



MALTA COMMUNICATIONS AUTHORITY

## Wholesale call origination on the public telephone network provided at a fixed location in Malta

*Identification of relevant market and assessment of competition*

---

### Consultation Document

MCA/C/15-2432

### Publication Date:

13<sup>TH</sup> NOVEMBER 2015

### Closing Date for submission of responses:

15<sup>TH</sup> DECEMBER 2015

## DOCUMENT REVISION HISTORY

Date	Revision	Comments	Authors & Contributors
13/11/2015	1.0	Consultation	MCA

## DISTRIBUTION

Date	Revision	Comments
13/11/2015	1.0	Local Fixed Telephone Operators, Malta Competition & Consumer Affairs Authority

## EXECUTIVE SUMMARY

The Malta Communications Authority (MCA) is hereby presenting, for national consultation, its preliminary decision on the regulatory treatment of the wholesale market for the provision of call origination on the public telephone network provided at a fixed location in Malta. This preliminary decision is in accordance with the EU regulatory framework of electronic communications networks and services.

This is in accordance with Article 9 of the Electronic Communications (Regulation) Act, which obliges the MCA to carry out regular reviews of competition in communications markets to ensure that regulation remains appropriate in the light of changing market conditions.

Interested parties are to submit their comments to this national consultation by 15th December 2015. Following the closure of the consultation period and in line with the requirements set out in Article 7(3) of the Framework Directive, the MCA would then notify its response to consultation and draft decisions on the market in question to the EU Commission and the body of European Regulators for Electronic Communications (BEREC).

## SUMMARY OF PRELIMINARY CONCLUSIONS

This is the third round market review concerning the provision of wholesale voice call origination on the public telephone networks provided at a fixed location in Malta.

Wholesale call origination is considered as one of the three wholesale inputs, including call termination and call transit, which are necessary to provide retail call services. Wholesale call origination can be self-provided, by building a local access network, or bought directly from a third party, if no direct access link to the end user is being sought.

Wholesale call origination is demanded by alternative operators, together with other services such as call transit and call termination, to provide retail call services, mainly by means of Carrier Selection (CS) / Carrier Pre Selection (CPS). If purchased in combination with wholesale line rental (WLR), alternative operators would be in a position to offer fixed line telephony plans consisting of access and call services.

In view of the above, wholesale call origination services correspond, at the retail level, to the ability of making outgoing fixed line calls.

### i. Identification of Market(s)

The MCA considers that fixed call origination supplied on the public telephone network at a fixed location in Malta includes call set-up, switching and connection for the initial stage of the call to the next stage in the call routing process, this next stage being either the point of interconnection or call termination.

Wholesale fixed call origination is a necessary input offered via a network's access network infrastructure for the delivery of retail fixed call telephony services in Malta, including calls to both geographic numbers and non-geographic numbers.

The MCA determines that the relevant market encompasses:

- the purchase of wholesale call origination services by wholesale customers (third parties); and
- the self-supply of wholesale call origination services.

The market under investigation is defined in a technologically neutral manner. In fact, call origination services on the traditional PSTN networks and alternative technologies are considered part of the same relevant market.

The identified wholesale market is national in scope.

Full details of the MCA's market definition exercise are contained in Chapter 4 of this document.

## ii. Assessment of competition

The Three Criteria Test carried out by the MCA has shown that the wholesale market for the provision of call origination supplied on the public telephone network at a fixed location in Malta is tending towards effective competition and that no service provider enjoys SMP in this market.

The main considerations behind this reasoning are highlighted below:

- Wholesale demand for fixed call origination is derived from retail demand for related fixed telephony services. Developments at the retail level are therefore mirrored at the wholesale level. It is relevant to note that GO has lost market share to alternative service providers at the retail level, both in terms of fixed telephony subscriptions and usage levels. Similarly, GO's share of the wholesale supply of call origination slid downward since 2010, whilst alternative service providers registered gains.
- Demand for wholesale fixed call origination is on decline, with just one service provider, namely Ozone (Malta) Ltd purchasing the service on the local merchant market. Ozone (Malta) has also experienced a significant drop in its WLR-based business activity over the last few years, with both the number of WLR-based fixed access lines and traffic volumes falling to their lowest levels ever. The number of WLR-based fixed access lines accounted to just 0.1% of all fixed access lines recorded at the end of 2014, down from 0.3% at the end of 2010. WLR-based traffic volumes accounted to just 0.2% of all fixed-originating traffic volumes at the end of 2014, down from 0.5% at the end of 2010.
- Local service providers are currently self-supplying wholesale call origination services to their own retail arms to provide retail voice call and broadband services and face no capacity constraints in meeting higher output levels. Melita has also fully replicated GO's access network infrastructure and can readily start supplying wholesale call origination services on the merchant market.
- Taking into account the self-supply of fixed call origination services, the market share assessment shows that GO has consistently lost ground in this market. This operator's market share was down by around seven percentage points since 2010. If one were to extract the respective share attributed to supplying third parties on the merchant market,

GO would show a decline of six percentage points during the same period. This downward trend signals that GO is constrained in its price setting behaviour in the market under investigation.

- End-users are in a position to exert sufficient countervailing buyer power ('CBP') as to constrain their service provider from behaving in an uncompetitive manner. In this regard, the threat of retail customers switching to competitors effectively constrains GO from passing an increase in its wholesale call origination charges to its retail arm. It also constrains GO from increasing the price of fixed call origination supplied to third parties. This is because, when faced with such an increase, GO's existing wholesale customer would either have to absorb the wholesale price increase itself or else pass it through to its retail customers, either in part or in full. The first option would undermine the profitability and business case of the wholesale customer. This would eventually hit the sustainability of the SSNIP itself, given the increased risk of the wholesale customer halting its business operations. The second option is likely to induce retail substitution, with end-users of the wholesale customer switching to alternative service providers, which would in turn also lead to a drop in revenues for GO.
  
- End-users are increasing their use of mobile calls whilst reducing their use of fixed calls. This indirectly constrains the price setting behaviour for wholesale call origination services.

Full details of the MCA's preliminary decision and reasoning on the assessment of competition are contained in Chapter 5 of this document.

### iii. Proposed regulatory approach

Given the outcome of the Three Criteria Assessment, the MCA considers that no operator has SMP in the wholesale market for fixed call origination on the public telephone network provided at a fixed location in Malta.

This market therefore no longer warrants ex ante regulatory intervention.

Pursuant to Regulation 5(3) of the Electronic Communications Networks and Services (General) Regulations of 2011 ('ECNSR'), the MCA shall withdraw the specific regulatory obligations, as per the 2010 decision, currently in force on GO in the market under investigation.

This withdrawal shall however be implemented without prejudice to any other general obligations at law or remedies emanating from any other MCA decision.

In order to have a smooth transition from a regulated to a non-regulated market environment, the MCA shall withdraw the relevant existing obligations at the expiry of 90 calendar days following the publication of this decision.

Current obligations shall continue in effect during these 90 calendar days.

Full details on the regulatory approach proposed by the MCA are contained in **Chapter 6** of this document.

# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>3</b>
<b>1.0 INTRODUCTION.....</b>	<b>8</b>
1.1 Scope of this market review.....	8
1.2 Describing a wholesale call origination service.....	8
1.3 Delineation between fixed wholesale inputs.....	8
1.4 The link with retail fixed access and voice markets .....	9
1.5 Structure of this document .....	10
<b>2.0 METHODOLOGICAL AND LEGAL BACKGROUND.....</b>	<b>12</b>
2.1 The Market review process.....	12
2.1.1 Defining a relevant wholesale call origination market .....	12
2.1.1.1 The product market dimension.....	12
2.1.1.2 The geographic market dimension.....	13
2.1.2 assessing competition in the market under investigation.....	13
2.2 Legal Basis to the market review process .....	14
2.2.1 The EU regulatory framework.....	14
2.2.2 The local legislative framework .....	15
2.3 Public consultation .....	16
<b>3.0 PREVIOUS MCA DECISIONS AND LATEST MARKET DEVELOPMENTS .....</b>	<b>18</b>
3.1 Previous MCA decisions .....	18
3.1.1 First round market analysis.....	18
3.1.2 Second round market analysis .....	18
3.2 Market-related Developments.....	19
3.2.1 Context.....	19
3.2.2 Market trends .....	20
3.2.2.1 Take-up of fixed access .....	20
3.2.2.2 Bundling of fixed access and voice calls.....	23
3.2.2.3 Fixed-to-mobile substitution.....	24
<b>4.0 MARKET DEFINITION EXERCISE .....</b>	<b>27</b>
4.1 Background.....	27
4.2 Substitutability and direct constraints .....	27
4.3 Market segmentation.....	29
4.4 Proposed Decision on the relevant product market .....	30
<b>5.0 THREE CRITERIA TEST .....</b>	<b>31</b>

5.1	Assessment of competition in the identified market.....	31
5.2	Assessment of the first criterion .....	31
5.2.1	Sunk costs and infrastructure replicability.....	32
5.2.2	Economies of scale.....	32
5.2.3	Economies of scope .....	32
5.2.4	Vertical integration .....	33
5.2.5	Conclusion on the first criterion .....	34
5.3	Assessment of the second criterion .....	34
5.3.1	Market share developments.....	34
5.3.2	Potential market expansion and indirect constraints.....	37
5.3.2.1	Market expansion.....	37
5.3.2.2	Indirect constraints - Unmanaged voice telephony services and OTT.....	38
5.3.2.3	Indirect constraints - usage of mobile telephony services.....	38
5.3.3	Countervailing Buyer Power (CBP).....	40
5.3.4	Conclusion on the second criterion .....	41
5.4	Assessment of the third criterion.....	41
5.4.2	Conclusion on the third criterion .....	41
5.4.3	Proposed decision in view of the Three Criteria Test findings .....	42
<b>6.0</b>	<b>REGULATORY APPROACH .....</b>	<b>43</b>
6.1	Background.....	43
6.2	Current Regulatory Obligations.....	43
6.2.1	Access to wholesale call origination and associated services.....	43
6.2.2	Transparency.....	44
6.2.3	Non-discrimination .....	44
6.2.4	Price control .....	44
6.2.5	Cost accounting.....	44
6.2.6	Accounting separation .....	44
6.3	Proposed decision on the regulatory approach.....	45
6.4	Monitoring of Future Market Developments.....	45
	<b>CONSULTATION QUESTIONS .....</b>	<b>46</b>

## 1.0 INTRODUCTION

### 1.1 SCOPE OF THIS MARKET REVIEW

This review relates to the wholesale market for the provision of fixed call origination on public telephone networks provided at a fixed location in Malta.

The MCA takes utmost account of the European Commission's (EC) Recommendation on relevant markets and the SMP Guidelines throughout this exercise. The EC Commission published a revised version of the EC Recommendation in October 2014. This revised version no longer considers the provision of the services under investigation as warranting ex ante regulatory intervention.

### 1.2 DESCRIBING A WHOLESALE CALL ORIGINATION SERVICE

A wholesale fixed voice call origination service serves as an input to the provision of retail fixed voice telephony services. More specifically, this wholesale service enables service providers to set up calls for their end-users and to convey such calls to the next stage in the call routing process, either to call termination or to the point of interconnection.

Some service providers have a public telephone network infrastructure in place and are capable of self-supplying wholesale call origination services to their own retail arms. However, other service providers, such as CS and CPS operators, may need to purchase a wholesale call origination service from an existing operator in order to be in a position to offer retail fixed voice call services. An important facility that CS and CPS operators require to be able to match the full retail offering of the service provider owning a public telephone network is wholesale line rental (WLR). The purchase of this facility would allow the CS / CPS service provider to supply the physical connection from an end-user's premises to the public telephone network, for which the end-user typically pays an access fee.

One direct alternative to the purchase of wholesale call origination is to establish an own network infrastructure. However, this route is rather challenging for a new entrant given the investment outlays and sunk costs that are involved. Such costs may be deemed too high when compared to the relatively cheaper option of acquiring a wholesale call origination service from an existing operator. The latter option would allow a new entrant to first build a customer base before deciding to move up the ladder of investment<sup>1</sup>.

### 1.3 DELINEATION BETWEEN FIXED WHOLESALE INPUTS

The delineation between call origination, call termination and transit services can vary according to the network topologies and market conditions. These wholesale elements (or inputs) are additive, the sum of the three making the whole. The latter consideration goes to suggest that once call termination and transit are defined, which is already the case for Malta, a notional market for wholesale call origination is also defined by default.

---

<sup>1</sup> Another option available to a new entrant is to purchase or lease an established network connection to the end-user's location(s). This option may either involve the rental of local loops or the acquisition of leased lines.



The MCA notes that local fixed network operators (FNOs) are all operating IP-based access network infrastructures for carrying packet-based voice (and data) traffic. Where third parties lack direct interconnection to one or more network operators, they could resort to a network operator offering call transit services. The notional boundaries of the wholesale elements required in the provision of retail fixed voice call services in Malta's Packet Switched environment are depicted in Figure 1 below.

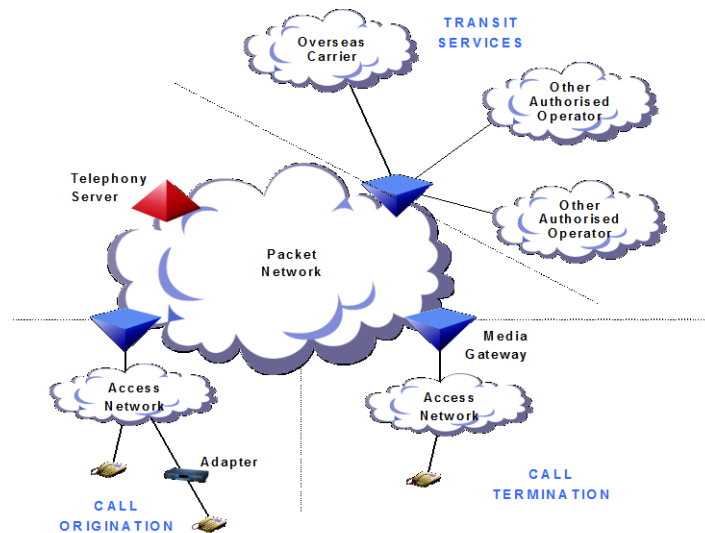


Figure 1: Delineation applicable for fixed telephony wholesale inputs

By way of description:

- Call origination comprises call set-up, switching / conveyance, and connection for the initial stage of the call. It incorporates conveyance from an end-user to the next stage in the call routing path (either call termination or to the point of interconnection).
- Call transit comprises the conveyance of traffic through, at least, one national and/or international media gateway.
- Call termination comprises call completion and the switching functionality at the terminating end of a call. This would entail the conveyance of a call from the end of the previous stage (either call origination or to the point of interconnection) to the called end-user via the local-loop.

#### 1.4 THE LINK WITH RETAIL FIXED ACCESS AND VOICE MARKETS

It has already been stated that fixed voice call origination is an essential wholesale input supplied for the provision of retail fixed voice services. This wholesale input enables operators to provide end-users with the capability to consume a suite of fixed telephony services in the form of different types of outgoing calls, facsimile etc. This means that demand for wholesale call origination is in fact derived from demand by end-users at the retail level.

More specifically, demand for wholesale call origination stems from:

- carrier selection (CS) and carrier pre-selection (CPS) voice-related services; and
- voice call services requested by end-users of the access network operators.

The conclusions emanating from the MCA analyses of the retail access and retail call markets are therefore likely to influence the current assessment. Of note at the market definition stage are the following considerations:

- End-users commonly purchase fixed access and calls as a combined package of services, given that they would not be able to make fixed line calls without first having access to a fixed line network. The MCA therefore considers that, rather than being substitutable, retail fixed access and fixed line calls are complementary in nature. This preference for a combined purchase is also evident from the popularity of fixed line calling plans that charge a monthly flat rate that covers both access and calls. The MCA also notes a marked increase in the number of end-users opting for packages that bundle fixed telephony services with other electronic communications services.
- Furthermore, local telephony plans allow end-users to make a range of call types, including calls to geographic numbers, calls to non-geographic numbers, international calls and calls to mobile. The MCA considers that these different types of calls fall within a single product market, given that these involve the same network equipment regardless of the destination number called.
- The provision of retail fixed access to residential and non-residential end-users is functionally equivalent, even though both types of end-users may exhibit different demand characteristics. This is because retail fixed access is provided over the same infrastructure and with same quality of service(s), irrespective of the type of end-user purchasing it.
- End-users view the provision of fixed access and voice telephony services offered over different access platforms - copper / fibre, cable and wireless - as substitutable for one another, both on the basis of functionality and price.

The above-mentioned considerations will be revisited at market definition stage.

## 1.5 STRUCTURE OF THIS DOCUMENT

The remainder of this document is structured as follows:

- Section 2 provides an overview of the methodological and legal background to the MCA's market review process.
- Section 3 highlights upon the MCA's previous market review decisions concerning the area under investigation. As already highlighted above, demand at the wholesale level is derived from retail demand. Therefore, this section shall outline in some detail the most relevant market trends observed at the retail level, particularly demand for fixed telephony access and fixed voice calls.

- Section 4 defines the relevant wholesale product and geographic markets concerning the provision of call origination on the public telephone network provided at a fixed location in Malta.
- Section 5 analyses the state of competition in the identified wholesale market by carrying out a Three Criteria Test.
- Section 6 explains the MCA's regulatory approach in the market under investigation.

## 2.0 METHODOLOGICAL AND LEGAL BACKGROUND

This section outlines the methodology used by the MCA in carrying out market reviews. It also provides a brief insight into the legal basis supporting the MCA's market review procedure and the related consultative roles.

### 2.1 THE MARKET REVIEW PROCESS

The MCA carries out reviews of competition in electronic communications markets to ensure that regulation remains appropriate in the light of changing market conditions. In carrying out these market reviews, the MCA takes utmost account of the European Commission's Guidelines on market analysis and the assessment of SMP (the "SMP Guidelines").

The MCA has also published a document outlining the guidelines on the methodology to be used for assessing effective competition in the Maltese electronic communications markets.

Each market review follows three main stages:

- the definition of one or more relevant market(s);
- an assessment of the state of competition in identified market(s); and
- a regulatory assessment, outlining whether to maintain, amend or withdraw regulatory obligations in order to ensure that ex ante regulatory intervention remains appropriate in the light of changing market conditions.

#### 2.1.1 DEFINING A RELEVANT WHOLESALE CALL ORIGINATION MARKET

The market definition exercise in this review aims to identify the competitive constraints faced by undertakings in the provision of wholesale call origination, thereby also facilitating the subsequent market analysis procedure.

The assessment is forward looking in nature, taking into account 'expected or foreseeable technological or economic developments over a reasonable horizon'. In this regard, the timeframe of this analysis is notionally set at approximately three years, reflecting the characteristics of local retail and wholesale markets and the factors that are likely to influence their competitive development during this timeframe.

The exercise takes utmost account of the 2014 EC Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation (hereinafter referred to as 'the Recommendation') when the relevant product and service markets are defined.

There are two dimensions to the market definition exercise, as specified below.

##### 2.1.1.1 The product market dimension

The main consideration here relates to the demand-side and supply-side substitutability conditions amongst the different products and services that could potentially form part of the market(s) under investigation.

Demand-side substitutability is used to measure the extent to which wholesale customers are prepared to substitute other services or products for the service or product under investigation. Supply-side substitutability, on the other hand, indicates whether in the immediate to short term, suppliers other than those offering the product or service in question would switch their line of production to offer the relevant products or services without incurring considerable additional costs.

The Hypothetical Monopolist Test (the 'HMT Test'), otherwise commonly referred to as the SSNIP test (meaning 'small but significant non-transitory increase in price') is a key element in the substitutability assessment. This test considers the interchangeability of products in the case of a hypothetical small increase in price, usually understood as being an increase in the range of 5 to 10 percent, in any of the products/services under investigation. Overall, the HMT test would determine whether a hypothetical monopolist would be in a position to sustain a 5 to 10 percent increase in price because of significant demand-side and supply-side substitution effects.

To this effect, the relevant product and service market(s) shall comprise all those products and services that are substitutable, not only in terms of the price and the intended use of the product under investigation, but also in terms of the overall conditions of supply and demand.

#### 2.1.1.2 The geographic market dimension

The Recommendation on relevant markets states that 'a relevant geographic market comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogenous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different'.

To this effect, the MCA defines the relevant geographic market on the basis of an interchangeability assessment between products and services following a SSNIP. It applies two main criteria in its assessment of the geographic dimension of the market definition exercise. These are:

- the area covered by the network; and
- the scope of application of legal and other regulatory instruments.

The market definition exercise abides by the principle of technological neutrality and takes into account all network platforms in Malta, irrespective of the underlying technology.

#### 2.1.2 ASSESSING COMPETITION IN THE MARKET UNDER INVESTIGATION

The competition assessment is carried out in a manner consistent with the Commission's 'Guidelines for market analysis and the assessment of significant market power' (the 'SMP Guidelines', referred to in Article 15(2) of the Framework Directive) and the MCA's 'Market Review Methodology'.

It is relevant to underline at this stage that, in October 2014, the EU Commission published a revised Recommendation on relevant markets within the electronic communications sector. With effect to this revision the wholesale market for the provision of wholesale call origination services provided on public telephone networks at a fixed location has been removed from the list of markets susceptible to ex ante regulation.

However, according to the same Recommendation, it is possible for NRAs to regulate non-listed markets where this is justified by national circumstances.

To establish whether non-listed markets still warrant ex ante regulatory intervention NRAs need to carry out a Three Criteria Test. An identified market would be subject to ex ante regulation only if the three criteria are met cumulatively. If on the other hand, the market assessment fails any of the three criteria, no ex ante regulation would be warranted. If the said market is already subject to ex ante regulation, existing regulation would then have to be withdrawn.

Within this context, regulatory intervention on the local wholesale market(s) under investigation would only be warranted if:

1. The identified market(s) is subject to the presence of high and non-transitory barriers to entry, being either of a structural, legal, or regulatory nature;
2. The identified market(s) has those characteristics, such as barriers to entry, which do not allow for effective competition without regulatory intervention within the timeframe of this review; and that
3. Competition law by itself is inadequate to address any potential market failure in the absence of ex ante regulation.

More detail as to the main conclusions reached by the MCA when assessing the above-mentioned criteria is provided at a later stage in this review.

## 2.2 LEGAL BASIS TO THE MARKET REVIEW PROCESS

The legal basis concerning the conduct of market reviews is provided in the EU Regulatory Framework, the ECRA and the ECNS. These are briefly discussed below.

### 2.2.1 THE EU REGULATORY FRAMEWORK

The EU Regulatory Framework for Electronic Communications consists of a set of five directives, which were first implemented in the EU in 2002 and later amended in 2009. These directives are listed hereunder:

- Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services ('the Framework Directive');
- Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities ('the Access Directive');

- Directive 2002/20/EC on the authorisation of electronic communications networks and services ('the Authorisation Directive');
- Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services ('the Universal Service Directive'); and
- Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector ('the ePrivacy Directive').

Of note here is the Framework Directive, which provides the overall structure for the local regulatory regime and sets out fundamental rules and objectives reading across all the directives. Article 8 of the Framework Directive stipulates the key policy objectives of NRAs in their regulatory approach, namely:

- the promotion of competition;
- the development of the internal market; and
- the promotion of the interests of citizens of the European Union.

The Authorisation Directive establishes a system whereby any person will be generally authorised to provide electronic communications services and/or networks without prior approval. The general authorisation replaces the former licensing regime.

The Universal Service Directive defines a basic set of services that must be provided to end-users.

The Access and Interconnection Directive sets out the terms on which providers may access each others' networks and services with a view to providing publicly available electronic communications services.

The fifth Directive on Privacy establishing users' rights with regard to the privacy of their communications was transposed on 10th January 2003 (Legal Notice 16 of 2003 under the Data Protection Act).

## 2.2.2 THE LOCAL LEGISLATIVE FRAMEWORK

The Directives comprising the EU Regulatory Framework were first transposed into Maltese legislation on the 14th of September 2004 and further amended on the 12th of July 2011.

The relevant national legislation are the Malta Communications Authority Act (Cap 418), the Electronic Communications (Regulation) Act (Cap. 399) (hereinafter referred to as 'the ECRA'); and the Electronic Communications Networks and Services (General) Regulations of 2011 (hereinafter referred to as 'the ECNSR').

The local regulations guiding each stage of the market review process are described below.

- Regulation 5 of the ECNSR stipulates that the MCA tailors its market definition on national circumstances, taking utmost account of all applicable guidelines issued by the European Commission in accordance with Article 15 of the Framework Directive and taking into account the revised EU Recommendation on relevant markets and other recommendations issued by the European Commission.

- Regulation 6(2) of the ECNSR states that ‘an undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers’.
- Regulation 6(4) of the ECNSR states that ‘where an undertaking has significant market power on a specific market, it may also be deemed to have significant market power on a closely related market, where the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the undertaking’.
- Regulation (6) of the ECNSR underlines that the MCA is obliged to impose regulatory obligations if an operator is designated as having SMP on a relevant market, either individually or jointly with others, as referred to in sub regulation (2) of regulation 5 of the ECNSR.
- Where such obligations already exist in the market(s) under investigation, a new finding of SMP would lead the MCA to maintain or amend the existing regulatory conditions accordingly. If, on the other hand, the finding of SMP cannot be ascertained, the MCA would have to withdraw such regulation, in accordance with Regulation (5) of the ECNSR, subject to an appropriate period of notice given to all parties affected by such withdrawal.
- Regulation 4 of the ECNSR states that the MCA carries out its market reviews in accordance, where appropriate, with an agreement with the National Competition Authority (‘the NCA’) under article 4 of the MCA Act.
- Regulation 7 of the ECNSR stipulates that the MCA is to notify the results of its market reviews and the corresponding draft measures to the Commission and to other NRAs in Europe following the closure of the national consultation exercise.

## 2.3 PUBLIC CONSULTATION

The MCA is hereby initiating a national consultation exercise on the appropriate market definition, the assessment of competition and the proposed regulatory intervention concerning the wholesale provision of call origination on public telephone networks provided at a fixed location in Malta.

In line with the cooperation agreement signed on 20th May 2005 between the MCA and the Office of Fair Competition, succeeded by the Office for Competition forming part of the Malta Competition and Consumer Affairs Authority (‘the MCCA’), the MCA shall initiate a two-week consultation exercise with the MCCA. The MCA will be publishing any comments forwarded by the MCCA at a later stage in the response to this consultation document.

Submissions to this consultation document may be forwarded to the MCA within the period ending on the 15th December 2015.



As required by Regulation 7 of the ECNSR, the MCA shall also notify the results of this consultation exercise and its draft decision to the Commission and to other NRAs in Europe.

## 3.0 PREVIOUS MCA DECISIONS AND LATEST MARKET DEVELOPMENTS

### 3.1 PREVIOUS MCA DECISIONS

The MCA has already carried out two market reviews, in 2006 and 2010, concerning the wholesale provision of fixed voice call origination services provided at a fixed location in Malta. The main conclusions emanating from each market review are provided in the following sub-sections.

#### 3.1.1 FIRST ROUND MARKET ANALYSIS

The MCA carried out its first-round analysis of the market in question in 2006 and the corresponding decision was published in September of the same year<sup>2</sup>.

At that time, the MCA identified the relevant market for wholesale fixed call origination to include:

- wholesale call origination services provided to third parties; and
- self-supplied wholesale call origination services.

GO plc (formerly, Maltacom plc) was designated with SMP in this market, for the following reasons:

- a consistently high market share , observed both in terms of subscriptions and volumes of minutes;
- low average costs per unit of production that could not be matched by new market entrants;
- an ability to charge excessive wholesale call origination prices and to implement price leveraging strategies at the retail level;
- no countervailing buying power to restrict GO's wholesale call origination prices to the competitive level; and
- no threat of potential market entry.

In view of the identified competition problems and the designation of SMP, the MCA imposed on GO the obligations of access, transparency, non-discrimination, price control and cost accounting.

#### 3.1.2 SECOND ROUND MARKET ANALYSIS

The MCA notified the EU Commission with its second round market review of wholesale fixed voice call origination on 23 September 2009<sup>3</sup>. The corresponding MCA decision was published on 18th

---

<sup>2</sup> The notification of this review was registered by the Commission as Case MT/2006/0387.

Link to MCA 2006 Decision: <http://www.mca.org.mt/sites/default/files/attachments/decisions/2012/wholesale-call-orig-term-trans-fixed.pdf>

<sup>3</sup> The notification of this review was registered by the Commission as Case MT/2009/0979.

January 2010<sup>4</sup>, whereby the MCA re-established that the local market for wholesale call origination on public telephone networks encompasses:

- the provision of wholesale call origination services to third parties; and
- the self-supply of wholesale call origination services.

The relevant market comprised wholesale call origination services provided over public telephone networks based on copper, cable and Broadband Wireless Access (BWA) infrastructure.

The geographic market was found to be national in scope.

Based on its market analysis, the MCA reaffirmed GO's SMP position in the market under investigation.

In view of the identified competition problems and the SMP finding, the MCA imposed ex ante regulatory obligations on GO including:

- access to wholesale call origination and associated services, where any decision by GO to withdraw access to such facilities is first to be authorized by the MCA;
- non-discrimination;
- transparency;
- accounting separation; and
- price control and cost accounting.

As for the price control obligation, the MCA specifies that interconnection and access to wholesale call origination services provided by GO must be cost-oriented. To this effect, the MCA underlines that the CS/CPS rate has to be obtained by means of a cost model and that the WLR has to be implemented by means of a retail minus price control method.

## 3.2 MARKET-RELATED DEVELOPMENTS

In this sub-section, the MCA sets out the context and most important developments related to the provision and take-up of wholesale call origination services in Malta. Particular attention is given to data submitted directly by local service providers, namely GO plc, Melita plc, Vodafone (Malta) Ltd, Ozone (Malta) Ltd, SIS Ltd and Vanilla Telecoms Ltd. Figures are presented in quarterly intervals for the years 2010 to 2014.

### 3.2.1 CONTEXT

There are currently several alternative infrastructure-based sources of supply of wholesale fixed call origination services in Malta. These are referred to below:

---

<sup>4</sup> Link to MCA 2010 Decision: <http://www.mca.org.mt/service-providers/decisions/wholesale-call-origination-services-provided-fixed-telephone-networks>

- The traditional copper network infrastructure is owned by GO. In 2007, GO upgraded its circuit-switched network to a packet-switched alternative. The soft switch solution adopted by GO changed the circuit-switched core network to a multi-service network, capable of carrying voice services in combination with an array of other electronic communications services. This operator is also in the process of fully upgrading its network from traditional copper to FTTC, which employs almost the same structure as traditional copper, except that fibre is deployed between the street cabinet and a smaller number of exchanges. GO has also started deploying FTTH to various areas in Malta.
- Melita plc owns a hybrid fibre coaxial (HFC) network infrastructure, which now uses DOCSIS 3.0 technology. This platform supports a broad range of IP-based solutions, including IP-based voice telephony on a national level.
- Ozone (Malta) and Vanilla Telecoms are also offering wholesale call origination services over a Broadband Wireless network infrastructure to their own retail arms in order to supply voice over IP and fixed broadband services to end-users.
- Vodafone (Malta) self-supplies wholesale call origination services over a broadband wireless access (BWA) network infrastructure to offer retail voice over IP services and retail fixed broadband services. However, these services are only available to a restricted client base (legacy clients) since April 2011.

The ownership of a network infrastructure allows the above-mentioned operators to self-supply wholesale call origination services to their own retail division and thus to compete in the provision of fixed access and voice telephony services to the end-user.

However, only GO is providing wholesale call origination services to third parties in the form of a Carrier Select (CS) / Carrier Pre Select (CPS) service. This operator also provides CS / CPS services in combination with a WLR service on a national basis. There is currently one service provider that is making use of the CS/CPS and WLR services supplied by GO. This service provider is Ozone (Malta), which apart from offering fixed line access via GO's CS facility, also provides access to the public telephone network via a wholesale line rental (WLR) hosted by GO. It is also relevant to underline that Ozone (Malta) does not solely rely on GO's infrastructure to offer retail fixed access and call services to the end-user as it owns a separate fixed wireless access network infrastructure, which it uses to offer these same services on a nationwide basis.

## 3.2.2 MARKET TRENDS

Given that demand for wholesale call origination services is intrinsically linked to demand for retail fixed telephony services, particular attention shall be given to a number of relevant retail market trends.

### 3.2.2.1 Take-up of fixed access

The first retail market trend to be discussed relates to the take-up of fixed access (or fixed line rental).

Chart 1 below illustrates that the number of fixed line connections totalled 230,361 at the end of 2014, which is down by 7.0% from 247,635 at the end of 2010. This drop does not represent any significant drive by end-users to cut the cord with fixed line telephony but reflects GO's decision to remove inactive customers from its database, specifically those subscribed to the Easyline pre-paid service, and ongoing efforts by local service providers to move clients to post-paid contracts. The number of fixed line connections on a post-paid contract<sup>5</sup> increased by almost 17,000 between 2010 and 2014.

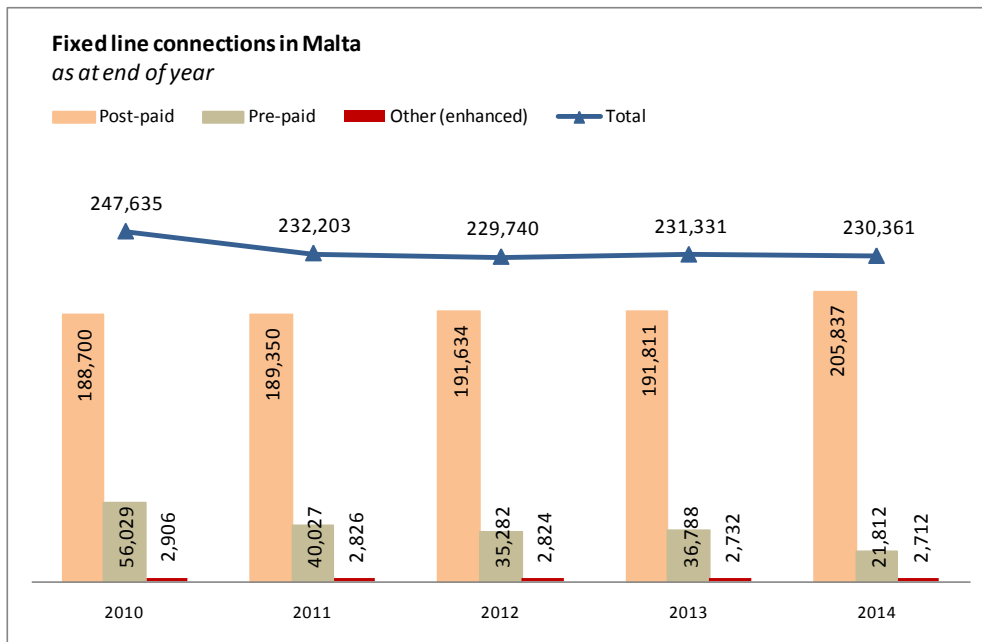


Chart 1: Number of fixed line connections (or access lines) in Malta

A cursory look at developments by operator reveals that GO maintains the largest number of fixed line connections. Nevertheless, this operator has gradually lost 38,000 subscriptions since 2010, in contrast to gains reported by alternative service providers, which saw their subscriber base expand by almost 21,000 connections (or 21,000 retail fixed access lines). This development is of major significance to GO, given that the declines reported by this operator happened at a time when the total fixed line subscriber base shrank in size.

<sup>5</sup> Fixed line connections supporting multiple lines are taken into account as a post-paid product, given that these are typically offered on a contract with a specified term period.

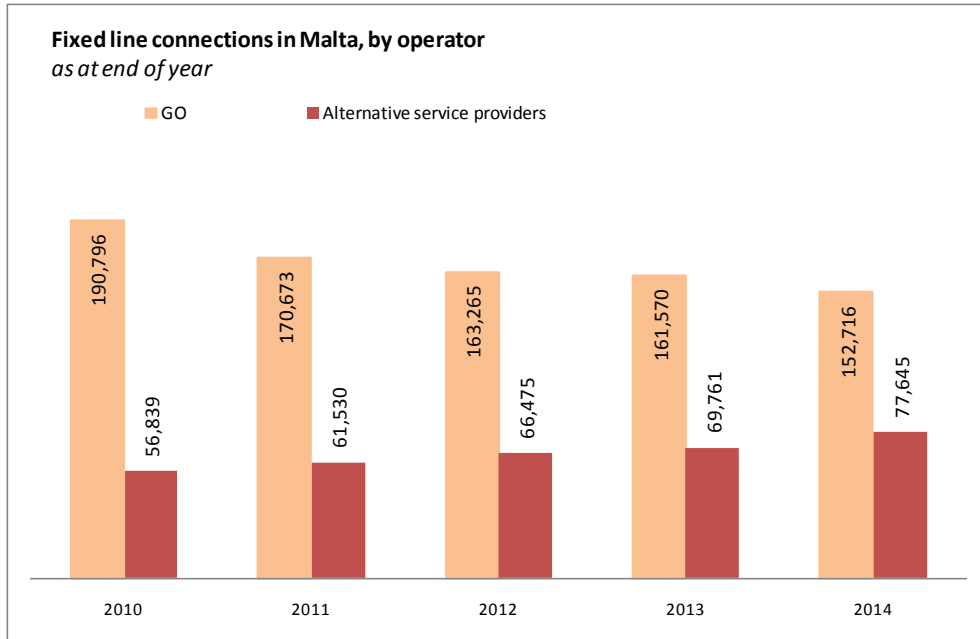


Chart 2: Operators' market share of fixed line connections

It is also relevant at this juncture to recall that Ozone's WLR-based connections only accounted for 300 fixed line connections at the end of last year, down by 480 (or by 61.5%) from 780 recorded at the end of 2010. This means that the proportion of Ozone's WLR-based fixed line connections to the total stood at just 0.1% at the end of 2014.

In line with trends observed above, GO has also lost market share in terms of originating fixed line call minute volumes. Chart 3 shows that this operator's market share fell in this instance by almost seven percentage points between 2010 and 2014. Meanwhile, the market share of alternative service providers strengthened by the same margin.

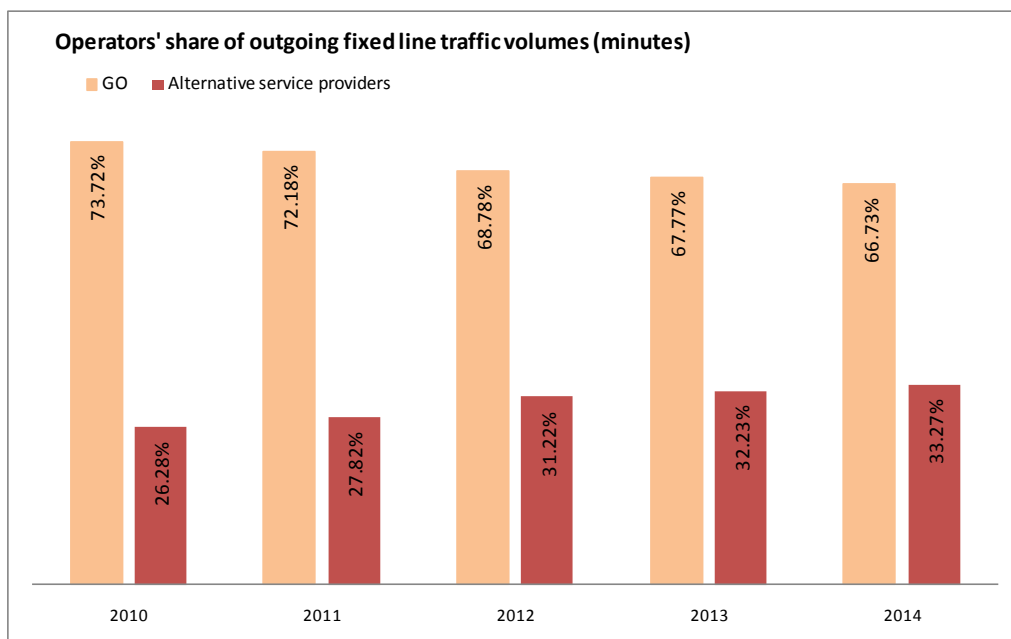


Chart 3: Operators' market share of fixed-originating call minute volumes

### 3.2.2.2 Bundling of fixed access and voice calls

Local end-users typically purchase fixed access and voice call services from the same service provider in the form of flat rate plans, paying a monthly access fee and getting in return a 'free' minute allowance.

Meanwhile, not only end-users prefer acquiring flat rate packages, but the retail norm is increasingly tending towards the acquisition of such plans as part of a broader bundle package, combining several electronic communication services, such as pay TV and / or fixed broadband.

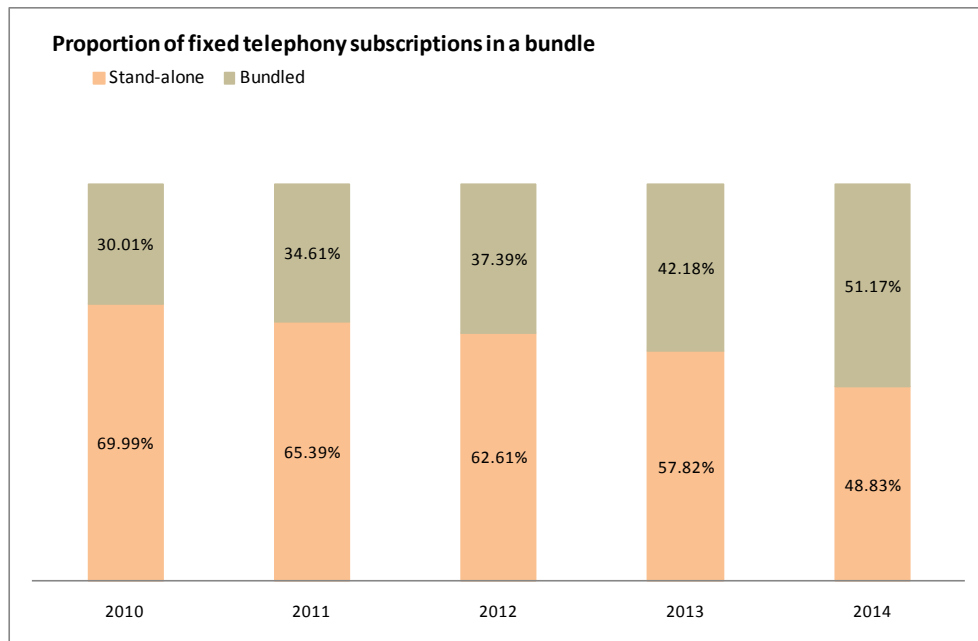


Chart 4: Proportion of fixed line connections in a bundle

The number of end-users purchasing their fixed telephony plan in a bundle climbed by almost 43,545 (or by 58.6%), from 74,322 at the end of 2010 to 117,867 at the end of 2014.

Chart 4 above further confirms the increasing popularity of the bundle purchase option. In fact, the proportion of fixed telephony connections purchased in a bundle went up from around 30.0% at the end of 2010 to 51.2% at the end of last year.

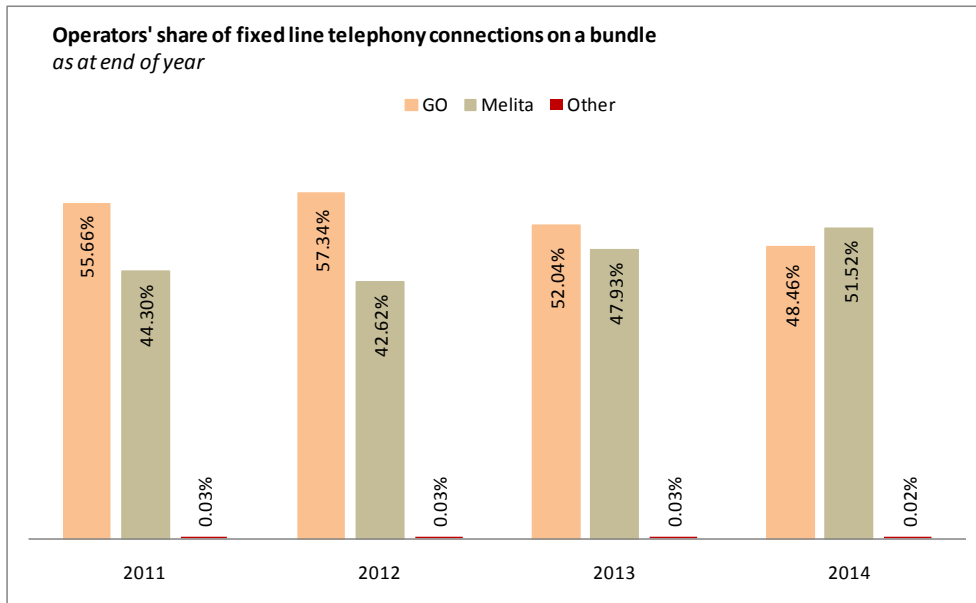


Chart 5: Operators's share of all fixed line telephony connections on a bundle

A cursory look at the share of each local service provider of the number of fixed line telephony subscriptions on a bundle shows that Melita accounted for 51.5% of all such subscriptions at the end of 2014, up from 44.3% at the end of 2011. Meanwhile, GO's share was down from 55.7% to 48.5%, whilst the combined share of other operators remained negligible.

### 3.2.2.3 Fixed-to-mobile substitution

Mobile usage has accelerated significantly over the last few years, in contrast to dwindling usage of fixed telephony.

However, the MCA observes that fixed-to-mobile substitution holds ground on the basis of traffic volumes (see Chart 6, below), as no net substitution between mobile access and fixed line access has been observed over the last few years (see Chart 7, below).



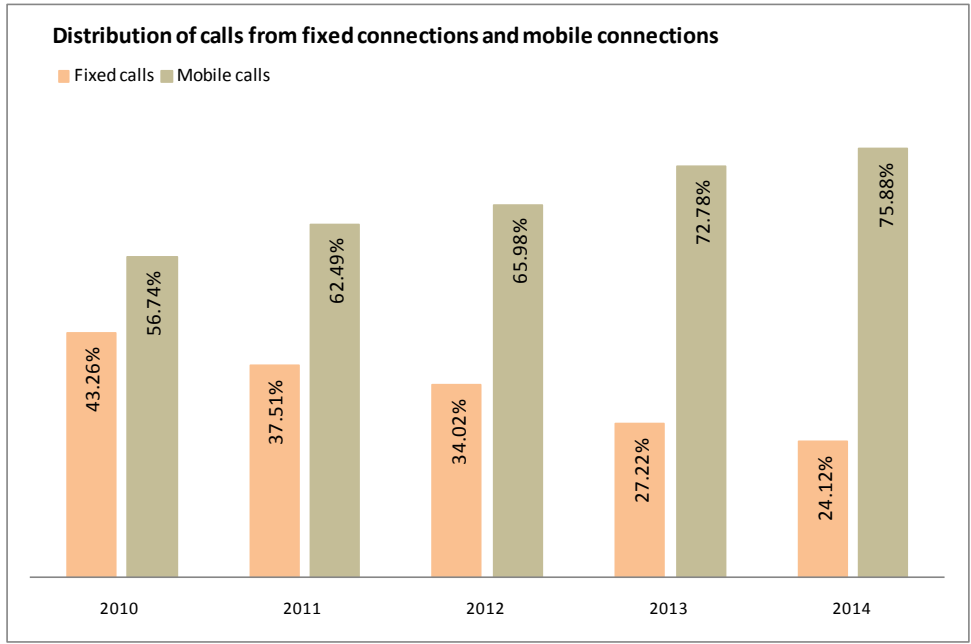


Chart 6: Proportion of fixed calls and mobile calls of all voice call traffic

There are specific reasons as to why end-users are not cutting the cord with fixed telephony as their usage of mobile gathers momentum. First, mobile telephony access and fixed telephony access still feature some distinctive characteristics. For example, fixed telephony access is considered more of a household service whilst mobile telephony access is deemed to constitute more of a personal one. Meanwhile, people are increasingly on the move and therefore find mobile telephony very convenient in meeting their day-to-day communication requirements. This is because mobile access allows an end-user to contact a third party on the spot, irrespective of location. On the other hand, an end-user can only make use of fixed access to communicate with a third party from a specific location.

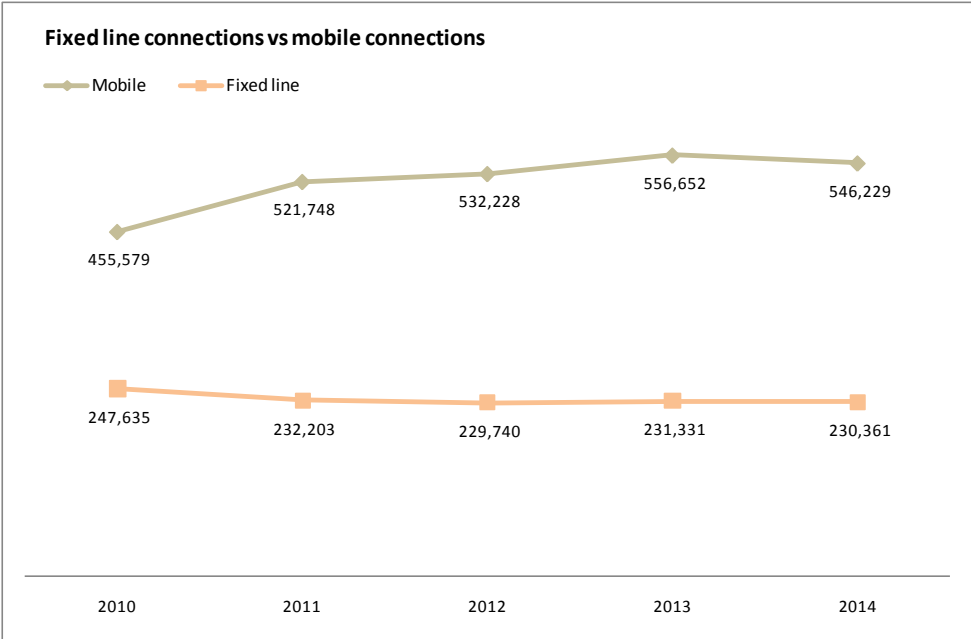


Chart 7: Mobile access vs. fixed access

Second, fixed access allows for service functionalities, such as fax, which are not available via mobile access.

Third, pricing considerations and perceptions support the view that fixed access and mobile access are indeed complementary in nature rather than substitutable. There are considerable differences between mobile tariffs and fixed line tariffs, specifically when considering the applicable rates for calls made beyond the allocated minute allowance. End-users also generally feel that mobile call rates are still higher than fixed call rates.

## 4.0 MARKET DEFINITION EXERCISE

The MCA is carrying out a demand-side and supply-side substitutability assessment to identify the relevant market(s) in the provision of wholesale call origination on public telephone networks provided at a fixed location in Malta. The following considerations will be made throughout this exercise:

- the extent of direct constraints arising from the presence of a number of service providers in the supply of wholesale fixed voice call origination;
- the definition of a single wholesale market or distinct wholesale markets, given the distinction between lower level, higher level and enhanced level markets for retail access;
- the geographic scope of the relevant market(s); and
- the composition of the product market.

### 4.1 BACKGROUND

The MCA takes full account of all applicable guidelines and recommendations issued by the European Commission in defining the relevant market(s) concerning the provision of wholesale fixed call origination services in Malta.

The MCA assessment is forward looking in nature and seeks to determine the boundaries of the identified markets by assessing constraints on the price setting behaviour of firms.

Three main types of constraints are considered: demand-side substitution, supply-side substitution and the homogeneity of competitive conditions for the services under investigation.

The substitutability assessment rests on the logic of the HMT test and follows the principle of technology neutrality.

### 4.2 SUBSTITUTABILITY AND DIRECT CONSTRAINTS

The following assessment shall determine whether or not fixed voice call origination services supplied by GO and alternative service providers are substitutable to each other and thus whether the pricing of the services under consideration is directly constrained by such substitutability.

The effectiveness of direct constraints in the provision of wholesale call origination services is assessed by taking into account demand-side and supply-side considerations at the wholesale level.

#### Demand-side substitutability

From a demand-side point of view, a direct constraint on GO or any other service provider would arise if a 5 to 10% increase in the price of fixed call origination would induce a wholesale customer to switch to a substitutable product offered by an alternative service provider, such as to render the price increase unprofitable.

It is relevant to underline here that GO is currently self-supplying wholesale call origination services to its own retail arm and is the only market player supplying fixed call origination services to third parties in Malta. Nevertheless, alternative service providers, which are currently self-supplying the service to their own retail arm, have the necessary infrastructure and capacity in place to start supplying wholesale call origination services on the merchant market. This would suggest that if a SSNIP is implemented by GO on its wholesale call origination services, the third party purchasing these wholesale services may seek to switch to potential alternative service providers.

The third party may also seek to establish a new access network infrastructure and thus build a direct link to end-users. Local experience has shown that this is possible, as evidenced by the market entry of operators deploying their own nationwide network infrastructure. Although the cost of infrastructure investment will be considerable and sunk, the deployment of multiple wireless networks shows that this cost does not act as a barrier to entry.

Another option for the third party would be to purchase or lease an established network connection to the end-user either via the acquisition of leased lines and/or the rental of local loops. Such a course of action would also entail considerable financial outlays and an element of sunk costs.

The MCA therefore considers that, in the event of a 5 to 10% increase in price, wholesale customers of fixed call origination services may switch to similar services supplied by alternative service providers or else switch to self-supply mode by adopting a ladder of investment approach and start deploying the necessary network infrastructure.

### Supply-side substitutability

The main consideration here is whether a 5 to 10% increase in price of wholesale call origination by a hypothetical monopolist would induce an alternative service provider to start offering a similar wholesale service to third parties.

It is relevant to underline at this juncture that alternative service providers to GO are currently self-supplying wholesale call origination services to their own retail arm. There seems to be no limitations to the potential for increased self-supply, given that these operators are managing to cater for a sustained increase in demand for their retail voice telephony services.

These alternative service providers have deployed their own access network infrastructure and have all the necessary interconnection agreements in place to allow their subscribers to exchange calls with all local telephone numbers. It is therefore technically possible for Melita, and to a certain extent other alternative service providers to convert self-supplied fixed call origination services to merchant market supply, in the event of a 5 to 10% increase in price implemented by a hypothetical monopolist, sufficiently quickly and without incurring significant additional costs.

### Preliminary conclusion

The MCA considers that wholesale call origination services supplied by GO, Melita, Ozone (Malta), SIS, Vanilla Telecoms and Vodafone (Malta) form part of the same relevant market. The relevant product market includes self-supplied services.

Alternative service providers, but most notably Melita, are posing a direct constraint on the pricing behaviour of GO. This is because wholesale customers can switch between substitutable wholesale call origination products supplied by alternative market players.

### 4.3 MARKET SEGMENTATION

The MCA distinguishes between different forms of retail fixed line access, which local end-users can acquire for the purposes of making and/or receiving telephone calls and related services.

This distinction is expressed in the latest MCA market review concerning the provision of retail fixed access in Malta. The reasoning put forward for identifying these distinct retail access markets stands on the knowledge that products featuring under these different market segments exhibit differing functional characteristics and pricing differentials.

Lower level access is typically earmarked for low volume users, that is, customers requiring not more than one channel for the purposes of accessing fixed line services such as voice telephony and/or the transfer of data services by way of faxes. Due to technological convergence, lower level access comprises fixed access offered via standard conventional PSTN connections, access offered via standard cable-modem connections, and access offered via wireless connections. Typically, these access products broadly reflect similar functional attributes irrespective of the distinctive underlying technological qualities; thus are by definition easily substitutable. Furthermore, there appears to be a continued convergence in prices for the different access products offered over the different technology platforms.

Higher level and enhanced access is earmarked for users with higher capacity requirements, that is, consumers requiring more than one channel (or multiple channels) for the purposes of accessing services such as voice telephony and/or the transfer of data services. Furthermore, the identified higher level access markets encompass products - namely, ISDN BRA, ISDN PRA/FRA offered by GO and multiple line solutions offered by Melita - that are more expensive than lower level access products, given their advanced call characteristics and related business application services (such as abbreviated dialling and sign-up services) . The MCA also notes that the possibility for supply-side substitution between lower level access and higher level access is very limited, especially across technological platforms.

The main consideration at this stage is therefore whether the distinction between lower level retail access and higher level retail access would impinge on the market definition for wholesale fixed call origination, given that both fixed access and call services are typically sold together as a package at the retail level.

In this regard, the MCA notes that GO's wholesale call origination services are basically offered in a way that allows third parties to cater for the needs of both residential and non-residential users. Furthermore, GO's WLR offer is effectively used for the provision of all types of access. The MCA recognizes that GO is currently the sole provider of wholesale fixed call origination and WLR. Nevertheless, this should not inhibit wholesale customers from approaching alternative service providers in the merchant market, given that such alternative service providers are already self-supplying these same services to their own retail arm and have all the necessary infrastructure in place to increase output and thus to accommodate demand from third parties.

It is also relevant to underline that alternative service providers can readily start supplying the merchant market with wholesale call origination in the event of a SSNIP implemented by a hypothetical monopolist, without incurring significant additional costs. As is the case with GO, all local service providers are in a position to offer wholesale call origination services that cater for all market demand, irrespective of whether such demand will be used to supply lower level access and/or higher level access at the retail level.

### Preliminary conclusion

Wholesale call origination services are supplied to third parties regardless of the intended recipient at the retail level. There are indeed no technical barriers for a service provider to supply call origination services intended for the needs of both residential and business end-users, including those requiring higher level and enhanced access services.

The MCA therefore considers that there is no need to apply the distinction between the lower level and higher level access type of products in respect of the wholesale call origination market.

## 4.4 PROPOSED DECISION ON THE RELEVANT PRODUCT MARKET

The MCA defines the provision of wholesale call origination services on the public telephone network provided at a fixed location as involving the setting up, switching and connection of a voice call to its next stage, this being either the interconnection stage or the termination stage.

Based on the analysis presented above, the MCA considers the relevant product market for wholesale fixed call origination to include:

- call origination services provided to third parties; and
- self-supplied call origination services.

The relevant market includes the provision of wholesale call origination services over copper / fibre, cable and wireless networks.

The current conditions of competition are also deemed to be geographically homogenous in the identified wholesale market. The market in question is indeed subject to a national pricing constraint, as local service providers do not differentiate their call origination services in terms of pricing and availability by reference to their geographic location.

## 5.0 THREE CRITERIA TEST

### 5.1 ASSESSMENT OF COMPETITION IN THE IDENTIFIED MARKET

Having identified, in the previous chapter, the relevant wholesale market for the provision of call origination on public telephone networks in Malta and given that the Recommendation no longer lists this market as being susceptible to ex ante regulatory intervention, the MCA is carrying out the Three Criteria Test to establish whether this is the case for Malta.

The Three Criteria Test stipulates that ex ante regulatory intervention in a market would only be warranted if its competitive dynamics are characterised by:

- high and non-transitory barriers to entry (structural, legal, or regulatory);
- no tendency towards effective competition; and
- inadequate competition law to address any potential market failure in the absence of ex-ante regulation.

The Recommendation specifies that the above-mentioned criteria must be met cumulatively before a market can be identified as being susceptible to ex ante regulation. In case one of these three criteria is not met, the market under investigation would not be considered as being susceptible to ex ante regulation. In such a scenario, an already regulated market would have to be deregulated.

### 5.2 ASSESSMENT OF THE FIRST CRITERION

The assessment of the first criterion looks into whether or not the wholesale market in question is subject to high and non-transitory barriers to entry.

There are indeed circumstances wherein newer market entrants face significant challenges to enter a particular market, especially if the market concerned is mature and saturated or else in decline.

Newer market entrants would also be particularly disadvantaged if the market in question displays significant barriers to entry. Barriers to market entry can be of a structural, legal, or regulatory nature. To this effect, the MCA highlights upon a number of factors that can possibly deter market entry in the identified wholesale market, including:

- sunk costs and control of infrastructure not easily replicated;
- economies of scale and scope; and
- vertical integration.

As for legal or regulatory requirements, the MCA considers that these do not affect the costs of market entry and are considered to pose a minimum burden in the circumstances.

## 5.2.1 SUNK COSTS AND INFRASTRUCTURE REPLICABILITY

Sunk costs are the costs that a new market entrant must incur when investing in the access network infrastructure necessary to provide a particular service and which are not recovered on market exit.

The MCA notes that a new market entrant can offer wholesale call origination services by primarily investing in an own-built network. This option requires a large upfront investment, most of which will be considered as sunk cost given that investment outlays cannot be recovered if the entrant decides to exit the market.

The MCA however notes that, notwithstanding the significant upfront investment needed to deploy a nationwide network infrastructure, most of which can be considered to be sunk cost upon exit, new entry still took place by way of Melita and other service providers self-supplying wholesale call origination services.

The MCA therefore considers that while sunk costs are surely to be significant in the market under investigation and a major consideration when entities formulate their investment plans, these are not as high as to inhibit market entry. This notion is further reinforced with the deployment of wireless networks which entail much less cost and effort to deploy as opposed to the copper network.

## 5.2.2 ECONOMIES OF SCALE

Economies of scale refer to the cost reductions that a business may enjoy as it expands its production and penetrates the market in which it operates. Economies of scale are generally achieved because as production increases, the cost of producing each additional unit falls, provided that fixed costs, among other elements, are shared over an increased number of units. On the same lines, the additional costs incurred by a fixed telephone operator will fall as more subscribers are roped in.

With reference to the local scenario, the MCA observes that alternative service providers to GO have already been active in the retail fixed telephony business for a number of years. Moreover, the MCA notes that, most notably, Melita managed to intensify its presence in the fixed telephony sector, at the expense of the incumbent operator GO. By capturing a larger market share, Melita achieved higher economies of scale.

Furthermore, alternative service providers are already self-supplying fixed call origination to their own retail arm (for the purposes of providing retail fixed telephony services). They also have the necessary capacity to cater for immediate and future demand of fixed call origination.

The MCA therefore considers that while economies of scale for GO are expected to remain high, these are not posing and should not pose a significant constraint on market entry within the timeframe of this review. Likewise the MCA is of the opinion that, given its strengthening market presence, Melita can enjoy higher economies of scale within the timeframe of this review.

## 5.2.3 ECONOMIES OF SCOPE



Economies of scope refer to the unit cost reduction of a particular service as it results from being produced jointly with another service by the same firm. In this regard, costs may be saved where common processes or technological infrastructures are used in the provision of a group of services. Likewise, when an operator is present in a large number of markets it can share common cost over a greater range of services.

With reference to this, the MCA notes that one of the alternative service providers, Melita, is offering multiple services directly to the consumer, including but not limited to fixed line telephony. This horizontal integration enables Melita to benefit from economies of scope, where the average costs of production are lower given that these are shared over a greater range of services (given the cost savings on common processes).

It may however be argued that smaller alternative service providers, namely Ozone (Malta), Vodafone (Malta), SIS and Vanilla Telecoms, lack economies of scope as their product line-up remains rather limited. It is acknowledged that these service providers may find it difficult to mark their presence with sufficient scale, at least in the short term. Nevertheless, their market entry materialised despite GO and other service providers enjoying significant economies of scope.

The MCA therefore considers that economies of scope do not pose a significant constraint to entry in the market under investigation.

#### 5.2.4 VERTICAL INTEGRATION

Vertical integration involves an undertaking operating in a given market, while also being operative in a market that is at a higher or lower level in the chain of provision. Put differently, an undertaking may decide to enter a market by investing in both upstream access to infrastructure markets and downstream service provision markets, as this may give the undertaking a competitive edge over existent and potential competitors by way of market power leverage from upstream to downstream markets.

Ultimately, the presence of vertically integrated service providers may deter potential market entry by making it difficult for new entrants at the retail level to obtain the necessary inputs at a competitive price in the absence of regulation. Similarly, the vertically integrated provider can engage itself in a number of non-price leveraging strategies that may take the form of delaying tactics and withholding of information, amongst others.

With reference to the market under investigation, the MCA notes that Melita and to a limited extent other alternative service providers have mirrored the vertically integrated structure of the incumbent in the provision of several electronic communications services. GO and alternative service providers self-supply wholesale call origination services, whilst GO also supplies fixed call origination services to an independent CS /CPS operator Ozone (Malta). The latter operator also has a separate access network infrastructure in place, which it uses to self-supply its own retail arm with fixed call origination services. As is the case with GO, alternative service providers have sufficient spare capacity to cater for existing and new demand for fixed call origination. In this regard, the MCA is of the opinion that the service providers in question can compete at par on this matter.

Therefore, the efficiencies stemming from vertical integration are not only available to the incumbent. To this effect, it is considered that Melita could also avail of stronger scale efficiencies resulting from its vertically integrated structure and increasingly stronger retail customer base.

Melita can also readily switch from self-supplying fixed call origination to supplying the merchant market with this service, without incurring significant additional costs. This means that in the case of a SSNIP for fixed call origination supplied to third parties by GO, the existing CS / CPS operator may also decide to switch to this alternative service providers.

Overall, the MCA considers that vertical integration does not and should not pose a constraint on market entry within the timeframe of this review.

## 5.2.5 CONCLUSION ON THE FIRST CRITERION

The market under investigation is not characterized by entry barriers that weaken or prevent competition. This is because of the presence of various service providers supplying substitutable wholesale call origination services provided at a fixed location in Malta. In fact, newer market entrants have deployed their own network infrastructure in parallel to GO.

## 5.3 ASSESSMENT OF THE SECOND CRITERION

The application of the second criterion involves examining whether or not a market under investigation has characteristics such that it will tend over time towards effective competition without the need for ex ante regulatory intervention.

To this effect, the MCA looks at and investigates a number of competition-related factors to determine whether or not the wholesale market under investigation is moving towards a competitive outcome. These include:

- market share developments;
- potential market expansion and indirect constraints; and
- the extent of countervailing buyer power (CBP).

These factors are considered in the following sub-sections.

### 5.3.1 MARKET SHARE DEVELOPMENTS

There are currently six service providers that are supplying wholesale fixed call origination in Malta. All of these service providers are self-supplying the service in question to their own retail arm. Meanwhile, GO is supplying wholesale call origination services to the merchant market. Alternative operators can also compete directly with GO on the merchant market, given that they all have the necessary infrastructure in place and sufficient spare capacity to supply similar wholesale call origination services to third parties. This means that self-supply is to be taken into account in the forthcoming market share assessment.

It is also recalled that the demand for wholesale call origination is effectively linked to the demand for retail fixed telephony services. Hence, the wholesale market share for fixed call origination is to mirror market share developments at the relevant retail level.

The MCA also considers that a clearer picture of GO's market power would emerge by adding up the number of fixed access lines reported by this operator and the number of fixed access lines making use of Ozone (Malta)'s WLR-based service.

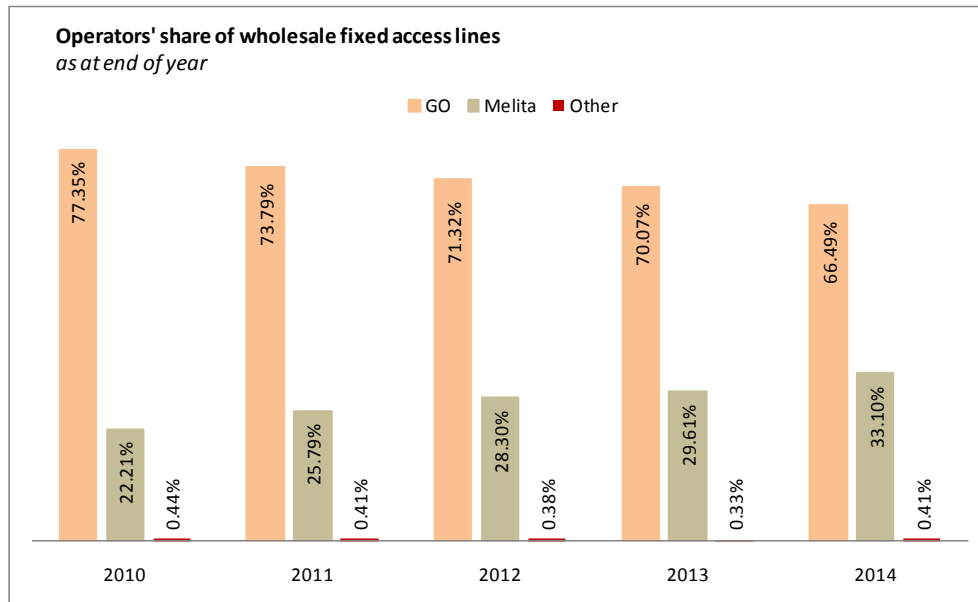


Chart 8: Share of wholesale fixed access lines

Chart 8 illustrates that, even upon the inclusion of WLR-based figures to its total, GO's market share in terms of wholesale fixed access lines fell by ten percentage points between 2010 and 2014, from 77.4% to 66.5% respectively. Meanwhile, Melita's market share grew steadily over the same period to reach 33.1% by the end of last year.

It is also recalled that retail demand for Ozone's WLR-based service fell significantly since its launch in 2007. In fact, Ozone's WLR service accounted for 0.1% of the total number of retail fixed line connections recorded at the end of 2014, down from 0.3% at the end of 2010.

Chart 9 also depicts how Ozone (Malta) has indeed migrated some of its own WLR-based connections to its own wireless network, as the number of connections (in absolute terms) on the latter platform increased from 411 at the end of 2010 to 487 at the end of 2014. Other WLR-based disconnections are most likely explained by switching to alternative service providers.

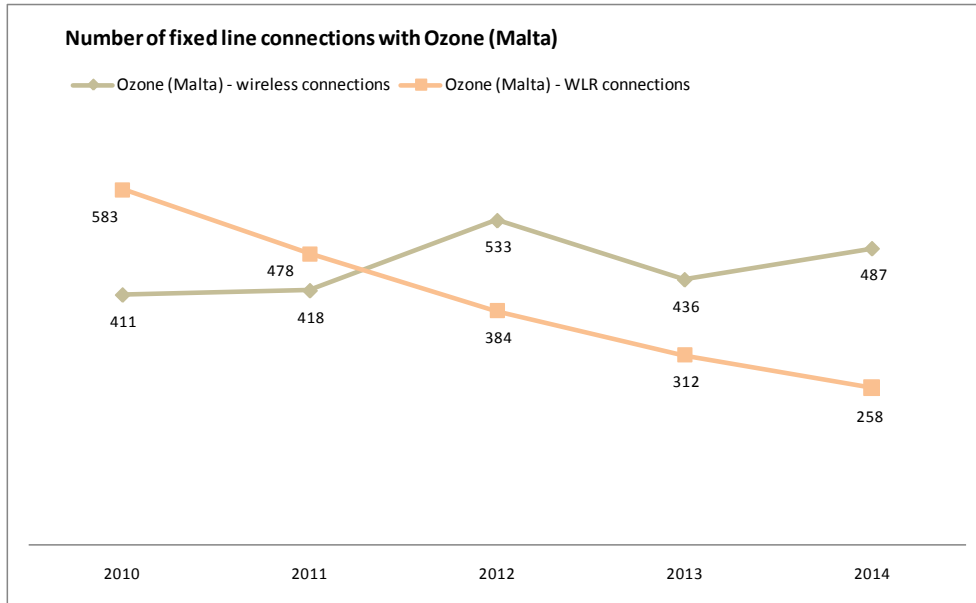


Chart 9: Number of fixed access lines (or connections) with Ozone (Malta)

The current market share assessment also delves into developments concerning wholesale fixed call origination traffic volumes. Data for this indicator is again derived on the basis of originating voice minute volumes recorded at the retail level, which effectively means that the wholesale market share for each operator is to mirror voice usage developments at the retail level. As with the case for the number of fixed access lines, GO's market share in terms of fixed voice call origination traffic takes into account traffic originating over Ozone's CS/CPS-based service. Of note here is the declining proportion of CS/CPS-based originating traffic volumes to the total, from 0.5% in 2010 to 0.2% last year.

Fixed call origination traffic volumes	2009	2010	2011	2012	2013	2014
GO	74.88%	73.72%	72.18%	68.78%	67.77%	66.73%
Melita	24.61%	25.44%	26.25%	28.83%	29.32%	30.05%
Ozone (Malta)	0.33%	0.56%	0.67%	0.92%	0.88%	0.84%
SIS	0.09%	0.17%	0.29%	0.31%	0.34%	0.37%
Vanilla Telecoms	-	-	-	-	-	0.10%
Vodafone (Malta)	0.08%	0.11%	0.61%	1.16%	1.68%	1.91%

Table 1: Share of wholesale fixed access lines

Table 1 (above) shows that GO's fixed call origination traffic volumes fell by almost seven percentage points since 2010. If one were to extract the respective share attributed to supplying third parties, in this case Ozone (Malta), GO would show a decline of six percentage points during the same period.

Meanwhile, alternative service providers to GO experienced a sustained increase in their wholesale call origination market share. Melita's market share improved by almost five percentage points whilst that of Ozone (Malta) and Vodafone (Malta) went up by 0.3 percentage points and 1.8 percentage points respectively.

Whilst GO still enjoys a high share in the market under investigation, alternative service providers have nonetheless managed to successfully improve upon their market position, even when demand for wholesale call origination is in decline. The MCA is of the opinion that this trend will continue to

materialise during the time frame of this review and that alternative service providers will continue to pose a strong and direct competitive constraint on the incumbent GO.

The above-mentioned developments have some important ramifications as to which service provider is selected by the wholesale customer when purchasing a wholesale call origination service. As shown in the market share assessment, GO's market share is gradually falling, as alternative service providers, most notably Melita, register market share gains. These trends increase the scope of existing and new CS/CPS service providers to look elsewhere from GO when seeking access and WLR facilities. The larger the market presence of alternative service providers, the greater is the potential for the CS/CPS service provider to seek wholesale access and call origination from alternative service providers.

However, the MCA considers that the merits of a CS/CPS business model holding on its own are quickly dissipating as retail demand for fixed access and voice telephony services is quickly shifting towards the purchase of such services in bundled packages, combining a suite of electronic communications services, as already highlighted in Chart 4 above. Indeed, 51% of all fixed line telephony connections are purchased in combination with some other electronic communications service, with GO and Melita having around 50% share each of the total number of bundled fixed telephony connections.

The MCA is therefore of the opinion that these market circumstances would constrain GO or any alternative service provider from abusing of their market position when setting their wholesale call origination charges.

### 5.3.2 POTENTIAL MARKET EXPANSION AND INDIRECT CONSTRAINTS

Given that wholesale call origination charges are an input to the overall costs in the provision of fixed telephony services, an increase in the price of the former is likely to be passed (in part or in full) on to retail prices charged to end-users, such as in the form of higher fixed call prices, higher line rental charges or even via an increase in the overall price of bundles including fixed telephony services.

This could ultimately have an impact on the price setting behaviour of an operator in the wholesale call origination market if, for example, end-users switch away from telephony services provided by the retail arm of the incumbent or the WLR-based operator to a similar service provided by one of the alternative market players. The end-user may also decide to disconnect the fixed telephony service supplied by the operator increasing the price or else keep the service but reduce spend on it (by, for example, making less calls or switch to alternative means of communication, such as mobile and / or OTT services).

These issues are discussed in more detail below.

#### 5.3.2.1 Market expansion

The market share assessment has shown that although GO still accounts for a high number of wholesale fixed access lines and strong fixed call origination traffic volumes, alternative service providers have managed to cut the incumbent's overall market position, as evidenced by GO's declining market shares.

Alternative service providers, most notably Melita, have indeed witnessed an increase in the number of fixed access lines and call origination traffic volumes over the last few years. This scenario is likely to persist within the timeframe of this review, for which the MCA anticipates higher market shares for alternative service providers but very limited growth in the overall size of the local fixed call origination market.

It is also recalled that alternative service providers are self-supplying wholesale call origination services and are not likely to face capacity constraints in the supply of these services. This means that, in the event of a SSNIP for wholesale fixed call origination services, Melita could readily switch from self-supply of the services in question to supply on the merchant market and thus pose a direct constraint on the pricing behaviour of competitors. Other alternative service providers may continue investing in their network and also switch from self-supply to supply on the merchant market.

#### 5.3.2.2 Indirect constraints - Unmanaged voice telephony services and OTT

Fixed telephony services offered by local service providers are all IP-based, with each market player having full control over the provision of the service and managing its quality for the purpose of delivering end-to-end voice calls. Typically, these IP-based voice services are provided over the broadband connection supplied to the end-user, although calls to the public switched telephony network (PSTN) network are likely to be supported as well. The standard term used to describe these IP-based voice services is Managed Voice over IP services.

This brings the discussion to another relevant aspect of the fixed voice telephony market, namely the provision of Unmanaged Voice over IP services. These kinds of services encompass data-based channels of communications supplied by service providers that operate Over-The-Top (OTT) of an available broadband connection. Examples of such OTT providers include Skype, Google Voice, mobile messaging and social networking sites. An end-user subscribing to an OTT service may call another end-user subscribed to the same service for free, although it remains possible for the end-user to make and receive calls from the PSTN at a charge.

The MCA does not have the actual usage figures for OTT traffic volumes. Nevertheless, it is aware that end-users are increasingly using such services, possibly at the expense of the traditional telephone calls. In fact, the MCA's consumer survey for fixed telephony carried out in 2013 indicates that around 18% of local households use OTT services such as Skype and MSN to make local calls. Furthermore, the majority of end-users making local calls over these services believe that they are a good substitute to fixed line telephony.

Although the MCA considers that OTT calls do not fall in the same retail market for Managed Voice over IP services, mainly because of quality and reliability differences between the two types of calls, the indications that more end-users are opting for these services goes to suggest that, in the future, these services can pose an additional indirect constraint on the pricing of wholesale call origination services.

#### 5.3.2.3 Indirect constraints - usage of mobile telephony services

The MCA argues that whilst consumers in Malta still hold value to have a fixed line connection at their residence, mobile usage has increased significantly in recent years. Usage patterns suggest that

fixed-to-mobile substitutability could potentially constrain an increase in price for wholesale fixed call origination. This may happen if, for example, end-users keep their fixed line service but reduce the number of calls they make via this service and increase their mobile calls instead.

Market trends clearly indicate that mobile usage levels soared over the last few years as opposed to falling usage levels for fixed telephony. It is recalled here that fixed voice traffic volumes have fallen well below those recorded for mobile telephony, both in terms of voice calls and voice call minutes originating from mobile. In the case of voice call minute volumes, Chart 10 shows that mobile-originating voice minutes recorded in the second half of 2014 were 32.5% higher than recorded in the first half of 2012. Meanwhile, fixed-originating minutes were 16.3% lower.

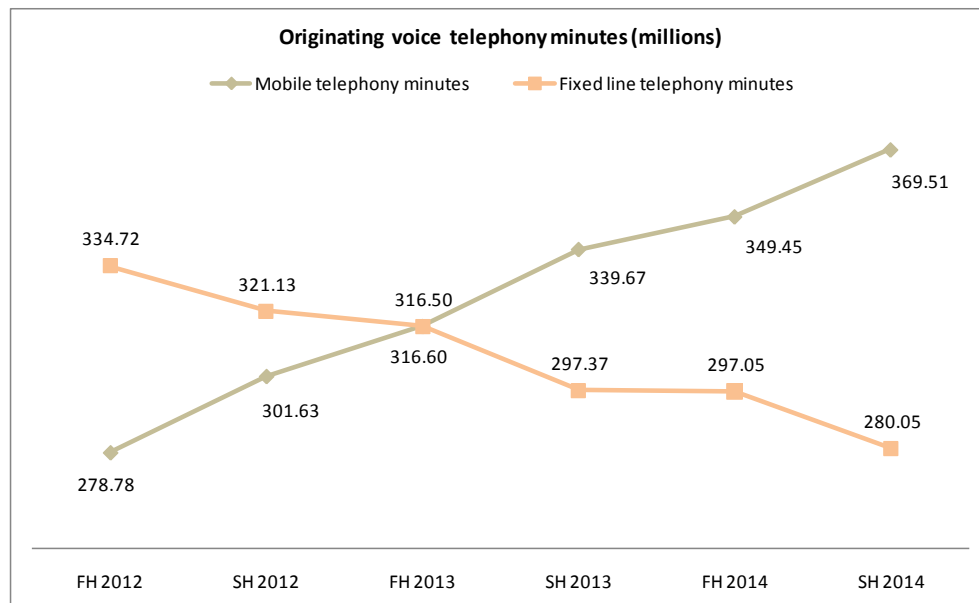


Chart 10: Originating voice traffic minute volumes

The MCA however remains of the view that mobile call origination is a separate market to fixed call origination and therefore it poses an indirect constraint on the pricing of wholesale fixed call origination, for the following reasons:

- Consumers still value having a fixed access line at their disposal with no net substitution observed between mobile access and fixed line access. This in turn signals that although mobile usage has accelerated significantly over the last few years, end-users still prefer to have a fixed line connection readily available at their residence or business premises.

Furthermore, local service providers operate parallel fixed access and mobile access network infrastructures. This in itself suggests that service providers appreciate the different attributes of fixed telephony and mobile telephony services and the distinct complementary value that end-users place on the two services.

- Whilst a fixed line connection is typically purchased on behalf of a household or a business and thus shared between several individuals, a mobile service is more personal in nature, given that it is typically used by one individual. This factor, combined with low levels of consumer awareness of fixed and mobile telephony charges, changing consumption patterns, varying user preferences, a multitude of retail pricing structures and the availability of call minute allowances serve to limit the extent to which mobile-based retail

services could effectively pose an indirect constraint on the pricing of wholesale fixed call origination.

### 5.3.3 COUNTERVAILING BUYER POWER (CBP)

Customers with a strong negotiating position may significantly shape the level of competition in a market as this will tend to restrict the undertakings' ability to exercise market power and to act independently of their customers. In effect, when customers can exert significant pressure on the supplier of a good or service, they can effectively stop an attempt to increase prices by service providers. The extent of countervailing buyer power (CBP) will however depend on whether customers could, at the outset, choose to discontinue the service being provided by a particular supplier and switch to alternative providers, within a short period of time and at reasonable cost.

This section shall therefore determine whether wholesale customers of fixed call origination have the necessary ability to exercise market power and to constrain the price setting behaviour of their service provider. It is considered that the stronger the negotiating position of the wholesale customer, the less likely it is for the service provider to set its wholesale fixed call origination charges above the competitive level.

As stated before, GO remains the sole supplier of fixed call origination on the merchant market, which is characterized by one wholesale customer, namely Ozone (Malta). Taking into account the small size of Ozone's CS /CPS business would suggest that this operator cannot effectively constrain GO's pricing of fixed call origination, which means that Ozone would either have to increase the price of its retail call services in the event of an increase in price for wholesale voice call origination or else absorb the full burden of this increase.

Given that WLR-based sales have consistently declined over the last few years, then it is plausible to consider that an increase in Ozone's WLR-based fixed telephony retail charges would only accelerate the demise of this business segment, as end-users would either stop buying this service or else switch to alternative service providers. On the other hand, Ozone may opt to absorb the increase in the wholesale call origination charge. This may safeguard against any immediate losses in business revenues, but would ultimately hurt the long term profitability of the business, given that it would be very difficult for Ozone to recover its costs of operation in the circumstances.

Any of the above developments would ultimately lead to losses in wholesale revenues for GO, which are not offset by gains in the retail market. This is so because an increase in the retail price of fixed services provided by GO or Ozone can lead to end-users switching to other alternative operators, such as Melita. Therefore, GO's pricing behaviour in the setting of wholesale call origination charges is constrained through the existence of alternative providers.

It is also recalled that, in the event of a price increase for fixed call origination, alternative service providers, namely Melita, can readily switch from self-supplying fixed call origination to supplying the service on the merchant market without incurring significant additional costs. As retail market shares of alternative service providers improve the more feasible it would become for a wholesale customer to seek fixed call origination service from one of these service providers.

Overall, the MCA considers that, given the prevailing circumstances and anticipated market developments, local wholesale customers would have sufficient CBP as to constrain any service



provider, including the incumbent, from behaving independently of their service requirements and pricing considerations.

#### 5.3.4 CONCLUSION ON THE SECOND CRITERION

The MCA considers that the market under investigation tends towards effective competition within the timeframe of this review, for the following reasons:

- GO's share in the fixed call origination market is falling, in contrast to the increasing market share of alternative service providers. In this regard, the market share of GO is anticipated to decline further within the timeframe of this market review.
- Melita and to a certain extent other alternative service providers have sufficient spare capacity to meet future demand for fixed call origination services. Melita can also readily switch from self-supplying the wholesale call origination service to offering it on the merchant market.
- A wholesale customer of fixed call origination could also opt for several strategies in order to avoid purchasing an excessively priced wholesale service from GO or any other service provider.

Such market conditions would inhibit service providers from setting wholesale fixed call origination charges above the competitive level.

The MCA therefore considers that the market in question is exhibiting a tendency towards effective competition and that neither GO nor any other service provider enjoys SMP in the provision of relevant products and services.

#### 5.4 ASSESSMENT OF THE THIRD CRITERION

In its assessment of the first and second criteria, the MCA has determined that the market under consideration is effectively competitive as no market player can afford to engage in anti-competitive behaviour, given the competitive constraints posed by the presence of alternative service providers and potential switching by customers.

#### 5.4.2 CONCLUSION ON THE THIRD CRITERION

Overall, the MCA considers that competition in this market is possible in the absence of ex ante wholesale regulation and that competition law, per se, is deemed sufficient to address any potential competition shortcomings.

### 5.4.3 PROPOSED DECISION IN VIEW OF THE THREE CRITERIA TEST FINDINGS

The MCA considers that the market under investigation tends towards effective competition within the timeframe of this review, for the following reasons:

- The incumbent's nationwide access network infrastructure has been fully replicated by Melita, whilst other alternative service providers are investing in the extension of their access network infrastructures. These operators have all the necessary interconnection agreements in place and have sufficient spare capacity to meet future demand for fixed call origination. Melita can also readily switch from self-supplying the service to offering it on the merchant market.
- Alternative service providers have made consistent inroads in the retail fixed telephony markets at the expense of GO and also offer a diversified retail product portfolio. An equivalent trend has been observed in the supply of wholesale call origination, with alternative service providers gaining market share and thus benefiting from better economies of scale and scope in the provision of fixed call origination.
- The market share of GO is anticipated to decline further within the timeframe of this market review. This means that the presence of alternative service providers in direct competition with GO and potential new market entry allows wholesale customers to exercise a strong CBP in the market under investigation.
- In this regard, a wholesale customer of fixed call origination could opt for several strategies in order to avoid purchasing an excessively priced wholesale service from a local operator. Prevailing market conditions therefore inhibit GO and/or any other service provider from setting wholesale fixed call origination charges above the competitive level.

The MCA therefore considers that, given the above-mentioned circumstances, the Three Criteria are not met and therefore ex ante regulation is warranted in the wholesale fixed call origination market in Malta. No operator can behave independently of competitors, customers and consumers when setting the relevant wholesale charges. This situation is likely to persist within the timeframe of this review.

The MCA also deems that, in the absence of ex ante regulation, ex post competition law could effectively deal with any potential issues that may arise in the market.

## 6.0 REGULATORY APPROACH

### 6.1 BACKGROUND

In accordance with regulation 5(4) of the ECNSR, where an operator is designated as having significant market power (SMP) on a relevant market, either individually or jointly with others, the MCA is obliged to impose on such operator appropriate regulatory obligations, referred to in sub regulation (2) of regulation 5 of the ECNSR, or to maintain or amend such obligations where they already exist.

The MCA must ensure that the selected remedies are in accordance with regulation 11(4) of the ECNSR and Article 8.4 of the Access Directive, in that these are:

- based on the nature of the competition problems that have been identified;
- proportionate and justified, in light of the objectives laid down in Article 4 of the ECRA; and
- only be imposed following consultation, in accordance with regulation 7 and Article 4A of the MCA Act.

However, in accordance with regulation 5(3) of the ECNSR, where the MCA concludes that a finding of dominance cannot be ascertained, the MCA is not allowed to impose any specific ex ante regulatory obligations. Where ex ante regulatory obligations already exist in the market, the MCA is to withdraw such obligations subject to an appropriate period of notice to be given to all parties affected by such withdrawal of obligations.

### 6.2 CURRENT REGULATORY OBLIGATIONS

In its second market review decision concerning wholesale fixed call origination in Malta (published in January 2010), the MCA established that GO had SMP in the market in question. As a result, the MCA imposed the following remedies on GO:

#### 6.2.1 ACCESS TO WHOLESALE CALL ORIGINATION AND ASSOCIATED SERVICES

GO is to meet reasonable requests for access to wholesale call origination and associated services.

In particular, GO is obliged to provide CS and CPS services, to negotiate in good faith with any undertakings making new requests for such access and to interconnect its network or network facilities with undertakings making reasonable requests.

GO is also obliged to continue to provide access to its wholesale line rental product so that other operators were in a position to offer end-to-end or new products at retail level.

The above-mentioned services are to be provided in a fair, reasonable and timely manner and in a way that did not differ from those provided to GO's own internal downstream provider.

### 6.2.2 TRANSPARENCY

GO is to make public specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, as well as prices.

This ensures that it delivers services of quality to other operators, under the same conditions as it provides to its retail and downstream providers. GO is also to ensure that alternative operators avail of sufficient information and clear processes to which they would not otherwise have access.

### 6.2.3 NON-DISCRIMINATION

GO is not to show undue preference or undue discrimination when setting prices for wholesale services it supplies to its internal downstream operations. Any such behaviour would be tantamount to a margin squeeze.

GO shall not resort to non-price anti-competitive tactics such as the withholding of information, delaying tactics, undue requirements, low or discriminatory quality, strategic design of products, and discriminatory use of information.

### 6.2.4 PRICE CONTROL

The price control obligation ensures that GO does not charge excessive wholesale call origination prices to maximize both its profits and the costs of competing providers. Higher wholesale call origination charges would translate into higher retail prices and alternative service providers being less able to compete in the retail market at the detriment of end-users.

This obligation mandates cost-oriented wholesale call origination charges to ensure a fair and efficient access to GO's wholesale call origination services.

### 6.2.5 COST ACCOUNTING

This obligation ensures that GO does not implement excessively high wholesale call origination charges or does not impose a margin squeeze.

The implementation of the cost accounting measure provides the MCA with detailed information regarding GO's service costs and ensures that fair, objective and transparent methodologies are followed by this operator in allocating costs to the regulated services.

### 6.2.6 ACCOUNTING SEPARATION

This obligation ensures that GO does not price discriminate between its retail arm and its competitors when providing access and origination at a wholesale level.

It also allows for the disclosure of possible market failures such as cross-subsidization and the application of margin squeeze by the undertaking with SMP.

### 6.3 PROPOSED DECISION ON THE REGULATORY APPROACH

Based on the findings from the Three Criteria Test, the MCA considers that the market concerning the provision of wholesale call origination on public telephone networks provided at a fixed location in Malta is effectively competitive and that no undertaking active in this market enjoys a position of SMP.

Given this conclusion and the provisions under Regulation 5(3) of the ECNSR, the MCA is to withdraw the regulatory obligations that are currently governing GO's provision of services in the market in question. This withdrawal shall be implemented without prejudice to any other general obligations at law.

In order to have a smooth transition from a regulated market to a non-regulated market, the MCA shall withdraw the existing obligations at the expiry of 90 calendar days following the publication of the final decision concerning this market. Current obligations shall continue in effect during these 90 calendar days.

The MCA believes that this notice period is justified and sufficient to allow for all stakeholders to make necessary arrangements for the new regulatory approach to the market in question.

### 6.4 MONITORING OF FUTURE MARKET DEVELOPMENTS

The MCA considers that it is sensible to keep a close watch on the competitive progress of the market identified in this review.

To this end, the MCA intends to analyse market trends and developments on an ongoing basis, and remains committed to issue a new market analysis at any point in time in response to any significant change in market conditions.

In accordance with its powers at law, the MCA is also reserving the right to change any of the above mentioned regulatory obligations following changes in the market structure.

## CONSULTATION QUESTIONS

The MCA would like to ask the following consultation questions with respect to the market review carried above:

- Do you agree with the above preliminary conclusion regarding the market definition concerning wholesale call origination services on public telephone networks provided at a fixed location in Malta?
- Do you agree with the conclusions regarding the assessment of competition based on the Three Criteria Test for the identified wholesale market?
- Do you agree with the proposed regulatory approach for the market under investigation?

The Authority appreciates that respondents may provide confidential information in their feedback to this consultation document. This information is to be included in a separate annex and should be clearly marked as confidential. Respondents are also requested to state the reasons why the information should be treated as confidential. The Authority will take the necessary steps to protect the confidentiality of all such material as soon as it is received at the MCA offices in accordance with the MCA's confidentiality guidelines and procedures. Respondents are however encouraged to avoid confidential markings wherever possible. For the sake of openness and transparency, the MCA will publish a list of all respondents to this consultation.

All responses should be submitted to the Authority, in writing by no later than 2:00PM CET on the 15th of December 2015 and addressed to:

Mr. Patrick Vella  
Chief, Policy and Planning  
Malta Communications Authority  
Valletta Waterfront, Pinto Wharf,  
Floriana, FRN1913  
Malta.

Tel: +356 21 336 840 Fax: +356 21 336 846

Email: [patrick.b.vella@mca.org.mt](mailto:patrick.b.vella@mca.org.mt)