and objectives for week 2 and reminder phone calls to operators
Tuesday 2nd December	▪ Receipt of one RFI response from Access Communications Limited
Wednesday 3rd December	▪ Consultation with Director of Telecommunications Division ▪ Continuation of operator phone calls and arrangement of personal interviews in order to secure advance information and impress on industry the importance of timely response. ▪ The consultant was accompanied by the MACRA economist as practical training in market research and analysis techniques
Thursday 4th December	▪ Receipt and analysis of partial RFI responses from MTL, TNM, Airtel, ESCOM and Globe Electronics
Friday 5th December	▪ Final one-day training and consultation session with MACRA staff: ▪ Economics Department Manager & Economist ▪ Deputy Director Spectrum Management

3.2 RFI responses received and Interviews undertaken

The following summarises the responses received and interviews undertaken:

Status and activity	Company
Complete response	▪ Access Communications Limited (ACL)
Partial responses	▪ Malawi Telecommunications Limited (MTL) ▪ Telecommunications Networks Malawi (TNM) ▪ Airtel Malawi ▪ Electricity Supply Company (ESCOM) ▪ Globe Internet Limited
Interviews Undertaken	▪ Malawi Association of Internet Service Providers (MISPA) - Chairman ▪ Access Communications Limited Chief Executive Officer ▪ Globe Internet Limited Managing Director ▪ Skyband Head of IT

The objective from the interviews was to secure the views of minor, non-dominant telecommunications companies (i.e., ACL) as well as leading ISPs and officials regarding the aspects of market analysis – in particular the pricing and non-pricing market practices of the operators who are dominant in key markets, namely MTL and ESCOM in the wholesale fixed and broadband markets, and TNM and Airtel in the mobile markets.

3.3 Sufficiency of data for market definitions and analysis and follow-up

Whereas the information received from the RFI responses during the second mission was very incomplete, the information gathered during the desk research, two field missions, the partial RFI responses and interviews conducted during the second mission were sufficient for the consultant to advise and provide clear *interim recommendations* on a) Market definitions, b) the presence of competition, c) the presence and impact of Significant Market Power, and d) ex-ante remedies.

However, the time lost due to the delay in receipt of even partial responses to the RFIs did not allow the consultant and MACRA to have an opportunity to present the results of the analysis and interim recommendations to a second consultative workshop during the consultant's second mission. It was therefore agreed between consultant and MACRA to postpone the second consultative workshop to the week beginning 12th January 2014.

3.4 Final RFI Responses

A number of RFI responses were received during January ahead of the second industry consultative workshop, which was held on 14th January 2015. The following table summarises the final status prior to the workshop and this Final Consulting Report.

Received previously	▪ Access Communications Limited (ACL)
Responses remaining as previously submitted	▪ Airtel Malawi
Updated and more complete responses	▪ Malawi Telecommunications Limited (MTL) ▪ Telecommunications Networks Malawi (TNM) ▪ Electricity Supply Company (ESCOM) ▪ Globe Internet Limited
Newly submitted responses	▪ Burco Electronic Systems ▪ Skyband Corporation

3.5 Further analyses undertaken

Using the final data submitted in the subsequent round of RFI submissions, supplementary to the previous data sets and consultations undertaken, the consultant updated the analyses. These included:

- **Market definitions** – the number of markets in Malawi which conform to the classical definitions used in market analysis exercises and those which are effective in practice in the Malawian context;
- **Market Dominance and Competition** – which service providers have significant market Power (SMP) in the markets of interest in Malawi, how do they exercise their power, and to what extent or not are the markets competitive and/or in need of ex-ante regulatory remedies (i.e., intervention);
- **Retail Fixed voice service market** – what realistic options exist to increase the services available to users in this segment;
- **Retail mobile market** - Calculation of effective price rates to consumers for mobile calling based on an analysis of mobile company revenues, total traffic minutes and On-Net / Off-Net patterns, i.e., calculation of operators' revenues per minutes of use and average revenue per user (ARPU), and comparison with the OECD pre-pay call basket methodology previously used as the main method of assessing Malawi's tariffs relative to other countries; consideration of the potential justification and impact of lowering the mobile termination rate (MTR) to increase competition in the segment;

- **Retail broadband market** – Confirmation of the level of competition, prices charged by operators and Internet Service Providers for various classes of broadband service packages as being competitive and how they compare favorably with other regional countries (coastal and land-locked); consideration of the urban versus rural differences for choice of supplier and potential non-regulatory remedies ;
- **Wholesale (value-chain upstream) market for broadband capacity** – to what extent are options available to operators and ISPs for acquisition of fibre- based transmission capacity and international IP transit; site and tower sharing; and what are the price trends relative to other countries in the region.

The results of these analyses were presented and subjected to comment at the second industry consultative workshop on 14th January 2015. Various comments are discussed in the following section and finally in Section 4 of this report.

3.6 Second Industry Consultative Workshop and Outcomes

The second industry wo0rkshop was attended by 31 persons – 21 industry representatives and 10 MACRA staff – plus representatives of the local press and BBC. The list of attendees registering their presence is appended at Annex B.

Following presentation of the Consultants' finding and draft recommendations, approximately 15 questions and interventions were received from seven organisations and addressed by the consultant and MACRA, followed in some cases by further discussion. The following organizations were the main interveners:

- Consumer Association of Malawi
- TNM
- MTL
- Access Communications Ltd. (ACL)
- ESCOM
- University of Malawi – The Polytechnic
- Malawi ISP Association

A full summary of the interventions, comments and responses is provided in Annex C.

4 Market Definitions and Analyses

4.1 Overview

In the process of making market definitions to analyse the degree of competition and/ or dominance taking place, a "relevant market" combines the product market and the geographic market, defined as follows:

- A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer by reason of the products' characteristics, their prices and their intended use;
- A relevant geographic market comprises the area in which the firms concerned are involved in the supply of products or services and in which the conditions of competition are sufficiently homogeneous. In the case of Malawi, there is a significant difference between products which are national in scope but available mostly in the four main urban centres of the country and some other major district towns or development areas, and the remainder of the country, which is essentially rural.

Competition analysis has typically looked to the European Union and European Commission as the standard bearer in market definition and competition analysis, as the process of market deregulation took place in the late 1990's. The Commission identified a number of criteria which can help it to analyse the behaviour of firms in the market and the specific conditions of the relevant market. However, the methodology can give rise to different results depending on the type of competition problem involved and the nature of the market – e.g., mature and advanced or emerging. Therefore, a structured analysis which is also flexible enough to take individual circumstances into account is necessary.

The European Commission started by defining the product market by investigating whether product A and product B belong to the same market. It also analysed the market shares held by the parties in question and by their competitors, the prices charged and price differentials.

4.2 Analysis principles

Once the product market and the geographic market have been defined, a more detailed analysis is carried out based on the concept of substitutability, namely:

- **Demand-side substitutability** (i.e., whether customers for the product in question can switch readily to a similar product in response to a small but permanent price increase (e.g., between 5 % and 10 %); and
- **Supply-side substitutability** (i.e., of whether other suppliers can readily switch production to the relevant products and sell them on the relevant market.

However, this criterion of interchangeability does not take necessarily demonstrate all of the conditions in which the firms in question operate. Therefore it is necessary, for instance, to examine the conditions of access to the defined market. In this connection, an assessment of the relevant markets must take account of factors such as the following:

- Market share analysis – subscribers, traffic & revenues
- Relative size of undertaking(s)
- Control of main infrastructure (e.g., backbone) not easily replicated
- Technological advantages
- Marketing power, behavior & sales strategy
- Countervailing buying power on the demand side
- Privileged access to capital markets
- Economies of scale/scope
- Vertical integration
- Barriers to expansion

Whereas in 2007 the European Commission originally identified 18 retail and wholesale considered subject to ex ante regulation, spanning basic fixed and mobile voice services to retail data services, leased lines and transmission capacity, over the period from 2003 to 2007, the number of markets subject to regulation was reduced from 18 to 7. In 2013 some finer adjustments were made resulting in the following list of markets:

- Access to fixed lines for residences
- Access to fixed lines for business
- Call origination on fixed lines
- Call termination on fixed lines
- Wholesale unbundled access to fixed loops
- Wholesale broadband access
- Wholesale leased lines
- Wholesale Voice termination on mobile networks

4.3 Analysis principles applied to African cases

Some of the markets still of interest to European regulators are less important to African regulators, whereas in some cases, markets such as retail mobile services where dominance might still occur (such as in Malawi) still require regulatory attention, even though the method of regulation might be more appropriately applied to the wholesale market (interconnection terminating rates - MTRs) than directly to retail tariffs.

Cases that were used as comparative analyses for the Malawian study included South Africa, Namibia, Kenya and Nigeria which had recently carried out competition studies.

The conclusions of the Nigerian, Kenyan and South African regulators to their market studies and remedies applies, in particular in determining to lower the MTR rate with good impacts on retail prices, were presented in both the training and second consultative workshops.

The specific issues considered by Nigeria (and similarly by the other three countries) when defining and analysing their market are summarized by the table below which was a check-list of issues considered as a best-practice case study in this analysis[1].

Category	Indicators	Parameters
Market structure	Market share trends	▪ Volume based – number of subscribers / call minutes ▪ Capacity based – number of lines installed / active ▪ Value based – revenues, ARPUs ▪ Market Concentration – Herfindahl Hirschmann Index (HHI)
	Structural barriers to entry	▪ Absolute barriers – number of firms, regulatory restrictions, control of essential facilities, extent of economies of scale ▪ Strategic Barriers – intensity of advertising and capital investment ▪ Vertical Integration

[1] "Determination of dominance in selected communication markets in Nigeria", undertaken by the Nigerian Communications Commission (NCC), 2010 and 2013

Conduct of Suppliers	Pricing Strategies	▪ Pricing trends ▪ Extent of reaction to a price change ▪ Existence of price leadership, exploitative pricing, exclusionary pricing (e.g., excessive off-net tariffs), etc.
	Non-pricing behaviour	▪ Level of marketing and advertising costs
	Provision of innovative services	▪ Product / service diversification
	Market transparency	▪ Quality of website for information ▪ Availability of product / service information via print, radio and TV advertisements
Conduct (Consumers)	Countervailing power	▪ Number of consumer groups ▪ Customer satisfaction with the quality and price of service
	Costs and barriers to switching suppliers	▪ Extent and substance of barriers to switching suppliers
Performance	Geographic coverage	▪ National network coverage and penetration
	Financial performance	▪ Profitability, efficiency, etc.

All of the above were considered in this study in reaching conclusions on dominance in the Malawian market.

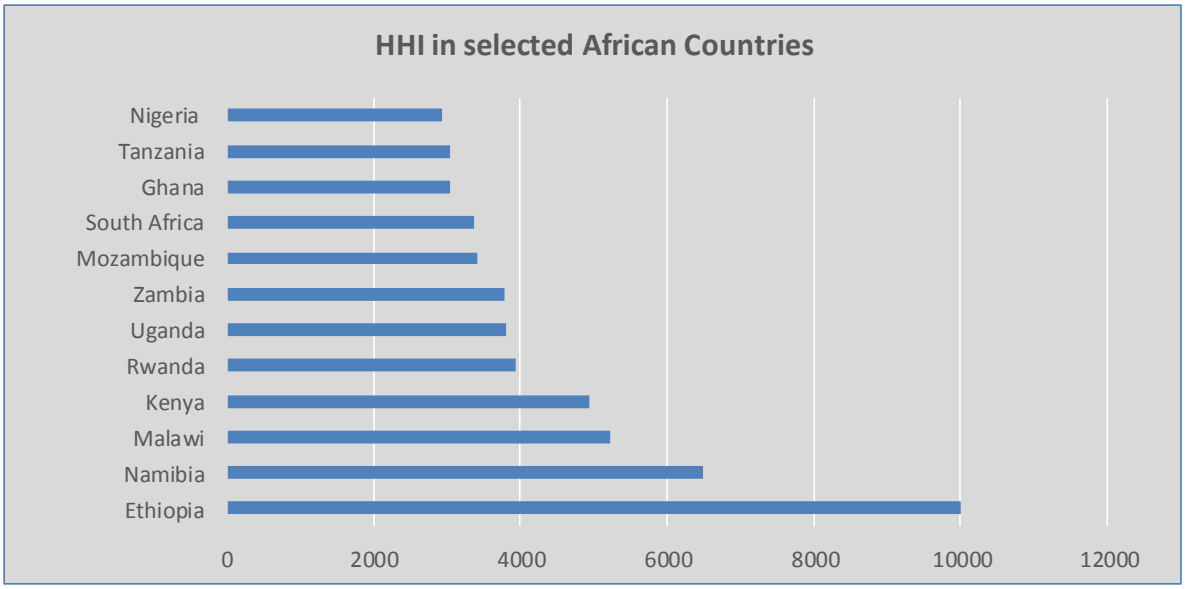
4.4 Applying market analysis principles to the Malawi Market

For the retail mobile market which is of greatest interest to consumers in Malawi, it was clear from considering all of the categories of analysis that the GSM voice market in particular is concentrated largely in the hands of the two dominant operators, Airtel and TNM, while TNM's parent company MTL is also a vertically integrated company which is dominant in the fixed market as well as the upstream transmission services market, as described in Section 4.5.

An important indicator of the market – which reflects a combination of many of the factors under consideration - is provided specifically by the Herfindahl–Hirschman Index (HHI), which is a commonly accepted measure of market concentration. The HHI is calculated by squaring the market share of each firm in the market and then summing the resulting numbers. For example, for a market consisting of four firms with shares of 30, 30, 20, and 20 percent, the HHI is 2,600 ($30^2 + 30^2 + 20^2 + 20^2 = 2{,}600$). On the other hand, in a market where only two operators share around 50% each (as in Malawi), the HHI would be 5,000.

The HHI takes into account the relative size distribution of the firms in a market. It approaches zero when a market is occupied by a large number of firms of relatively equal size and reaches its maximum of 10,000 points when a market is controlled by a single firm. The HHI increases both as the number of firms in the market decreases and as the disparity in size between those firms increases. In advanced OECD countries, regulatory or competition agencies generally consider markets in which the HHI is between 1,500 and 2,500 points to be only moderately concentrated, and consider markets in which the HHI is in excess of 2,500 points to be significantly concentrated. In developing markets, HHI's are more typically in the 3,000+ range.

The following graph summarises the HHIs for several selected African countries which indicates Malawi's relative position:



The graph shows a case (Ethiopia) with total concentration, with only one incumbent operator, and three of the least concentrated cases, Nigeria, Ghana and Tanzania, which have four or more operators, even though one or two are dominant with over 30% of market share. Malawi, with two dominant operators, is relatively high. Interestingly, Kenya's HHI is also close to Malawi's because of the high level of dominance by one operator. This has triggered the regulator to successfully implement mobile terminating rate intervention to increase competition and lower consumer prices.

4.5 Summary of Malawi Markets

The consultant guided the MACRA participants through a step-by-step review of the Malawi ICT market and this was supplemented by the industry consultation and results of the RFI responses. Based on a review of ITU resources and European Union market definitions, combined with a review of realities in the Malawi markets, the following potential market definitions were identified, analysed and then conclusions drawn:

High level market	Markets	Initial Review & Comment
Voice Retail	▪ Local fixed retail	▪ Less than 0.2% penetration and <3% market
	▪ Mobile retail	▪ Two co-dominant operators
Voice wholesale	▪ Mobile termination	▪ US$ 0.04 - based on benchmarks could go to $0.01-0.02
	▪ Fixed termination	▪ US$ 0.04 - not so important

Broadband retail	▪ ADSL	▪ Single market in urban centres – competitive supplied by several operators and ISPs in total
	▪ Fixed wireless / WiMAX / 4G	
	▪ Mobile broadband / 3G	▪ Competitive with WiMAX in urban area. The only option in rural areas
	▪ High quality fixed broadband for business (e.g., FTTx or guaranteed quality WiMAX)	▪ Supplied competitively by main suppliers MTL, Skyband, Burco, Globe Internet, with Airtel entering
Broadband wholesale	▪ Local access (unbundled loops)	▪ Loops not in good condition. Could be opened to competition but of questionable value & no strong interest from ISPs
	▪ Bitstream services	▪ Apart from ESCOM being present, these markets dominated by MTL. Competition exists but it is probably held back by MTL. ▪ The best practice remedy could be to separate accounting for MTL facilities business from its vertically integrated networks services, and/or publish wholesale price offers and monitor practices, or ▪ Alternatively "Open Access" regulation.
	▪ Bandwidth lease line / transmission capacity (e.g., price of E1, 34 Mbps, 100 Mbps), tower access	
International	▪ Gateway access	
	▪ International Internet leased lines	

4.6 Voice Retail Markets - Fixed

This market is dominated by MTL but is very small, with penetration less than 0.2% (20,000 lines) and declining, as fixed telephony markets are doing in most developing countries and being eclipsed by mobile. Over the last 5 years (i.e., since 2009), ITU statistics show that fixed telephone market have declined by 10% and penetration has declined by 15% in both developed and developing markets, while mobile subscriptions have more than doubled and now exceed 30% in Malawi.

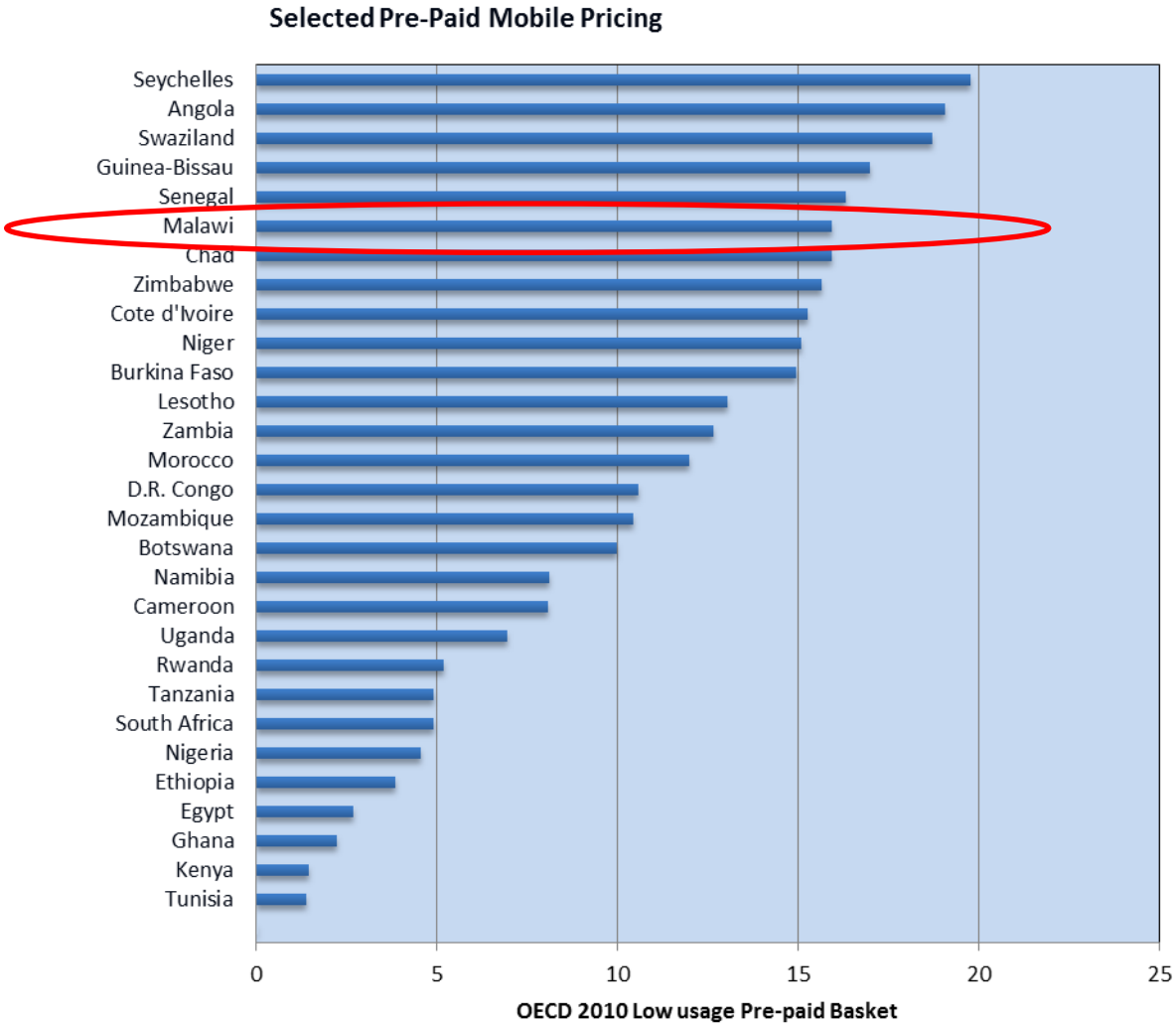
Since there are no competitors showing an interest in entering the Malawi fixed (wired) telephony market, it is recommended that that no consideration be given to ex post regulation in the traditional fixed market at this time, except to encourage the entry of VOIP service providers, as described in Section 4.8.

It is recommended that under the auspices of the new unified network services licensing regime, that ISPs and all network services and applications license holders should be enabled to offer Voice over IP (VoIP) services in order to offer the benefits of converged technology, especially to businesses but also potentially to private households with WiMAX or future FTTH Internet service.

The impact and benefits would also extend to the industry, enabling ISPs to open up a new stream of value added applications and services.

4.7 Mobile Retail Market

As demonstrated in the first training mission, the cost of mobile telephony, based on a comparison of the OECD Basket (2010 Methodology) for Pre-paid calls using published retail tariffs, Malawi's published tariffs appear to



be very high compared with other African markets[2], as shown in the graph bel0w.

According to this database and methodology of comparing prices, Malawi has been above the African average of 46 compared countries and always ranking between 20th and 39th highest for the last 5 years. Considering that Malawi has only limited competition in the GSM market, with two co-dominant operators, Airtel and TNM, some form of ex-ante regulation appears necessary.

A recent report by the ITU "Measuring the Information Society" (and published locally on 5th December in the Malawi Nation's Business news Section http://mwnation.com/cellphone-usage-malawi-expensive-says-itu/) also ranked Malawi's mobile prices at $12.67 per month and extremely high on a relative affordability basis, compared to other countries in the region.

[2] RIA website – lowest price comparison http://www.researchictafrica.net/prices/Fair_Mobile_PrePaid.php?t=a&u=u

However, both of the above perceptions were subjected to review by the consultant and were qualified by considerations in the Malawian market, which also need to be taken into consideration. These factor are described in the following section.

4.7.1 Further analysis from the RFI Reponses

The results of the RFI submissions from Airtel and TNM, as well as comments in an interview from a competitor provide a different perspective on Malawi's mobile prices and consumer costs, which bear further consideration. The following are the countervailing facts to consider:

- Whereas the OECD basket methodology for lowest price comparison (presumably used by the ITU as well as the referenced RIA website) uses tariff prices published on operator's websites and includes a *common discount factor* to allow for "unpublished" loyalty and dynamic discounted prices, the typical discount factor is greater is some countries than others;
- Tariff discounts appear to play a far greater role in Malawi that other countries, as evidenced by the following:
    - Both Airtel's and TNM's traffic patterns show 92-93% of recorded call minutes are on-net;
    - This means that Malawian users take excessive advantage of promotional discounts which are only usable for on-net calls. This greatly reduces their effective average tariffs. For example, whereas the average prime time on-net calling tariff in Malawi is currently 72 MK, the average rate paid by customers is only 18.54 MK on the TNM network and 26.8 MK on the Airtel network (i.e., between 22-37% of the maximum tariff). TNM appears to have increased its market share by a few percentage points over the last year, based largely on a more aggressive marketing and price discounting strategy;
    - As a result, Malawi customers' average revenue per user (ARPU) ranges between 1000-1500 MK ($2-$3) per month, contrary to the implication from the basket methodology that Malawians must pay $12-15 per month. This is clearly not true, for them to exercise the calling pattern common in Malawi.
    - The third operator (ACL) stated that even if they had the opportunity to offer GSM rather than CDMA services to the market, they would find it difficult to compete on price alone under current pricing scenarios.

The consultant is not able, without much more study that is beyond the scope of this report, to fully able explain the differences in the two very disparate comparative price indications from the different calculation methodologies, except to say that the *effective retail price* of Malawi's retail mobile rates is not as extremely high by comparison with other regional countries as indicated by the basket methodology. In fact it appears to be relatively low by regional comparisons since the actual amount the average Malawian actually pays is much lower than the basket methodology indicates and amounts to something in the range 22-37% of the published standard On-Net tariff.

Using a measure recently developed by Research ICT Solutions to measure "Effective Price" (Blended ARPU/Monthly Minutes of Use per user), the consultant estimated Malawi at 0.08, which compares to a range of 0.03 – 0.23 in all of Africa, or 0.09 (including Kenya and Tanzania) to 0.23 (Mozambique) in East and Southern Africa. This indicates Malawi to have one of the lowest effective rates in Africa and to compare well with its East African neighbours.

4.7.2 Qualifications to the Malawi case

The means by which users secure lower rates – largely through owning two SIMs or handsets and restricting their calls to On-Net - implies that Malawian consumers have to work harder at understanding the complexities of the incentive and discount schemes available to them than consumers in neighbouring countries (who enjoy lower standard published tariffs as indicated by the basket methodology) might feel forced to do. This probably arises from Malawians' economic low-income position and the fact that the two co-dominant operators choose to compete through incentives and discounts rather than to reduce their "rack rate" tariffs. It is evident that Malawian subscribers who are generally lower income than in most neighbouring countries, make good and effective use of the competitive discounts available to them.

Cursory examination, using comparative ARPUs, revenues per minute and minutes of use per user, indicate that Malawi's "effective price" is not high by regional standards and is below average. However, this may be largely due to customers' necessity, because of low affordability, to aggressively maximise all opportunities for taking advantage of promotion and discounts.

One apparent negative implication of this analysis is that the level of mobile penetration of unique subscribers may be significantly lower than commonly thought. I.e., if most users are making such heavy use of on-net calls, then most subscribers have both Airtel and TNM SIM cards, thus the number of unique subscribers could be only 3-4 million, rather than 5 million as implied by combined operators statistics, thus the penetration of unique subscribers could be as low as 20-25%. A reputable customer demand survey needs to be made for MACRA to answer this question.

4.7.3 Contribution of the co-dominant situation to the behaviour of Malawian consumers

The unchallenged co-dominance of Airtel and TNM in the mobile market has determined the means by which competition takes place in Malawi, because there is no third GSM operator in the market place to challenge the status quo by competing with lower basic tariffs. If there was a third operator in Malawi (maybe also a fourth operator) as exists is most other African countries, there would be a greater likelihood to reduce the basic tariffs as a competitive strategy.

4.7.4 Relevant comparatives on Mobile Terminating Rate

In the absence of a third GSM operator at this point, it is urgent that MACRA reduce one of the mechanisms used by the dominant operators to compete only via loyalty discounts rather than basic rates. Currently, the relatively high MTR, which creates high On-Net / Off-Net tariff variance, encourages the operators to limit their current competitive strategies to On-Net loyalty programmes, rather than by lowering their basic rates. The table below provides a summary of a selection of latest MTRs in eleven African countries which could be secured.

Mobile termination rates in selected African countries						
Country	MTR	Curr	Exch. Q1/2015	US cents	Comment	Source
Botswana	0.3	BWP	9.47	3.2	Glide path to 0.3 Pula by 2014	BTA (2011): http://www.bta.org.bw/bta-directs-public-telecommunications-operators-reduce-prices
Ghana	0.04	GHS	3.23	1.2		NCA (2010): Press release, http://www.nca.org.gh/downloads/Interconnect_News.pdf
Kenya	0.99	KES	89.91	1.1	From 1 Jul 2014 according to Addendum 3	CCK (2012) Addendum 3 of determination 2 of 2010- 27th November 2012 (CCK changed name to Communications Authority of Kenya)
Mozambique	1.44	MZN	32.00	4.5	Symmetric MTR since 2010	INCM (2012): Res. No. 46/CA/INCM/2012 de 10 de Setembro, 2012
Namibia	0.2	NAD	11.59	1.7	FTR=MTR =0.2 NAD, SMS = 0.01 NAD	CRAN (2013): Government Gazette, No 5369/511, December 2013
Nigeria	4.4	NGN	185.1	2.4	new entrants 5.20	NCC (2013): Legal-Determination-Voice-Interconnection_Rates_2013, http://www.ncc.gov.ng/index.php?option=com_docman&task=doc_download&gid=355&Itemid=
Rwanda	22	RWF	678.074	3.2		RURA (2011), "Rwanda to cut interconnection rates further", available at: www.telecompaper.com/news/rwanda-to-cut-interconnection-rates-further--827589 (accessed July 2012).

Mobile termination rates in selected African countries						
Country	MTR	Curr	Exch. Q1/2015	US cents	Comment	Source
South Africa	0.2	ZAR	11.5851	1.7	TelkomMobile and CellC can charge higher MTRs	ICASA (2014)
Tanzania	32.4	TZS	1,740.27	1.9		http://www.tcra.go.tz/images/documents/reports/determinationIII.pdf
Uganda	92	UGX	2,860.49	3.2	Glide path from UGX 112 (2012)to 92 (2014)	http://www.ucc.co.ug/files/downloads/Reference%20Interconnection%20Rate%202012%20Letter%20to%20all%20operators.pdf
Zambia	0.2	ZMK	6.41067	3.1		http://news.idg.no/cw/art.cfm?id=AD4E08A0-F9FB-DEBC-9B1FB15EAD9253FD

The table clearly shows that Malawi's MTR is on the high side. Only one of the countries (Mozambique) has a higher rate, while 10 are lower and five countries have MTRs below US 2 cents. The average rate is 2.5 cents, however, the benchmark is clearly 2 cents or below.

It is a common practice for regulators to undertake a Long Range Incremental Cost (LRIC) cost study to justify changes in the MTR. However, it is also a rational approach for the regulator to weigh the cost and time factor in undertaking a LRIC study against *the evidence already available* to indicate that the likely outcome of a LRIC, which is based on costs of an efficient modern network, would point to the benchmark value.

4.7.5 Implication of MTR and other potential remedies for mobile regulation

More importantly, the reasons that MACRA should immediately consider implementing a benchmark based MTR of 2 cents is to address the urgency of the need to address the very clear, unchallengeable evidence of co-dominance by two operators and that the current 4 cents MTR is contributing to the current status quo, which needs to be changed. The evidence is as follows:

1. The 4 cents MTR is exactly reflected by the 72 MK/90MK On-Net tariff difference. Thus there is currently complete pass-through of MTR to tariffs. By implication therefore, a reduction in the MTR towards benchmark rates will reduce the benefit consumers secure through responding to On-Net benefits, thus lowering their incentive to response so completely to the loyalty offers. Whereas their current pattern is well set and may only change incrementally, it is necessary to reduce the incentive for On-Net offers to remain the only means of competition;
2. A reduction in the MTR would benefit a third and fourth entrant directly since their calling would be overwhelmingly Off-Net, thus a reduction is their interconnection payments to the incumbent operators would assist the new entrant financially;
3. A reduction in MTR would thus increase the chances of competition taking hold and in the medium to long term will inevitably increase the rate at which the published retail call rates for consumers will reduce.
4. Even the incumbent operators would ultimately benefit because greater competition will bring more consumers into the market place, increase penetration, call traffic and bring market expansion. As previously mentioned, the current high On-Net ratio is masking the fact that the actual penetration of unique subscribers in the Malawi market is considerably lower than previously estimated and the lowest in the region.

Retail price regulation is not necessarily advisable in Malawi, except possibly (as in the case of Nigeria) to enforce flat rate On-Net-Off-Net retails tariffs. However, more importantly, the country needs a third (and maybe fourth) GSM mobile operator in order to break up the 50/50 cartel which exists and to create new ways of increasing mobile penetration in the country. One of the tools to facilitate more effective competition is by means of ensuring that the most suitable frequency band of 900 MHz is made available to the existing third mobile operator and to the fourth company preparing to enter the market. This is addressed in the next section.

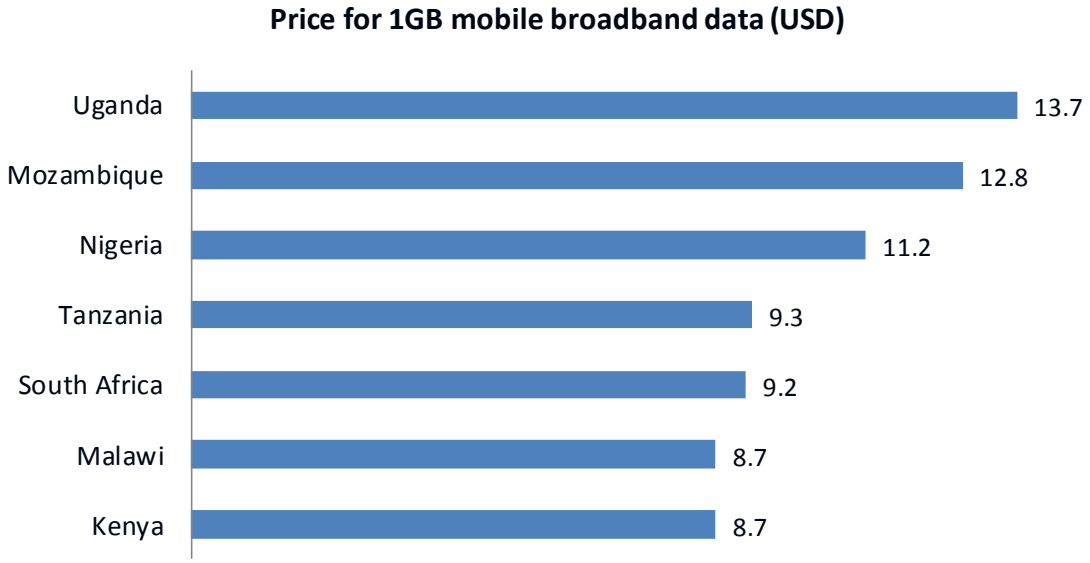
4.8 Remedies - Mobile Wholesale Market and Frequency Spectrum

The following remedies are recommended to encourage new entrants, diversity and growth in the mobile market:

Lower Mobile Termination rate (MTR) from US$ 0.04 to US$ 0.02	▪ Whereas retail price regulation is not recommended, the predominant MTR of US$ 0.04 cents is high compared to benchmark countries, e.g., Kenya US$ 0.011, S. Africa 0.019, Namibia 0.019, Tanzania 0.02. ▪ As noted in Section 4.7.4, even though some other counties are above US$ 0.02, very few are as high as US$ 0.04 and most are on a "glide path" to lower rates. Hence. It is strongly recommended that that MACRA target US$ 0.02 in the short term and lower (e.g., to US$ 0.01) over a 2-3 year period.	▪ The impact and benefit of a lower MTR would not be directly to reduce retail rates, since the amount of off-net calling and revenue is currently so low in Malawi. ▪ However, a lower MTR could have the impact if lowering incentives against Off-Net calling and thus begin to change competition strategy ▪ Importantly, the lower MTR rate would directly and immediately benefit a new entrant, enabling lower interconnection costs, lower off-net pricing and indirectly more competition and pricing for consumers
Offer 900 MHz frequency spectrum at a low price for the first 5MHz block to up to two new entrants and progressively increase the price for additional blocks	▪ The two dominant operators have 10 MHz and it is understood that one has requested to increase to 12 MHz, while 10 MHz have been reserved for Celcom which has not yet come to market. This is not required technically or commercially but is most likely requested in order to increase dominance. ▪ While MACRA is considering re-farming to allow for three operators to have 900 MHz spectrum, it is strongly recommended that MACRA plan for four operators and that it re-open negotiation for Access to also have access to a minimum of 5 HMz. ▪ Based on comparative studies, many countries have allocated at least 4 operators *minimum* 5MHz usable spectrum in the 900 MHz range and it is absolutely necessary for effective competition in the market, especially in Malawi's situation.	▪ The impact would be to immediate enable Access to offer more effective competition in the mobile voice market and to reduce the co-dominance of Airtel and TNM. ▪ Consumers would have better choice. ▪ The possibility of Celcom coming to market should not be seen as a solution or a hindrance to implementing this recommendation.

4.9 Broadband Retail Markets

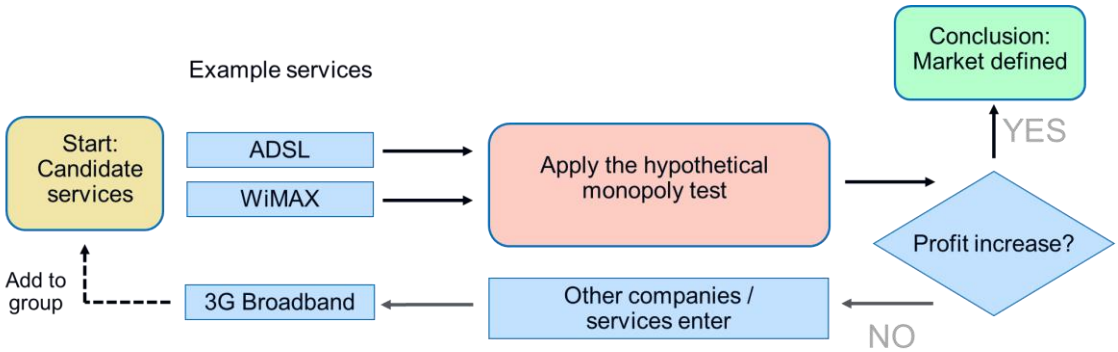
The consultant has studied the pricing and availability of broadband services in Malawi and has concluded that despite its landlocked geographical location and relatively high cost of access to East African sea cables to the Internet, there is a competitive broadband services market whose prices are competitive with, or on the low side to other regional countries, as shown in the diagram below (for mobile consumer 1 GByte bundle).



4.9.1 Broadband Market definitions – substitutability

The consultant undertook a review of medium and high quality corporate business Internet services and found a range of corporate IP and MPLS services as well as medium quality small business and home Internet options – largely derived from WiMAX / 4G services available from MTL, Skyband, Burco, Globe and others.

The consultant proposed and collaboratively decided together with the MACRA team that on the basis of interviews, pricing and applying the *Substitutability Hypothetical Monopolist* test (see below), which applies the principles of analysis described in Section 4.1, that for the household and small business market, there is a single market for basic / medium quality broadband retail services in urban areas, supplied by MTL services (DSL, WiMAX and CDMA-EV-DO), ISPs (with WiMAX) and Mobile operators with 3G services. I.e., customers are likely to change from one type of service to another depending on price, availability and relative QoS from place to place. No player is dominant.



Hig

hest Service Quality Data Services

Urban areas have a separate competitive market for high quality corporate IP and Multi-protocal Label Switching (MPLS services, associated with a Service Level Agreement. This is currently supplied by MTL and the larger ISPs, derived from WiMAX and with the commencement of fibre –to-the-premises services in a few cases (e.g., to banks).

It is recommended that MACRA can stimulate this market through its spectrum policy by making sub-800 GHz "Digital Dividend" frequencies available on a reasonable and affordable level, priced progressively as recommended for GSM 900 MHz frequencies. This policy could impact both urban and rural broadband futures through the superior building penetration and radial range offered by lower frequency options.

Rural areas

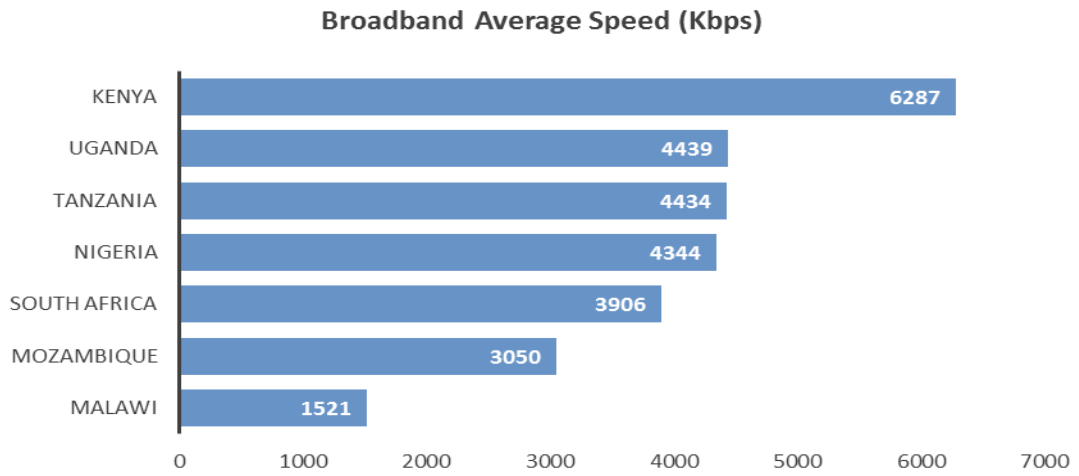
Only the four largest cities and their suburbs and a handful of larger towns currently enjoy broadband services supplied by a full range of mobile and fixed wireless ISP service. The majority of rural areas will have to rely on mobile operators to provide their broadband services in most cases, for economic viability reasons.

However, the options for rural areas with demand for broadband services can be enhanced through the operationalization of the Universal Service Fund (USF), combined with frequency policy as noted above. The USF will be able to play a role in rural broadband development in a number of ways, which may include the following:

- Financing operators and ISPs to compete for subsidies for investment in broadband network extension to certain targeted "smart subsidy" and marginally viable areas;
- Financing more Internet access for vanguard users, such as schools, hospitals, government offices, local broadcasters and public access vehicles.

4.9.2 Broadband Quality of Service

Despite the evidence of competition in the broadband retail markets, it is also evident that quality and speed of transmission are relatively low in Malawi and generally have slower speed than available in other countries, as shown by the following recent graph of results from OOKLA, which samples a variety of broadband services with "ping" tests to establish a country comparative Net Index QoS indicator. The Index covers the average of Download and Upload Speeds for an available combination of operator and ISP fixed and mobile services[3].



Issues related to service quality

In order to address the concerns of the retail market, industry representatives stated that whereas the prices of international and national backbone bandwidth have reduced considerably (by more than two-thirds over the last 1-2 years), they still remain too high and explanations given for the lower QoS are related to the price and availability of wholesale bandwidth, though not exclusively so.

Other issues relate to policy and the Government's relative inactivity in generating ICT projects (including e-Government) that could create demand-driving activities and therefore greater supply capacity amongst

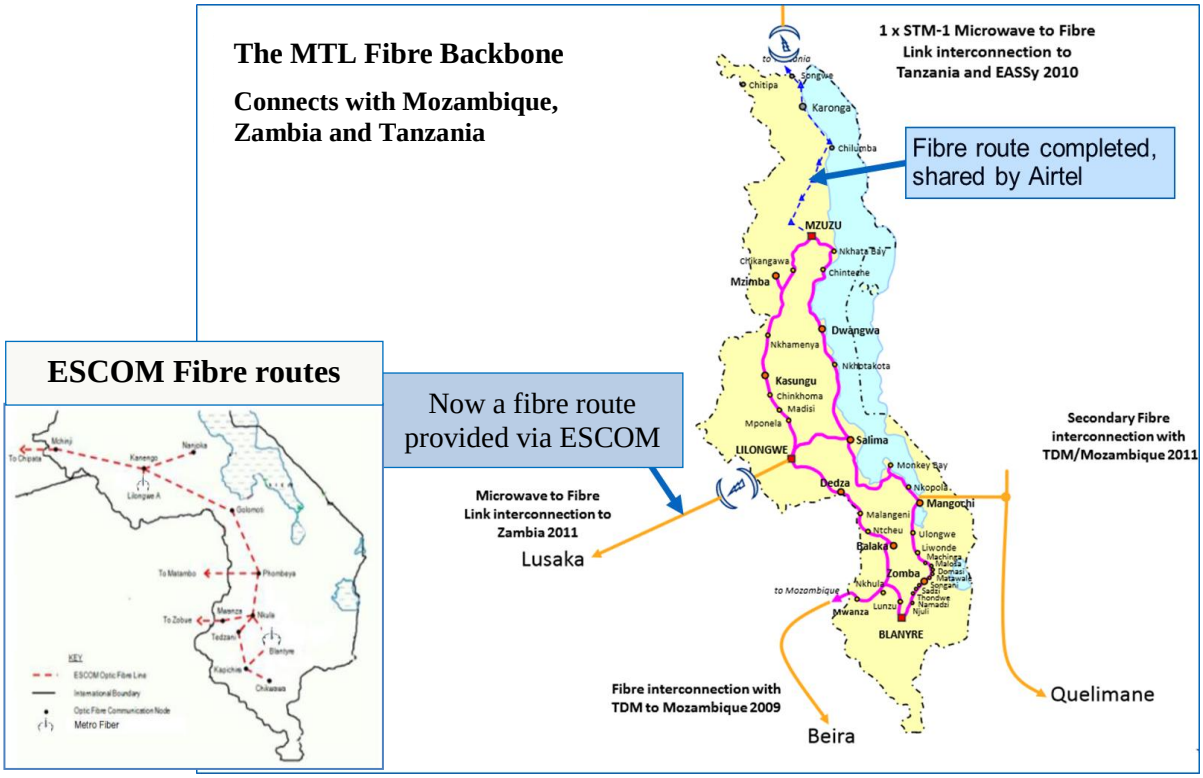
[3] See at http://www.netindex.com/download/2,201/Malawi/

operators and ISPs. Lack of projects include network expansion, schools and health sector, as well as public awareness activities, which in other countries are generated through a range of flagship and universal access funding initiatives. Hence the relatively low volume and growth of demand has left suppliers with choices between price and quality until the market takes off into greater volume and greater competition exists at the wholesale level.

4.9.3 Wholesale broadband market and international gateways

The consultant studied the upstream broadband capacity, leased line, fibre access, tower access and international gateway markets. These were found to have moved from being quite restrictive and expensive up until 1-2 years ago to becoming relatively open and dynamic, though not yet matching coastal areas.

To date there are a total of six fibre gateways to the East Africa cable landings. These are connections made through the auspices of MTL, the national incumbent operator and the Electricity Supply Corporation of Malawi Limited (ESCOM). The routes are indicated below.



All operators and major ISPs report to be currently using MTL and/or ESCOM both for backbone and international connectivity to the cable consortia landings in Mozambique, Tanzania and through Zambia. In addition, a third operator SimbaNET (from Tanzania) has been awarded a contract to build fibre facilities and probably to establish a "virtual landing" in Malawi under the World Bank RCIP Project in 2016. Thus while MTL and ESCOM are both dominant and MTL is also a vertically integrated operator which some competitors feel to be abusing its market power, there will be a third option within the next year.

Lowest current best prices for Internet connectivity to the coast are in the range $400 -650 per MBps, depending on capacity purchased, whereas the price at the coast is under $100-200 per MBps. While, as noted previously, costs have reduced by tw0-thirds over the last 1-2 years, they need to fall further. As well, access to fibre facilities as well as to microwave towers domestically from MTL are reported as inconsistently (discriminately) applied and are reported as not transparent in some cases.

4.9.4 Potential Remedies

MACRA has three options to address the wholesale market, which are the following:

Option 1

Do little more than monitor the wholesale market, insisting on fair application of commercial negotiations, being willing to intervene when asked, until the arrival of the third option (SimbaNET) which could bring additional competitive pressure on the market place, driving down prices and leading to greater transparency.

Option 2

Implement a "radical surgery" remedy which would enforce greater transparency within the dominant, vertically integrated incumbent MTL through separation of accounts between the facilities and network service businesses of MTL. This would take the opportunity presented by the new multi-level licensing regime. MTL would be forced to publish its facilities offers and prices, making the same conditions for fibre access, leased lines, bandwidth and bitstream services (and tower space rental agreements) available to all firms as offered to its own network services business. Furthermore, it would have to publish separated accounts quarterly.

Although this is a pure solution and there are some international precedents for it (in advanced countries such as the UK, New Zealand and Singapore) and while it is theoretically transparent and fair, the process would be a challenging one, fraught with accounting and legal disputes and would not necessarily yield the expected benefits in the short run.

Option 3

Require "Open and Unbundled Access" to MTL's (as well as to ESCOM's) facilities and services in a transparent, published "Reference Offer" for all-comers, whether MTL Networks Services or competing companies. In summary, access would be provided on the following basis[4]:

- at the wholesale level;
- on fair and reasonable terms, setting adequate price levels based on international cost benchmarks where feasible;
- avoiding non-price related discriminatory behavior;
- on transparent and non-discriminatory terms or, at a minimum, a clear policy should be established as to the conditions that apply to the arrangement;

To date open access has rarely been provided voluntarily, and it is usually the result of direct or indirect regulatory intervention. Thus this would appear to be both the responsibility of MACRA to consider as well as more practical and implementable than the onerous and potentially hazardous provisions of Option 2.

In summary, action at the upstream / wholesale level to ease the burden of costs to the broadband retail industry, combined with action at the project generation level (through the USF) would likely have the effect of yielding downstream price and quality benefits to Malawian business and private broadband customers and lead to more beneficial use and economic growth in both urban and rural markets.

[4] OECD (2013), "Broadband Networks and Open Access", *OECD Digital Economy Papers*, No. 218, OECD Publishing. http://dx.doi.org/10.1787/5k49qgz7crmr-en

5 Conclusions and Recommendations

The following provides a summary of the basic analyses, comments, remedy options, and recommendations / impacts provided in this report for the markets identified and analysed.

Market 1	Basic facts	Comment	Remedy Options	Rec0mmendation and impact
Fixed voice	▪ MTL Dominant ▪ No likely competitors ▪ Access was licensed as a fixed operator but offers only CDMA	▪ Very small and insignificant market ▪ Decline in fixed customers is common across the world	▪ **Option 1** - Do nothing ▪ **Option 2** - Open up competition by enabling ISPs and other entrants to offer VOIP services, at least to closed user groups	▪ Option 2 will be available under the new converged license regime. ▪ Impact will be to increase competition and open a new value added revenue stream for ISPs

Market 2	Basic facts	Comment	Remedy Options	Recommendation and Impacts
Mobile voice	▪ TNM and Airtel co-dominant ▪ MTR at US$ 0.04 is above regional benchmark ▪ Malawi's retail prices appear to be low on a regional comparison ▪ Over 90% of traffic is On-Net ▪ 3rd GSM entrant late to market ▪ The existing 3rd operator (Access) has requested GSM frequencies	▪ The existing 3rd operator (Access) is at a technology disadvantage with CDMA ▪ Existing dominant operators were over-supplied with 900 MHz spectrum but some re-farming is in process ▪ There is enough available 900 MHz spectrum to provide the existing 3rd & expected 4th operators with min. 5MHz spectrum	▪ **Option 1** - Reduce MTR to US$ 0.02 or below on a cler glide path, which will be to the advantage of the 3rd operator and new entrant ▪ **Option 2**- Offer the existing 3rd operator (Access) min. 5MHz GSM spectrum at 900 MHz, as well as enable the 4th operator Celcom to operate at 900 MHz ▪ Re-price 900 MHz progressively in blocks as a scarce resource, including to existing operators	▪ Both Option 1 & Option 2 ▪ Impact will be increased viability of non-dominant operators, increased competition and likely ultimate price reductions for consumers

Market 3	Basic facts	Comment	Remedy Options	Recommendation and Impacts
▪ Broadband retail - urban and suburban	▪ Competitive supply for consumer, small business and corporate data markets in urban & sub-urban areas ▪ Prices low by regional standards but QoS is also generally low (speeds low by regional standards)	▪ Suppliers include MTL (DSL, EV-DO, WiMAX); major ISPs (WiMAX, EV-DO, emerging Fibre); three mobile operators (3G GSM & EV-DO)	▪ No remedy required at retail level, though QoS could be impacted by addressing the wholesale market	▪ No recommendation required at retail level but this market could be impacted by the remedy recommended at the wholesale level

Market 4	Basic facts	Comment	Remedy Options	Recommendation and Impacts
▪ Broadband retail - rural	▪ Rural markets are mostly limited to mobile 3G supply	▪ Suppliers are GSM operators, the 3rd operator, sparse ISP presence	▪ No pricing related remedy, ▪ but USF should be employed to target investment through expansion subsidies, open to all players as well as demand-side measures such as targeting schools, health centres, public administration, public awareness and IT training	▪ Implement USF non-discriminatory investment projects for network expansion and demand stimulation

Market 5	Basic facts	Comment	Remedy Options	Recommendation and Impacts
▪ Wholesale Transmission capacity, leased lines and facilities access	▪ MTL and ESCOM dominant ▪ MTL is also vertically integrated ▪ ESCOM is offering wholesale fibre & transmission capacity ▪ SimbaNet (under World Bank RCIP) will offer a third choice of capacity and gateway access supplier	▪ 6 fibre gateways exist to the E. Africa cable landings ▪ While the entry of ESCOM as a wholesaler reduced the cost per MBps at least 2/3 (to US$ 600/mo), there is need for further reduction and more equal access to fibre facilities. ▪ The SimbaNet entry could lead to further reductions and open access, though the impact could be marginal	▪ **Option 1** – Monitor and mediate only and expect further price reduction from the entry of SimbaNet ▪ **Option 2** – Unbundling / Separation of accounts for MTL under the new facilities licence regime ▪ **Option 3** - Open Access (without separation), i.e., non-discriminatory practices and published reference pricing offers	▪ Option 3 ▪ (Option 2 would be too expensive and challenging to manage) ▪ Options 3 will offer more transparent, lower, cost-based prices for fibre, bandwidth & infrastructure. access, will reduce costs & improve QoS at retail level

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Consumer association of Malawi (CAMA)	Discounts from the generally high basic tariffs are available only for On-Net calls. The Association also questioned how aware consumers are of all the discounts available and of how they are secured. Because consumers generally feel it necessary to own two phones in order to take advantage, analysis should take into consideration the additional Capex expenditure of consumers in order to secure the lower discounted rates.	MACRA also noted that many discounts are calculated from the Off-Net rates, even though the benefit is secured only for On-Net call users. MISPA also commented that the mobile operators appear to take up a high proportion of press and broadcast advertising space, which the consultant commented is not unusual in the African markets
TNM	Responding to CAMA, TNM assured participants that all discounts are clearly advertised re how and when they occur and that consumers are not confused, as evidenced by their responses. TNM also emphasized the high level of innovation with both operators employ and that the much lower final effective rate which consumers pay is indicative of and driven by demand. Agreed with the consultant recommendation that the retail data market should not be regulated since it is competitive as well as in the early stages of development and that regulation could hinder investment.	MTL also emphasized that consumers have choices and there competition exists. Acknowledged by the consultant while noting that the level of innovation was a function of a high MTR rate and that if the rate reduced the style of innovation might need to change and increase lower basic prices, which would be a good development for consumers in Malawi
Access Communications Ltd.	Confirmed that consumers make intelligent choices and that the effective rates and calling patterns reflect this ACL also responded to the consultant finding that Malawai has low consumer broadband rates by stating that there seemed to be a "race to the bottom" that will ultimately impact operators' viability	The consultant responded by showing that high competition on data prices is a common phenomenon and that despite the intense marketing and belief that it is "the future" for operators, it is also typical (as in Malawi) for data services to represent only 12% of total revenues, voice still accounting for 70-75% of revenues
MTL	Made a clarification in the consultant representation slide on international fibre access routes that MTL provides only two routes to Mozambique and one to Tanzania, whereas the Zambia route is provided by ESCOM as one of its three access routes. MTL stated that it hopes that the consultant recommendation to price 900 Mhz frequency bands progressively will not result in overall higher spectrum costs for operators. MTL requested more time than the 2 weeks allocated for operator response to the consultant	Acknowledged The consultant clarified that the intent was to charge higher only for the second and subsequent band above 5MHz and that this could even be counterbalanced by a lower price for the first 5MHz. However, MACRA indicated that the actual formula is still under review. MACRA granted a one month period for comments, after the issuance of

	report to be delivered by MACRA under the consultation MTL also requested for MCARA to make its determination ahead of requesting operator responses	the report targeted for end January MACRA and consultant responded that the terms of the consultation shall be that the report will present Options and preferred recommendations, but not final determinations, in accordance with international best practice on consultative regulatory process.
ESCOM	Commented on the consultant statement that rates for fibre transmission access to the international routes will ultimately come close to the rates available at the coast. The additional cost of installing inland transmission routes has to be accounted for and therefore expectations for future rates must not be over-stated. ESCOM also assured the participants that its financial statements for fibre communications have already been separated from the costs for facilities to serve its power transmission business. ESCOM also stated that its transmission charges are fixed and are the same for all companies	MTL suggested that transmission costs should be benchmarked against those available in other landlocked countries, not the coastal states. MTL also questioned whether the entry of SimbaNet as a PPP, benefitting from public sector investment will be competing on price with the private sector transmission suppliers on an equal basis on with an unfair advantage. This was in response to the consultant statement that there could be greater transparency on pricing. MACRA requested ESCOM to send its price list under the RFI.
University of Malawi - The Polytechnic	Recommended that MACRA should be looking at how to stimulate the development of local content on the Internet, since the lack thereof is holding back adoption by the populace and the ISP industry	Acknowledged
Malawi ISP Association (MISPA)	Expressed concern that there seems to be no recommendations on how to save or rejuvenate the dying fixed line business, since corporations and universities need high quality lines for data services MISPA welcomed the VOIP recommendation but asked if amendment of the Communications Act would be required to facility this by non-telecom operators MISPA also questioned how much business the SMS market generates	The consultant responded that the recommendation to enable ISPs to offer VOIP services will to some extent offer additional revenues seeking to service the high quality market, but that the future of cabled access probably lies with fibre to the premise services, which will develop in the country. MTL confirmed that Section 18 of the existing Act precludes VOIP services, but MACRA and the consultant confirmed that the new Act under passage provides for Unified Licensing where all licensed Network Providers will be enabled to officer VOIP services The consultant responded by showing that this was reported in the operator financial report slide

The following documents were consulted during the course of the project:

- The ITU ICT Regulation Toolkit, 2 Competition and Prices http://www.ictregulationtoolkit.org/2
- Revision of the Methodology for constructing Telecommunications Pricing Baskets, OECD, 2010 http://www.oecd.org/sti/broadband/48242089.pd
- The Legal and Economic Framework of EU Telecom Market Regulation (among other sources on Europa.eu) http://www.doiserbia.nb.rs/img/doi/0013-3264/2010/0013-32641085107T.pdf
- Competition and regulation in a converged Broadband World, ITU, 2013 https://www.itu.int/ITU-D/treg/publications/Competitionregulation.pdf
- Interconnection charging models in a national broadband network environment, ITU GSR 2013 Discussion Paper http://www.itu.int/en/ITU-D/Conferences/GSR/Documents/IP%20Interconnection%20charging%20models%20-%20final.pdf
- OECD (2013), "Broadband Networks and Open Access", OECD Digital Economy Papers, No. 218, OECD Publishing http://dx.doi.org/10.1787/5k49qgz7crmr-en