Wholesale Access and Call Origination on Mobile Networks

Identification and Analysis of Markets,
Determination of Market Power and Setting of Remedies

Final Decision

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Executive Summary

The Malta Communications Authority (MCA) is hereby presenting its final decision on the wholesale mobile access and call origination market in Malta, in accordance with the EU regulatory framework of electronic communications networks and services.

The MCA has carried out a national consultation process during the period running from the 21st May 2012 till the 22nd June 2012.

The MCA received two responses from GO and Vodafone (Malta). Overall the two respondents agreed with the conclusions of the report. The MCA has taken into account these responses and provided further justifications for its conclusions in this proposed decision.

Pursuant to Regulation 7 of the Electronic Communications Networks and Services Regulations (ECNSR), the MCA is required to notify its proposed decision to the EU Commission and the body of European Regulators for Electronic Communications (BEREC) which may make comments on notified draft measures. To this effect, the MCA notified its draft decision on 4th July 2012.

During the Phase 1 evaluation, on 13th July 2012, the Commission requested additional information to which the MCA responded in full to such request on 16th July 2012. On the basis of the additional information provided by the MCA and the notification document, on 1st August 2012, the Commission issued its comments letter. The Commission agreed with the conclusion in the draft decision and had no further comments to make.

Summary of Conclusions

Identification of Markets

The group of products and services under consideration in this document consist of wholesale access and call origination on mobile networks. Wholesale services are those sold and purchased by electronic communication providers rather than end-users. In this market the wholesale of such services enables electronic communication providers to sell to end-users the ability to access mobile networks and be able to make and receive mobile calls and other associated services.

In relation to these services, the MCA identified the following economic market in accordance with competition law principles: **wholesale access and call origination on mobile networks.**

The details of the definition of this market, and the approach taken by the MCA when identifying these markets, are contained in **Chapter 3** of this document.

Assessment of Market Power

Based on the evidence presently available to the MCA and after having analysed the operation of this market and taken due account of the Commission's Guidelines on market analysis and the assessment of SMP, the MCA found sufficient evidence to conclude that the wholesale mobile access and call origination market today is effectively competitive and is expected to remain so during the timeframe of this review.

This conclusion is being supported by a number of factors including:

- Barriers to entry, although present, do not appear to be posing a significant constraint;
- New entry has happened – a third network operator and a number of MVNOs which came about voluntarily on a commercial basis rather than by regulation;
- Spectrum availability should not pose a constraint on new entry in the foreseeable future – a number of spectrum bands remain unassigned;
- Vodafone and GO's market position has been somewhat constrained by Melita;
- New products have been - and are being - launched;
- Retail tariffs have gone significantly down;
- Year on year growth in the number of subscriptions has been observed, reaching mobile penetration rates of around 125% as at 2011; and
- A consistently high number of mobile portings has occurred: this shows ease of switching between operators and implies high countervailing buyer power – ease of switching favours new entrants and induces effective competition.

Full details of the MCA's decision and reasoning are contained in **Chapter 4** of this document.

Regulatory Implications

In view of the fact that no operator enjoys single or joint dominance in the wholesale mobile access and call origination market the MCA concludes that it no longer warrants an imposition of obligations on Vodafone and GO. To this effect any existing wholesale regulations are being withdrawn.

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

Chapter 1 Introduction

The European Union regulatory framework for electronic communications networks and services is designed to create harmonised regulation across Europe and aims at reducing barriers to market entry while fostering effective competition to the benefit of industry and consumers. The basis for the regulatory framework is five directives which were originally adopted in the European Union in 2002 and later amended in 2009:

- 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”).

The Framework Directive provides the overall structure for the regulatory regime and sets out fundamental rules and objectives. Article 8 of the Framework Directive sets out the key policy objectives, which have been taken into account in the preparation of this consultation document, in particular, the promotion of competition, development of the internal market and the promotion of the interests of citizens of the European Union.

The Maltese legislation transposing the latest version of the said directives came into effect on 12 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 ‘ECRA’); and the Electronic Communications Networks and Services (General) Regulations of 2011 (hereinafter referred to ‘ECNSR’).The Directives require National Regulatory Authorities (NRAs) such as the MCA to carry out reviews of competition in communications markets to ensure that regulation remains appropriate in the light of changing market conditions.

Each market review is divided into three main parts:

- definition of the relevant market or markets;
- assessment of competition in each market, in particular whether any companies have Significant Market Power (SMP) in a given market; and
- assessment of the appropriate regulatory obligations which should be imposed, given the findings on SMP (NRAs are obliged to impose some form of regulation where there is SMP).

More detailed requirements and guidance concerning the conduct of market reviews are provided in the Directives, the ECRA, the ECNSR and in additional documents issued by the European Commission and the MCA.

As required at law, in conducting this review, the MCA is taking the utmost account of the two European Commission documents discussed below.

1.1 Market review methodology

In 2003 the EU Commission published its first Recommendation on relevant markets, which identifies a set of eighteen markets in which ex ante regulation may be warranted. The Recommendation seeks to promote harmonisation across the European Community by ensuring that the same product and service markets are subject to a market analysis in all Member States. However, NRAs are able to regulate markets that differ from those identified in the Recommendation where this is justified by national circumstances. Accordingly, NRAs are to define relevant markets appropriate to national circumstances, provided that the utmost account is taken of the product markets listed in the Recommendation (Regulation 6 of the ECNSR).

In December 2007 the EU Commission adopted its revised Recommendation on relevant markets. The revised Recommendation presents a much short list of markets which NRAs are required to analyse for the purpose of ex ante regulation.

The European Commission has also issued guidelines on market analysis and the assessment of SMP ("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 sector[1]. The MCA is required to take these guidelines into utmost account when analysing a product or service market in order to assess whether the market under investigation is effectively competitive or otherwise (refer to Regulation 8 of the ECNSR).

As required by Regulation 6 of the ECNSR, the results of these market reviews and the proposed draft measures need to be notified to the European Commission and to other NRAs. The Commission and other NRAs may make comments within the one month consultation period. If the Commission is of the opinion that the market definition, or proposals to designate an operator with SMP, or proposals to designate no operator with SMP, would create a barrier to the single market, or if the Commission has serious doubts as to its compatibility with Community law and issues a notice under Article 7(4) of the Framework Directive, the MCA is required by Regulation 6 of the ECNSR to delay adoption of these draft measures for a further period of 2 months while the Commission considers its position.

The MCA has collected market data from a variety of internal and external sources, including providers of electronic communications networks and services, in order to carry out thoroughly its respective market definition and market analysis procedures based on established economic and legal principles. The MCA is also taking the utmost account of the Recommendation on relevant markets and the SMP Guidelines.

[1] Link to market review methodology:
http://www.mca.org.mt/sites/default/files/articles/marketreviewmethod.04.pdf

1.2 Liaison with Competition Authority

Under Regulation 10 of the ECNSR, there is a requirement on the MCA to carry out an analysis of a relevant market within the electronic communications sector. This analysis must be carried out in accordance, where appropriate, with an agreement with the National Competition Authorities (NCA) under Regulation 10 of the ECRA.

In line with the cooperation agreement signed on the 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 (MCCAA), the MCA shall also consult with the MCCAA the findings of this analysis. The MCA has concluded a two-week consultation process with the MCCAA. The MCCAA has forwarded its comments to the MCA and can be found in Appendix 1.

1.3 Structure of the document

The rest of the document is structured as follows:

Chapter 2 provides an overview of the previous market review and market developments in the mobile market in Malta;

Chapter 3 presents the MCA's proposed conclusions on the definition of the market for wholesale access and call origination on mobile telephone networks in Malta;

Chapter 4 outlines the MCA's market analysis for the market identified and determines whether this market satisfies the Three Criteria Test; and

Chapter 5 sets the proposed regulatory approach that the MCA is adopting for this market under consideration.

1.4 Scope of this review

This review considers the market for wholesale access and call origination on mobile telephone networks in Malta.

Chapter 2 Background to past decision and market developments

The first market review decision (2006)

In accordance with its powers under the EU Regulatory Framework for Electronic Communications, the MCA carried out its first round of market reviews with respect to the provision of wholesale mobile access and call origination services in 2006[2].

Under this review the MCA had concluded that the relevant market for wholesale mobile access and call origination was not effectively competitive. To this effect the MCA had established that Vodafone and GO had jointly held significant market power in the said market.

This conclusion had been supported by the following evidence:

- No potential competition from a third network operator. Therefore coordination was more possible with just two operators in the wholesale mobile market. Moreover there was no offer in place for wholesale access and call origination services, making it very difficult for new operators without an own built network to enter the market;

- Market shares in subscribers and volume of originated minutes of both operators were too symmetric and constantly converging. Provided so, Vodafone and GO had a clear incentive to coordinate their practices in the market place as to maintain stability and maximise their returns;

- Both Vodafone and GO have similar network elements, operate at a national level and target the entire market. Thus both face similar demand and supply characteristics that enabled them to replicate any service or package that each provided to their customers. In fact over time, both operators had started to provide a portfolio of services which was overall identical. In essence, when one operator launched an offer in the market, the other operator promptly replicated that offer. In turn this symmetry in the portfolio of products offered over similar network infrastructures enhanced the ability and incentive to coordinate market behaviour;

- A very high market concentration index that was conducive to coordinated practices on the part of both operators;

- Identical price plans, lack of permanent reductions in retail price levels and significantly high profits enjoyed by both operators were observed as Vodafone and GO tacitly muted price competition. The incentive of engaging in such a strategy was that both operators could maximise their current returns without any of them moving away from the established equilibrium. A deviation from this point would have been immediately met by the other party and would have resulted in a lower market price that would have, in turn, lowered overall market profits;

[2] Link to 2006 MCA Decision on Wholesale Mobile Access and Call Origination (Ex Market 15): http://www.mca.org.mt/article/wholesale-access-and-call-origination-mobile-networks

- Tacit agreement could be sustained over time – sufficient market transparency such that both parties involved in the agreement were able to observe and monitor each other, and retaliatory mechanisms such that if one party deviates from the common strategy the other would have credible detection and punishment mechanisms to retaliate; and

- Lack of potential market constraints on tacit coordination – namely market maturity, stagnant growth in the demand side and lack of countervailing buyer power. To this result, a new entrant would have found it difficult to gain market share and effectively pose a competitive constraint on the existing operators. To the contrary this was understood to be favouring tacit coordination between the incumbent operators Vodafone and GO.

In view of this evidence and the finding of a joint dominance position between Vodafone and GO the MCA had therefore imposed a number of regulatory obligations on both operators, mandating them to:

- provide sufficient access to, and use of, specific network facilities to undertakings making reasonable requests for mobile access and call origination services, these included access to the mobile network facilities for the purposes of deploying a full MVNO and national roaming;

- provide all access obligations on terms and conditions which are fair, reasonable, and timely and which do not differ from those provided by Vodafone and GO to their own respective retail arm;

- apply a cost oriented pricing methodology to ensure fair and efficient access to Vodafone's and GO's network and services, by implementing a cost-based accounting system; and

- implement accounting separation so as to ensure that prices charged are non-discriminatory and transparent.

Market developments

Joint dominance period

Based on the evidence available in 2006, the MCA had established that the conditions for coordination between Vodafone and GO would remain prevalent in the market for a further three years. As will be shown later on in the analysis, the observed trends in terms of pricing and the behaviour of Vodafone and GO was fully in line with their coordinated strategy of mute price competition until the arrival of a third market player.

During the period from 2006 till around Q3 2008 (when Melita announced their entry into the mobile market) the mobile market experienced a slight decline in retail prices, mainly related to special offers in terms of free minutes or SMS during particular times of the year such as Christmas time. In practice, consumers were on average getting the same product whether opting for Vodafone or GO.

Third entrant

Following the assignment of 3G spectrum to Vodafone and GO in 2005, Melita was also assigned 3G spectrum in August 2007; effectively paving the way to the third mobile network operator in Malta. Following a quick network roll-out covering the whole national territory, Melita launched their commercial services on their 3G network in February 2009.

Melita's entry into the market immediately resulted in cheaper prices for consumers as both Vodafone and GO started to react towards Melita's aggressive offers. Also with the help of number portability, thousands of customers started switching to Melita, and many customers also opted to have a second connection with Melita whilst keeping their original connection. This initial success was however slightly stalled when consumers started to experience problems with network coverage in particular indoor coverage. Following a number of network upgrades and enhancements Melita rectified the situation and continued to gain market share through aggressive price competition and advertising campaigns. As at the end of 2011 Melita had registered a 10% market share and offered the cheapest per minute call rates in Malta.

Mobile Virtual Network Operators (MVNOs)

The 2006 market analysis decision stipulated that Vodafone and GO had to negotiate in good faith with any access seeker requesting wholesale access for MVNO services. The MCA had however limited its regulatory intervention only to cases where negotiations did not result in access to Full MVNOs.

During 2008 Vodafone granted access to two MVNOs namely Redtouch Fone and Bay Mobile. These two MVNOs adopted the Enhanced Service Provider Model and therefore have negotiated their entry on a commercial basis without the need for regulatory intervention. Since its launch Redtouch Fone managed to acquire and sustain a market share of around 2.5%. On the other hand Bay Mobile ceased its commercial operations in Q3 2009.

During 2010 two new MVNOs namely PING and YOM started operating on GO and Vodafone's network respectively. Both MVNOs have also negotiated their access on a commercial basis. Their combined market share as at the end of 2011 was less than 1%.

As the figures show, the overall impact of these MVNOs on the market has been somewhat limited. Nevertheless, the MCA positively notes that Vodafone and GO have been amenable to negotiate and grant access to their respective networks to third parties.

Growth and increased competitive activity

As a result of these new market entrants the MCA observed that since 2009 the market started to move away from stagnation and showed signs of renewed growth.

The most notable indicator was the significant price decreases registered. As will be shown in the market analysis section, the average price per minute of mobile communication fell by around 65% over a three year period. In line with such price reductions originating traffic on mobile networks more than doubled since 2009. Mobile penetration as at end 2011 stood at 125% suggesting that mobile users are now also opting for a second connection.

The next sections will present an analysis of the mobile market in Malta and will take into consideration all of the abovementioned developments. In particular, the MCA will evaluate whether in the light of these market developments, regulation is still warranted or whether the market has evolved enough to support competition in its own right.

Chapter 3 Outline to the market definition exercise

3.1 Introduction

The EU Regulatory Framework for Electronic Communications requires National Regulatory Authorities (NRAs) to define relevant markets appropriate to national circumstances, in particular the relevant geographic markets[3] in the respective territories. The purpose of the market definition procedure is to identify, in a methodical way, the competitive constraints faced by undertakings, thereby also facilitating the subsequent market analysis procedure.

Central to the various dimensions of the market definition procedure are the demand-side and supply-side substitutability analysis. As per the Commission's guidelines on market analysis and the assessment of significant market power (SMP), demand-side substitutability is used to measure the extent to which consumers are prepared to substitute other services or products for the service or product under investigation. Supply-side substitutability, on the other hand, indicates whether suppliers other than those offering the product or service in question would switch in the immediate to short term their line of production to offer the relevant products or services without incurring considerable additional costs.

To this effect, the relevant product market 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.

This market review will define the relevant markets both at the retail and wholesale level. Consideration of the relevant retail markets logically precedes the analysis of wholesale markets, since the demand for wholesale services is derived from the demand for retail services. This also implies that competitive conditions at the retail level may typically be dictated by the existence of market power at the wholesale level.

3.2 Definition of the Retail Market

As the first step in the market definition process, the MCA shall consider whether the following products and services currently available to end users at the retail level are to be included within the same relevant market.

- Access and calls over a mobile network
- SMS
- Business and residential services

[3] A relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products and /or services, in which the conditions of competition are sufficiently homogenous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different to those areas.

- Pre-paid and post-paid services
- Data services
- 2G and 3G technologies
- Fixed and mobile telephony services

3.2.1 Access to mobile services and calls

The first consideration for this market definition exercise is to establish whether access to mobile services and outgoing mobile calls form part of the same relevant market.

Generally speaking, mobile access is perceived as the ability to make and receive calls. Technically, however, access involves the registration to a particular mobile network by way of a SIM card. It is only then that customers will be allowed to gain access to mobile services provided by the network operator supplying that SIM card.

Notwithstanding this, access alone does not guarantee that customers would be able to make voice calls and use other mobile related services such as SMS, unless they subscribe to a particular tariff plan. One case in point is the experience with prepaid subscribers, whereby despite the fact that they have access to a particular mobile operator by way of a SIM card, in the event of lack of credit they will be impeded from making calls or use other mobile related services.

Demand-side substitution

From a demand side perspective, it is evident that access and calls are not substitutable. On one hand, customers cannot subscribe to a particular tariff plan to make calls without first buying access. On the other hand, access alone does not inherently imply that subscribers to a particular mobile operator will be able to make calls over that network. Unless subscribers are also subscribed to a particular tariff plan, access to a mobile network will only provide the subscriber with a mobile connection with which he/she has the facility to receive calls, but not make calls. Hence, access and calls are not demand-side substitutes but rather complements.

Notwithstanding this, the cost of accessing a network and the cost for making calls are both included under the same retail tariff scheme. Postpaid tariff plans, for instance, charge a fixed monthly access fee which also bundles a number of free minutes and SMSs. Charges to calls and SMSs beyond the free allotment of the bundle will then vary according to the operator's general tariff structure. In the case of prepaid tariff schemes, the fixed portion of access is included as part of the applicable call charges.

Appendix 2 lists all prepaid and postpaid tariff plans being offered by the main mobile network operators in Malta.

Given the existing structure of these tariff plans, if a hypothetical monopolist increases the price of an element in this bundle, say access, by 5 to 10 percent, without also adjusting the price of calls so as to maintain the overall price of the package constant, then it is likely that customers will switch to an alternative operator altogether. In this regard, although the MCA established that access to mobile services and calls are different in nature and may be defined as distinct markets, this analysis effectively shows that since access and calls are offered as a cluster of services, then they also share the same pricing constraints and competitive conditions.

To this effect, the MCA therefore concludes that both access to mobile services and the ability to make calls should form part of the same market.

Supply-side substitution

As stated earlier, mobile operators provide access and calls as a cluster of services over the same network. Therefore the likelihood of potential supply side substitutability between individual services is very limited in practice and cannot provide an additional competitive constraint. For this reason, supply side substitution is more or less irrelevant for the purpose of analysing the substitutability between access and calls.

3.2.2 SMS

Demand-side substitution

Another dimension to the market definition is to establish whether SMS (short messaging service) or text messaging, forms part of the access and outgoing calls market discussed above. When customers subscribe to a particular mobile network, they will not only have access to that network and related voice services to make calls, but will also have access to text messaging services in that both voice and SMS services are sold as one cluster of service.

Though, from the demand side, SMS could be a partial substitute for a mobile call, in reality, SMS differs from voice calls in a number of ways:

- an SMS can convey only a limited number of characters per message (160 alphanumeric characters);
- unlike voice calls, an SMS is stored and forwarded between networks; and
- an SMS is not transmitted in real time and can therefore experience delays.

In view of these different characteristics between voice and text messaging a customer may find one of these services more functional to meet the requirements of a specific instance. For example in the case of a long conversation, that customer would generally prefer a voice call over SMS. At the same time, a customer may wish to opt for a text message if the nature of conversation is brief and informal. To this effect, the MCA holds the view that voice and SMS are not to be considered as complete substitutes.

This view is further substantiated through the observed market trends presented in charts 1 and 2 below. This statistical evidence shows that there has been no net substitution between voice and SMS traffic, provided that both the number of outgoing voice minutes and the number of outgoing SMSs have continued to increase since the last review in 2006.

Chart 1

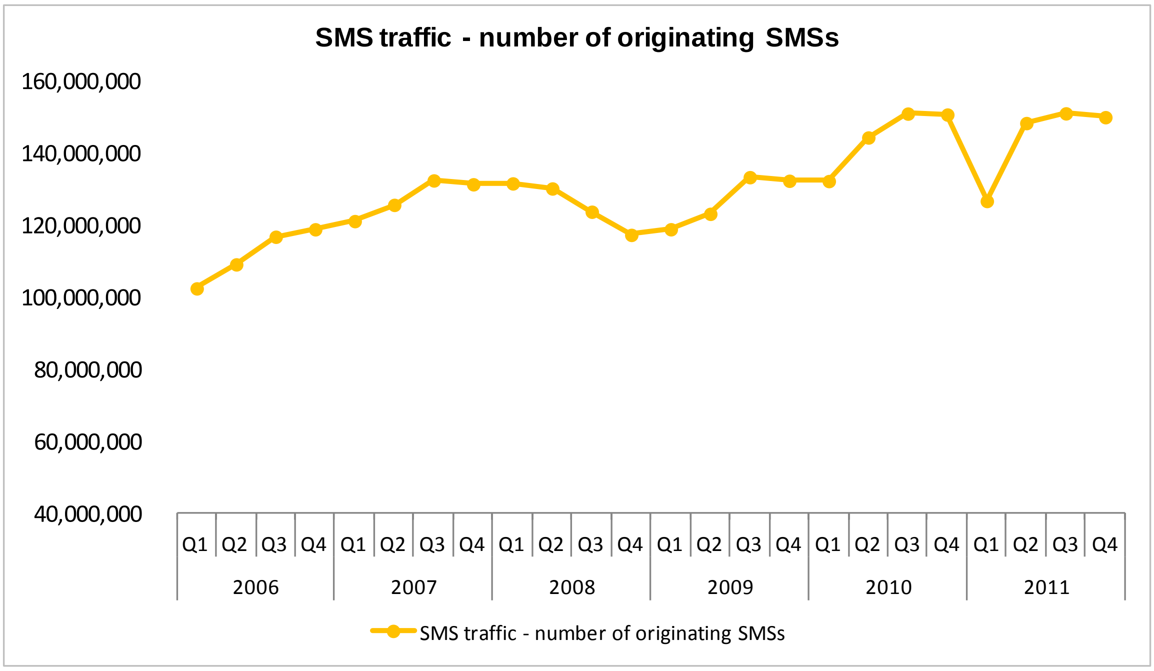
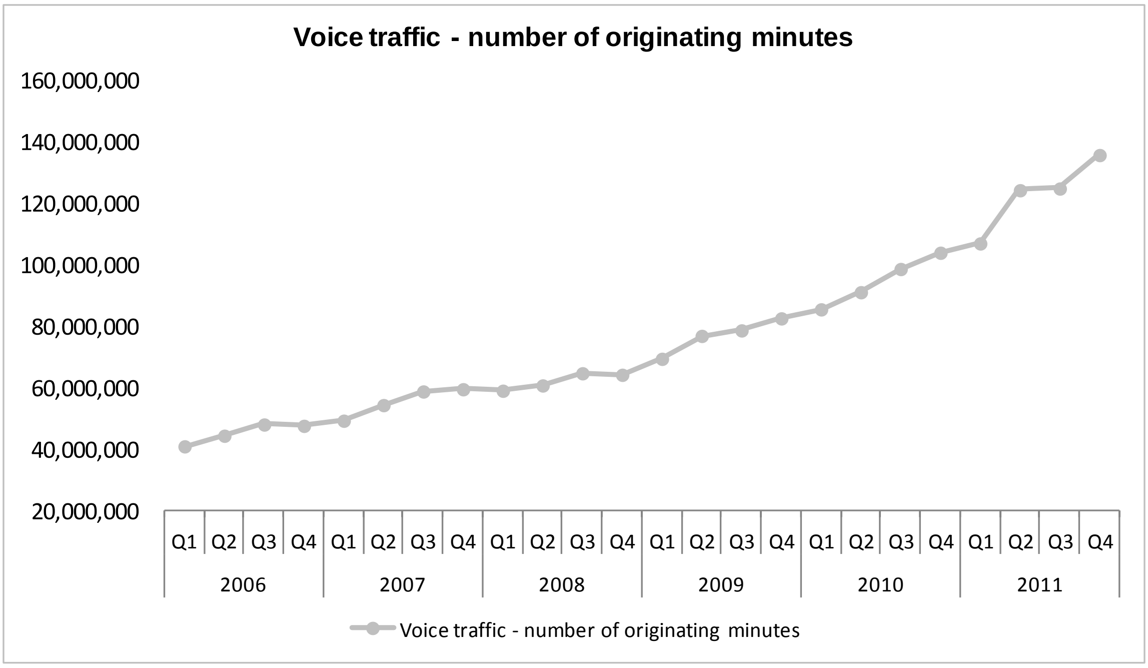


Chart 2



Moreover, the MCA underlines that growth in both voice and SMS traffic had already been sustained at a time when the price differential between the two services was significant. Accordingly, mobile subscribers had more incentive to substitute voice with SMS given that the latter service was cheaper to use. The fact that the price differential between voice and SMS has now been bridged even further provides less of an incentive for substitution between the two services.

On the basis of the above, the MCA therefore considers voice and SMS services as adjuncts rather than substitutes, given that they are both sold as one cluster of service. Nevertheless, the competitive conditions surrounding SMS are similar to that of voice products so much so that mobile network operators compete for new retail subscriptions, not on the basis of prices of each single service, but on the overall price of a cluster of services including SMS. Consequently, this leads the MCA to conclude that both voice and SMS are to fall within the same retail market.

Supply-side substitution
Supply side substitution is not so much relevant to the analysis here because providers of mobile access and voice are essentially the same providers of SMS. Therefore a hypothetical SSNIP on mobile access and calls will not lead to these providers entering the SMS market since they already provide SMS. Put it differently, supply side substitution is ineffective as mobile access, calls and SMS are already supplied by all mobile operators as a cluster of services.

3.2.3 Business and residential services

Although the main mobile operators in Malta, namely Vodafone, GO and Melita, provide a range of prepaid and postpaid tariff plans, it is not possible to categorically distinguish these tariff plans between business and residential customers. In fact, all mobile operators do not distinguish between the two types of customers, and even though they market different mobile plans for different consumer segments through their website, this is solely intended to improve the range of services available and enhance customer choice to match different usage profiles.

To this effect, business or residential customers are able to purchase any type of tariff plan from any mobile operator they deem best to meet their requirements, and can easily switch between pre-paid and post-paid tariffs at little or no cost.

Hence, for the purpose of this analysis the MCA will consider business and residential services as part of the same retail market.

3.2.4 Pre-paid and post-paid services

Generally speaking, when subscribing to a particular mobile operator customers have to decide in choosing between a prepaid and a postpaid tariff scheme. Although both prepaid and postpaid schemes essentially render the same quality of services offered over a mobile network, the way the tariff is structured and charged to customers differs from one scheme to the other.

On one hand, postpaid tariff plans charge a fixed monthly access fee which also bundles a number of free minutes and SMSs. Charges to calls and SMSs beyond the free allotment of the bundle will then vary according to the operator's particular tariff structure. In the case of prepaid tariff schemes, the fixed portion of access is incorporated in the applicable call charges, thus generally resulting in higher per minute tariffs.

Notwithstanding the fact that prepaid tariffs are in general more costly than those applicable to postpaid, prepaid subscribers in Malta remain significantly higher than subscribers on a postpaid plan. Data as at 2011 Q4 shows that 80% of all mobile subscriptions are prepaid with the remaining 20% of customers subscribing to a postpaid plan. Although there have been developments in this regard, with shifts being reported between 2006 and 2011 towards postpaid subscriptions (table 1 below refers) prepaid services have continued to be the most popular. This is mainly due to the characteristics of the prepaid product, namely, the fact that the customer receives no bills and has total control on the amount he/she spends per month.

Table 1

	2006 Q4	2007 Q4	2008 Q4	2009 Q4	2010 Q4	2011 Q4
Total number of mobile subscriptions	346,771	368,530	385,636	422,083	455,579	521,748
Prepaid	91%	91%	86%	81%	80%	80%
Postpaid	9%	9%	14%	19%	20%	20%

Demand-side substitution

On the demand side, the MCA believes that pre and post paid services fall in the same market. Thus, the MCA views pre and post pay services as adequate substitutes for each other, given that, if a hypothetical monopolist were to increase the price of one of the tariff plans, say prepaid, consumers could very easily switch to postpaid services. In doing so, consumers would not in any way be experiencing a difference in the level of service provided, as both types of tariff plans are provided over the same infrastructure.

The MCA has not identified any barrier to switching between pre and post paid tariff plans. Therefore such a choice is completely decided upon by the individual consumer.

Conclusively, the MCA is therefore of the opinion that, from a demand side perspective, both prepaid and postpaid services should fall within the same relevant retail market.

Supply-side substitution

From a supply side viewpoint, if a hypothetical monopolist were to increase the price of, say prepaid services, other mobile operators providing the service can easily match the price increase. Moreover, other mobile providers not providing the service can start providing it at the new price, thus rendering the monopolist's actions a non-profitable one.

However, this scenario is again unlikely to happen in reality since all network operators in Malta are already offering both types of services on their infrastructure. Therefore from a supply side perspective the MCA sees no reason why prepaid and postpaid services should not form part of the same relevant retail market.

3.2.5 2G and 3G Technologies

In its market definition exercise the MCA is also analysing whether 3G services should be included in the same market for 2G services. To deal with this the MCA believes that any decision in this regard must be consistent with the principle of technology neutrality; whereby the decision is based on the nature of the services provided and not on the technological platform used to provide them.

Demand-side substitution

From a functionality perspective, access, voice calls and SMS services provided over 3G networks are identical to their 2G equivalents, and therefore the MCA believes that both technologies should be included in the same relevant retail market. The consumer does not experience any difference whether a call or SMS is made or received over a 2G or a 3G network.

In terms of pricing all MNOs do not distinguish between services provided over 2G or 3G networks and apply uniform pricing independently of the network being used. Therefore a hypothetical increase in price of access or calls will not induce users to switch between 2G or 3G platforms but rather between different mobile operators. Therefore mobile services provided over 2G and 3G networks face the same pricing constraints.

In terms of accessibility, all mobile handsets which are 3G enabled are also backward compatible with 2G networks and in fact most mobile phones switch automatically between 2G and 3G networks depending on the signal strength experienced in a particular area. On the other hand, 2G mobile handsets which have been in use for a number of years are not compatible with 3G networks. In this case the consumer would only be able to make use of the 2G network of the operator with whom s/he is subscribed.

In the specific case of Malta, Vodafone and GO offer both 2G and 3G services therefore around 90% of all mobile subscribers in Malta have access to both platforms. The latest entrant to the market, Melita, only operates a 3G network and therefore its subscribers do not have access to a 2G network. However, the MCA notes that all of Melita's subscribers use a 3G enabled mobile handset (in most cases provided by the operator itself) and therefore they do not have any problems related to accessibility arising from the lack of a 2G network.

The major difference that arises between 2G and 3G networks is the data transfer speeds that each platform achieves. 3G networks effectively enable network operators to provide higher quality data services than that supported by 2G and 2.5G infrastructures.

The MCA however observes that unless a particular consumer uses the mobile connection mainly for mobile broadband, the difference between 2G and 3G is irrelevant for the purposes of making and receiving calls and SMS. At present all MNOs offer mobile broadband data plans as an add-on to 'telephony' packages and therefore consumers would be able to identify the cost of the mobile data plan separately. A hypothetical increase in the price of access or calls would therefore not lead consumers to switch between 2G and 3G networks.

The MCA therefore concludes that from a demand side perspective there is no clear evidence that suggests that mobile services provided over 2G and 3G networks should fall in different markets.

Supply-side substitution

The MCA has considered whether a hypothetical increase in the price of access and calls over 2G networks would induce 3G operators to start providing services over 2G networks and vice versa. The MCA observes that at present all MNOs in Malta apply uniform pricing on 2G and 3G networks and therefore a hypothetical increase in the price of access and calls would impact all the services independently of the platform over which they are being provided. Furthermore, Vodafone and GO are already both operating both 2G and 3G networks and therefore such a hypothetical price increase will not have an impact on their supply.

The only scenario where such supply substitution can potentially occur is with Melita given that at present it only operates a 3G network. Nevertheless, the MCA believes it highly unlikely that Melita will invest in a 2G network following a hypothetical 10% increase in the price of access and calls over 2G networks by the other MNOs. The costs associated with acquiring 2G spectrum and deploying such a network would by far outweigh any benefits accruing from such a price increase.

Therefore the MCA concludes that from a supply side perspective 2G and 3G networks should form part of the same relevant retail market.

3.2.6 Data services

In addition to the traditional services of voice and SMS, mobile networks can also be used to access data services. With the deployment and upgrades of their 3G networks all three local mobile network operators (MNOs) are providing data services to their customers.

In its 2007 Recommendation, the EU Commission did not specify whether data services are to be included in the relevant wholesale mobile market. The Commission concluded that "*no retail or wholesale markets for data and related services are identified for the purposes of the revised draft recommendation*".[4] The MCA will therefore assess whether this conclusion is applicable to the Maltese context.

Demand-side substitution

The starting point in assessing whether mobile access and voice services are substitutable with mobile data services, is the intend uses of these services. Functionally,

[4] European Commission. (2007). Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation.

mobile voice calls and SMS are different to mobile data services. Whilst voice calls and SMS are used to communicate instantly with a particular mobile or fixed telephone user, mobile data services are used to access the Internet and for email purposes. Functionally, the use of mobile data services can be considered a complement to voice and SMS and not a substitute.

However, with the increasing uptake of smartphones, this distinction is becoming more blurred as more mobile users (particularly young users) use mobile data to communicate in real time with other mobile users via social networks. Nevertheless, at present the MCA holds the view that this distinction is still applicable to the absolute majority of mobile users in Malta. This is confirmed by the small number of dedicated mobile broadband connections which as at the end of Q4 2011 accounted for approximately 3% of total broadband subscribers.

In terms of pricing the MCA observes that whilst all mobile subscribers (pre-paid or post-paid) can have access to data services heavy users of mobile data would be better off if they subscribe to an add-on mobile data plan. The data access prices for the occasional user are much more expensive than the prices associated with a monthly data access plan. The MCA also observes that all MNOs adopt specific pricing for data services and this is always marketed as an add-on to the 'traditional' services of voice calls and SMS. In fact the MCA is of the opinion that voice calls and SMS do not face the same pricing constraint as that of mobile data a services. A hypothetical increase in the price of voice calls or SMS would not induce mobile users to shift their usage towards data services and vice versa.

As stated earlier, all MNOs in Malta provide mobile data services in addition to other retail services such as access, voice, and SMS as a cluster of services. Therefore the availability of mobile data services as part of a cluster of services could indicate that at a retail level the market can be widened to include data services. Whilst the MCA believes that the take up of data services will continue to grow in the near future, at present the MCA does not have sufficient evidence to conclude that the market should incorporate data services. Both in terms of functionality and pricing the evidence suggests that mobile data services are still considered as an optional add-on to mobile voice calls and SMS by the majority of end-users.

Supply-side substitution

From a supply side perspective the MCA considered whether a hypothetical increase in the price of mobile access and calls would lead a mobile operator providing data services to switch its production to start supplying access and calls. The MCA believes that such a scenario is unlikely to materialise in practice as all MNOs in Malta are already offering mobile data services in addition to access and voice services. The MCA also concluded that mobile data services do not face the same pricing constraint of voice and SMS services and therefore no supply substitution is expected to take place following a hypothetical price increase.

The MCA therefore concludes that data services should fall outside the market for mobile access, voice calls and SMS services.

3.2.7 Fixed and mobile services

As part of this market definition exercise the MCA looks into the extent to which a customer would consider switching between a mobile access network and retail fixed line access, and whether supply-side substitution between the two forms of access infrastructures is plausible. The MCA has already pronounced itself on this matter during the 2011 retail fixed access market review[5]. The MCA found no justifiable grounds on which to define a single market for fixed and mobile access.

Demand-side substitution

In the retail fixed access market analysis, the MCA had argued that mobile access is functionally different from retail fixed line access; the most salient difference being the mobility factor. In fact, an individual can access a mobile network independently of location, but is on the other hand constrained to access a fixed line from a fixed access point. In this sense, substitutability is likely to be in one direction only as customers would consider replacing fixed access by mobile access service but not vice versa.

Having said this, the MCA notes that some limited substitutability from mobile to fixed access may still result with the recent offerings of certain plans aimed at increasing use of fixed telephony. One tariff scheme designed for this purpose is the one marketed by the name of *talk for an hour pay one minute.* People using their mobile phone to make calls may very well find these fixed access initiatives financially attractive and switch to calling from their fixed line connection. However, the extent of this substitutability is again somewhat restricted by the mobility factor and is thus limited from a functional perspective.

Another functional characteristic that had been examined relates to the reliability of the service. The reliability of mobile access essentially depends partly on the mobile phone set, partly on the network, and partly on other electronic communication services to which the network is connected. In view of this, mobile access may occasionally be adversely affected by a number of factors including:

- High usage of the network at a particular point in time within the area covered by a particular base station;
- Restrictive physical features (such as high buildings, tunnels and densely built-up areas);
- Interfering atmospheric conditions; or
- Any other form of interference.

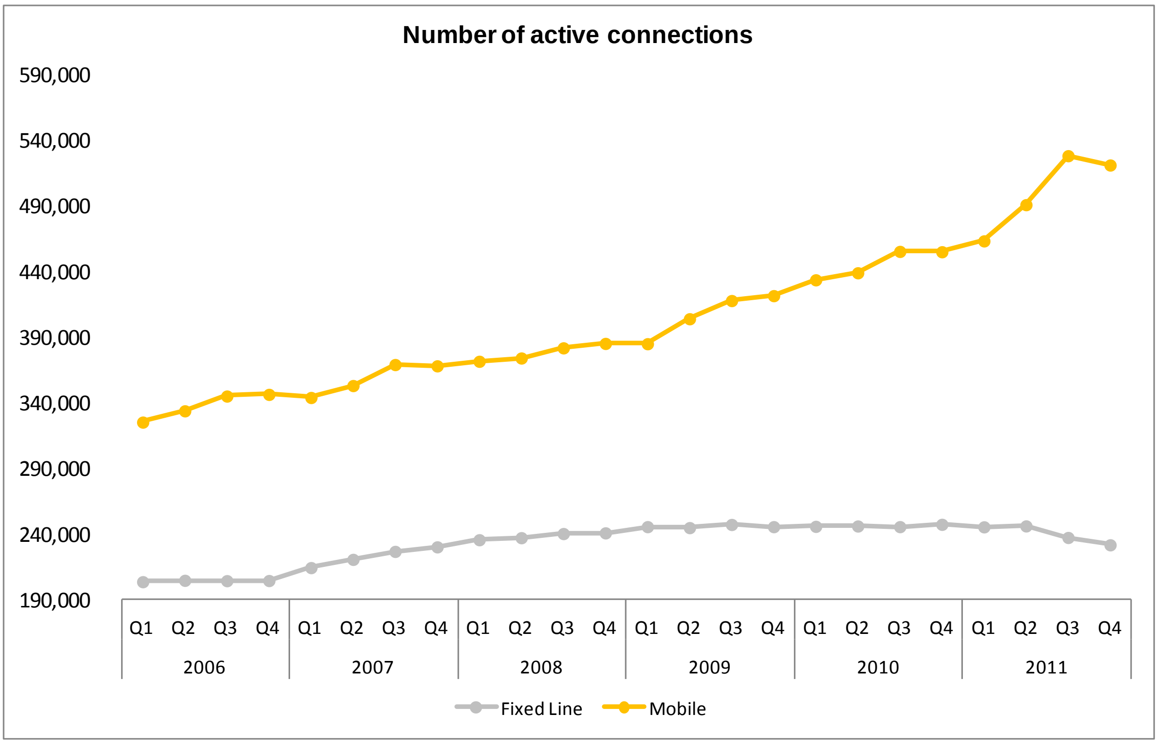
Comparatively, access via a standard fixed telephone network in certain instances tends to be more reliable than access through a mobile network as most of the above adverse effects are not commonly experienced.

[5] Link to MCA Decision:
http://www.mca.org.mt/article/mca-decision-access-public-telephone-network-fixed-location-mcad12-0749

In terms of usage, the retail fixed access analysis showed that fixed line access and mobile access provide users with a variety of 'secondary' services that continue to highlight the distinctive properties of the two. Fixed access, for example, facilitates services such as fax. Mobile access, on the other hand, facilitates data services by way of text messaging. Similarly, the use of mobile technology to access the internet is becoming popular and is expected to continue grow especially among the younger generation.

In any event, so far, consumers have continued to subscribe to both fixed line access and mobile access for the core purpose of voice telephony. Statistical evidence continues to suggest that there has been no net substitution between mobile access and fixed line access, provided that both the number of mobile connections and fixed line connections has been increasing.

Chart 3



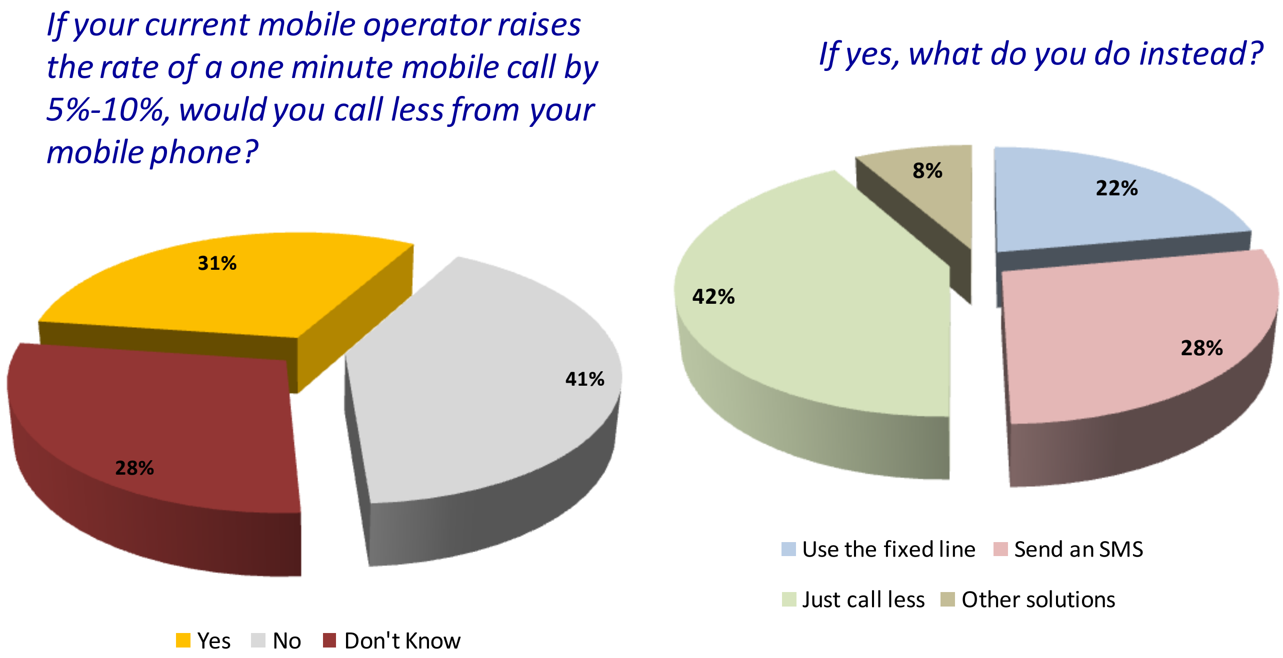
Somewhat critical to the MCA's review and demand-side substitutability analysis has been the consideration of the extent to which mobile users would switch their mobile connection with fixed line access if the price of the former service had to increase. The MCA, however, notes that there may be differences between how mobile tariffs and fixed line tariffs are computed, thus making it somewhat difficult to compare the pricing of the two services.

The difference in the respective pricing structures boils down to the fact that mobile access and calls, for both post-paid and pre-paid services, are sold as a single bundle. This makes it difficult to separate between the charges due for access and usage. Conversely, the cost of fixed line access is generally identifiable; with the billing system distinguishing between the monthly rental charge and the cost of calls for the period under consideration.

It is also worth noting at this stage that, in order to purchase mobile access, an individual does not have to pay a one-time connection fee. On the other hand, local fixed line telephony operators generally charge their customers a one-time connection fee for purchasing access to the public telephone network. A monthly rental (access) charge would thereafter apply.

Having said this, results from a survey conducted by the MCA in August 2011 show that only 31% would call less from their mobile phone if their operator would have to increase the rate of a one minute mobile call by 5%-10%. Moreover when asked what alternatives they would resort to in such an event, only 22% said they would use a fixed line connection. 48% said that they would simply call less while 28% said that they would resort to text messaging instead.

Chart 4



In light of the above, the MCA therefore concludes that from a demand substitutability analysis mobile and fixed services shall comprise two different markets.

Supply-side substitution

Undertakings may decide to enter a product or service market in the event of a small but significant non-transitory increase in the price of a relevant product or service by a hypothetical monopoly. Supply-side substitution between retail fixed line access and mobile access would involve a fixed access operator responding to a price increase in mobile services by switching production and ultimately starting to offer such access through a product that would match the price and quality of access via mobile telephony. This would essentially require the construction of a mobile network. In that case, a fixed telephone operator interested in providing mobile access services is faced with significant sunk costs and long timeframes in implementing the project.

It is therefore very unlikely that the SSNIP would entice switching in these circumstances. The MCA believes that the high costs involved in developing a mobile infrastructure render supply-side substitution between fixed line access and mobile access unlikely during the time frame of this review, thus suggesting that fixed access and mobile access fall within two separate markets.

Consequently, fixed access will be excluded from the scope of this market definition and the successive competitive analysis.

3.2.8 Conclusion on the retail market

Following the analysis and discussion presented above, the MCA concludes that the retail market includes:

- access to mobile services;
- voice calls (including international roaming calls) and SMS services;
- both business and residential customers;
- postpaid and prepaid services.

Furthermore, the MCA considers that the definition of the retail market should be technologically neutral and, to this effect, it concludes that any of the above mentioned services provided over 2G and/or 3G technologies are to form part of the same relevant retail market.

3.3 Definition of the Wholesale Market

Having defined those markets that involve the supply and demand of end users at the retail level, the MCA will in this next part of the definition exercise identify the corresponding markets involving the demand and supply of services to a third party wishing to supply end-users.

Essentially, if a particular operator wishes to start providing mobile services to end users it must first ensure to have in place a number of related components; namely the access to a particular mobile network, call origination, call conveyance (including routing and switching) and call termination. Without such network provisions no operator would be able to deliver a mobile service to its clients.

Subsequently, a mobile service provider must either build its own network or gain access to these network elements via an infrastructure owned by an existing MNO. Service providers obtaining access from another network operator are technically called a Mobile Virtual Network Operator (MVNO).

In its 2006 analysis the MCA had broadly defined MVNOs within one of the following categories or models:

- *Service provider or airtime reseller:* In this model, the MVNO does not control any network elements and makes use of the SIM cards of the MNO. Thus the MVNO commercializes the offers of the MNO, and may then manage the billing and customer relationship aspects. It usually obtains a discount on connection charges or usage from the network operator, which would be reflected in its profit margin. Service providers can only market the services offered by the MNO and have limited possibilities to offer a different price structure, so their pricing tends to follow the pattern established by the MNO.

- *Enhanced service provider:* This MVNO model resells the services of a MNO and provides additional own services. Enhanced service providers do not issue their own SIM cards, although they may re-brand the network operator's SIM cards. This category of MVNO resells services provided by a MNO but may also provide additional own services such as call forwarding, and SMS amongst others. These types of service providers usually dispose of their own Home Location Register (HLR) space – owning an HLR or in an HLR from the MNO – for customer profiles management. However since they are not assigned their own mobile network codes, these type of providers have no control over roaming agreements and, depending on their network infrastructure, may or may not have own interconnection agreements.

- *Full or extended MVNO:* In this category of MVNO, the organisation operates a physical network infrastructure comprising, at a minimum, a mobile switching centre, an HLR and authentication centre (or 3G mobile equivalents). A full MVNO has its own International Mobile Subscriber Identity Code (IMSI code), its own network code, issues its own SIM cards (or 3G mobile equivalents) and offers its own services to end users. As a result, this MVNO model would have its own national and international roaming agreements, as well as its own interconnection agreements. In this case, however, the service provider is not allocated its own radio spectrum and therefore uses the radio access network of one or more MNOs.

Table 2 below provides a summary of the three MVNO categories described above.

Table 2

	Service Provider (SP)[1)]	Enhanced Service Provider (ESP)[1)]	Mobile Virtual Network Operator[1)]
Access Network	• No radio access network	• No radio access network	• No radio access network
SIM, NDC	• No own SIM card • No own NDC	• Possible own SIM • Possible own NDC	• Issues SIM-Cards • Own NDCs
Network Infrastructure	• No switching network • No HLR/AuC • Possibly own VAS platforms • Possibly own Customer Care and Billing (CCB)	• No switching network • Not full control of HLR/AuC • Possibly own VAS platforms • Own Customer Care and Billing (CCB) system	• Own switching network • Full control of HLR/AuC • Own VAS platforms • Own Customer Care and Billing (CCB) system
Pricing	• Own pricing, negotiation based	• Own pricing, negotiation based	• Own pricing
Branding	• Bundled branding ("powerd by") • Possible own billing	• Independent branding, billing • High level of customer ownership	• Fully independent branding • Full customer ownership
Business Model	• Revenues structure – (Value Added) Reseller – Own services • Costs structure – Sales & Marketing – Distribution – Possibly investment in VAS platforms and CCB	• Revenues structure – (Value Added) Reseller – Own services • Costs structure – Sales & Marketing – Distribution – Possibly investment in SIM, HLR/AuC, VAS platforms and CCB	• Revenues structure – Air time, data, etc. – services • Cost structure – Sales & Marketing – Distribution – Radio access lease – Licence, NDC, etc. – Rest of network infrastructure

Source: Arthur D. Little Int., Inc.

The MCA still upholds as relevant these broad categories of MVNOs.

In 2006, the MCA concluded that all forms of mobile access and mobile call origination services in Malta were self provided. As a matter of fact, all mobile operators had their own-built network through which they could deliver a range of retail services to the end user market. However, since then, a number of market developments have taken place and new forms of mobile access and call origination services have emerged, particularly with the advent of a number of MVNOs.

Therefore, in view of all this, in defining the relevant product market at wholesale level, it is particularly important to assess whether:

- the provision of various types of wholesale access and call origination services over the same network are part of the same market;
- wholesale services provided over different mobile networks should be considered as forming part of the same relevant market; and whether
- self-supply and other wholesale services provided to other parties should be included in the relevant product market.

3.3.1 The provision of wholesale products over the same network

Demand-side substitution

Network operators offer a range of wholesale products, varying namely between the type and level of access to that network infrastructure. For this reason MVNOs are not defined into one grouping but have already been described to fall within one of three broad categories. From the MVNO definitions given above, it is clear that the type and level of access received at the wholesale level may vary from one MVNO to another. Consequently, different business models may exist in accordance to the type of market entry strategy being pursued by the MVNO.

On this premise, the MCA therefore considers the different forms of wholesale access offered by the MNO as not substitutable since each depend on the business model being pursued by the MVNO. Moreover, demand side substitutability between the types of wholesale access is further constrained by the level or degree of investment required by the MVNO, which essentially varies depending on which one, of several possible market entry strategies, is pursued.

These arguments may therefore suggest that the different forms of access fall in different markets. However, it is also true that each of these business models is a means to satisfying customers' needs at the retail level, and that from a demand side perspective the end product available to the end customer is seen as easily substitutable at the level of the retail market. What is different to the prospective MVNO is the level of control that it can exert over its own offerings. The more the MVNO invests in its own equipment, the higher the degree of control and customisation it can achieve in offering retail services. Such a decision is dependent on the business case of each MVNO.

Supply-side substitution

From a supply side perspective, depending on network capacity, it is fairly easy for an MNO to switch from wholesale services in the form of access, call origination or both, to accommodate any one of the business models identified above. In essence, the infrastructure required on part of the MNO is already available and no significant investments are envisaged to be required in order to switch between the provision of such services.

The MCA is, therefore, of the view that the various types of wholesale access and call origination services which can be offered by an MNO fall within the same relevant wholesale market.

3.3.2 Wholesale products on all networks

Demand-side substitution

As stated already different business models may exist for MVNOs. Effectively this results not only from the availability of wholesale access and call origination on the part of the MNO but also depends on the type of market entry strategy being pursued by the MVNO itself. Depending on the type of business model adopted, factors such as the market share and the extent of coverage per population by the existing MNOs, have to be taken into consideration when assessing possible suppliers of wholesale facilities.

At present both GO and Vodafone have an obligation to provide wholesale access and call origination services to any third operator wishing to enter the mobile telephony market and start providing related services without the need to have its own access network. The MCA also explains that Melita, which is the latest mobile operator in the market with its own built network infrastructure, is not obliged at law to provide wholesale services to any third party, and any decision in this regard is purely discretional on Melita's part.

From a demand side perspective and assuming a Greenfield scenario, the MCA argues that both GO and Vodafone have high market penetration levels and offer ubiquitous coverage facilities which would be favourably considered by any MVNO seeking to obtain wholesale access and call origination services. Moreover, any potential entrant into the mobile telephony market via the MVNO business case is free to choose between these two operators as the wholesale products they offer are equivalent. To this effect, if a hypothetical monopolist had to increase the price of wholesale access and call origination services, the MVNO may very well switch from one MNO to another in reaction to this price increase. Additionally, there is nothing that impedes a potential entrant into the mobile market from approaching Melita with a business proposal to gain access via its network infrastructure.

In view of this, the MCA thus concludes that from a demand side substitutability analysis, wholesale services provided over all mobile networks are equivalent and should be considered as forming part of the same relevant market.

Supply-side substitution

From the supply side, an MNO which is not providing wholesale services to third parties would be in a position to offer such services, subject to available capacity, if a hypothetical monopolist increases the price of wholesale access and call origination services. An MNO would be able to provide wholesale access and call origination services to third party service providers since these will use the same network elements as those used by the MNO when delivering the service directly to end users at the retail level. Therefore the granting of wholesale access would not require significant investment for the host network operator.

The MCA therefore concludes that overall there is a single, relevant wholesale market that includes all MNOs.

3.3.3 Self-provision and wholesale services provided to third parties

Demand-side substitution

The MCA considers that self-provision of wholesale access and call origination services should be included in the same market providing wholesale services to third parties. This is because there exists no distinction between the services provided internally or to other service providers.

Furthermore, if an MNO increases the price of its wholesale access and call origination services, it will increase both the cost of access for the third party service provider and also to its own downstream retail provider. Therefore, self-supplied wholesale access and call origination services and wholesale services provided to third party providers face the same pricing constraints and should as a result fall within the same wholesale market.

Supply-side substitution

The MCA considers that the assessment of supply-side substitution for self supply is not relevant given that all MNOs in Malta already provide wholesale access services to their own retail arm and also to third party MVNOs.

The MCA therefore considers that self-provision of wholesale mobile services and other wholesale services provided to third parties form part of the same relevant market.

3.3.4 Geographic market

According to the 2007 Commission's explanatory memorandum, a relevant geographic market '*comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products and services in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different*'. The Commission's SMP Guidelines also refer to the use of two criteria in determining the geographical scope of a relevant market, namely the area covered by a network, and the existence of legal and other regulatory instruments.

On the basis of the above-mentioned guidelines, the MCA maintains that the relevant geographic market for the provision of wholesale mobile access and call origination in Malta is national in scope. This view is supported by the fact that all authorised or licensed operators providing mobile services in the identified markets are operating under sufficiently similar conditions of competition, subject to common constraints in terms of pricing and marketing arrangements, and common conditions of supply across the national territory.

Given that these services are being provided by operators located within the same geographical area the MCA therefore concludes that there is sufficient demand-side and supply-side substitution in the provision of wholesale mobile access and call origination.

3.3.5 Conclusion on relevant wholesale markets

On the basis of the evidence presented above the MCA suggests that a relevant market can be identified for the wholesale provision of access and call origination on mobile networks in Malta. To this effect, the MCA proposes that the relevant wholesale product market consists of:

- all wholesale access and call origination services provided over the same mobile network;

- includes self-supplied access and call origination by vertically integrated MNOs; and
- constitutes a single relevant market that includes all MNOs.

3.4 Summary of responses to issues related to the market definition

In their response to the national consultation both GO and Vodafone have agreed with the MCA's preliminary conclusions on the market definition.

Chapter 4 Market Analysis

Having identified, in the previous chapter, the relevant markets that comprise mobile wholesale access and call origination in Malta, this section shall now analyse these markets to assess whether any undertaking has significant market power (SMP) as defined in and required by Regulation 5 of the ECNSR (Article 16 of the Framework Directive).

4.1 Background to market analysis

According to Regulation 6(2) of the ECNSR '*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) also 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'.*

Therefore, in view of the above, one or more undertakings in the relevant markets may be designated as having SMP where that undertaking(s), enjoys a position of dominance. Similarly, an undertaking may be designated as having SMP where it is in a position to leverage market power across closely related markets.

Since 2007 the EU Commission has revised its Recommendation on relevant markets within the electronic communications sector. With effect to this revision the wholesale market for the provision of mobile access and call origination 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.

In carrying out this analysis, the MCA takes full account of the Commission's guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communication networks and services, as well as the MCA's 2004 market review methodology.

4.2 Assessment of significant market power

In this assessment, the MCA will investigate whether single or joint dominance still exists in the wholesale market, following the last market review undertaken in 2006.

In order to carry out this analysis, it is necessary to first examine a number of criteria that relate to the retail level. This is because competitive conditions at the retail level are relevant to the potential existence of market power at the wholesale level.

As the market for the provision of mobile access and call origination has been removed from the EU Commission Recommendation, the MCA will carry out a three criteria test. An identified market would be subject to ex-ante regulation only if the three criteria imposed by the respective test 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 mobile access and call origination markets would only be warranted if:

1. The identified markets are subject to the presence of high and non-transitory barriers to entry, being either of a structural, legal, or regulatory nature;

2. The identified markets have 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.

4.3 Assessment of first criterion

In assessing whether the above identified market is subject to high and non-transitory barriers to entry, the MCA will analyse a number of factors that can possibly give rise to such barriers and deter entry in the mobile market. The MCA will assess both structural and legal barriers to entry.

Barriers to entry typically serve as obstacles for potential operators to enter the market and compete with the incumbents. According to the 2007 EU Commission recommendation a structural barrier to entry exists when '*given the level of demand, the state of the technology and its associated cost structure are such that they create asymmetric conditions between incumbents and new entrants impeding or preventing market entry of the latter.'* This document will, therefore, investigate whether the market is characterised by such barriers to entry. Structural barriers to entry can be of various forms, however, economies of scale and scope, vertical integration and significant sunk costs will be the major elements that are addressed in this assessment.

As for legal or regulatory barriers, the European Commission deems that '*these are not based on economic conditions, but result from legislative, administrative or other state measures that have a direct effect on the conditions of entry and/or the positioning of operators on the relevant market'.*[6] The MCA will investigate this type of barrier to entry in relation to the wholesale mobile access and call origination market being analysed in this document.

[6] European Commission. (2007) Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation.

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 mobile telephone operator will fall as more subscribers are roped in.

With reference to the Maltese scenario, both Vodafone and GO have now been present in the mobile market for a number of years and have managed to establish themselves well as nationwide service providers of mobile telephony access. Given this ubiquity and high density of the networks each of these two operators have today over 200,000 mobile subscribers and are therefore likewise to benefit from economies of scale. To this effect, the average cost per line for providing access services is more likely to be lower than that faced by new entrants.

It is also likely that Vodafone and GO experience economies of scale in the provision of associated supply services, such as billing and customer support. Provided that both these operators enjoy a strong customer base, the average cost per line for providing these associated services would be much lower than the cost incurred by new entrants. This is because these ancillary services would be catering for a large number of users and the related costs would therefore be spread over a larger subscriber base.

A new entrant would, on the other hand, need to capture a large share of the market if it is to effectively achieve similar economies of scale and compete with the more established incumbents. This, in theory, may prove to be difficult as the cost of infrastructure investment will be considerable and market penetration will be no match for the established incumbent operators.

Notwithstanding the above assessment, the MCA notes that new entry has occurred since the last market review and new operators are today competing directly with GO and Vodafone. The main addition to the mobile market, Melita, launched its first mobile offers in 2009 after having invested in its own nationwide 3G mobile network. Subsequently, a number of other operators, by way of the MVNO business model, also started to offer their mobile services. These MVNOs have entered the market not as a result of regulatory intervention but purely the result of commercial negotiation between the network operators (GO or Vodafone) and the prospective MVNO[7]. In view of this, the MCA believes that the economies of scale enjoyed by GO and Vodafone are not posing a constraint on market entry.

The MCA further notes that the mobile market has responded quite swiftly to these new operators, more so in Melita's case. In fact, Melita's penetration rate has been relatively high over the last four years, with more than 50,000 customers subscribed by the end of

[7] The obligation on GO and Vodafone, as a consequence of the 2006 Market Review Decision, to provide wholesale access to MVNOs was limited to the Full MVNO model. All the MVNOs that entered the market are service providers or enhanced service providers and therefore were not covered by the regulatory regime.

2011. This continues to suggest that although economies of scale for the two mobile incumbents are expected to remain high, these are not and should not pose a significant constraint on market entry within the timeframe of this review.

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. Accordingly, 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 the local scenario, GO offers multiple services directly to the consumer, including fixed access and calls, TV and broadband access apart from mobile telephony. This horizontal integration may, in fact, enable established networks 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.

Vodafone too offers multiple services which can lead to cost savings on common processes; though the range of services are limited only to broadband access and to a very small number of fixed access connections. Lately, the fixed access offer by Vodafone has been restricted to existent subscribers only and no new customers are currently being targeted[8]. To this effect Vodafone's market presence across a wide range of electronic communication services is much smaller than GO and it is therefore unlikely to achieve the same level of economies of scope in the provision of mobile access and call origination services.

Whilst established networks operators can benefit from economies of scope, new entrants, on the other hand, can achieve such economies of scope only if they enter a large number of markets and with sufficient scale. This may once again prove to be difficult as the entry costs involved would be high and similarly it would be difficult to recoup such costs on exit. Therefore, economies of scope, like economies of scale may impede new operators from entering the market.

The MCA's is of the view that whilst GO appears to be enjoying economies of scope, new entry has not been deterred. Thus the MCA suggests that economies of scope do not pose a significant constraint to market entry during the timeframe of this review. Also, the MCA has already explained that Vodafone does not enjoy significant economies of scope, and yet still managed to remain a key player in the local mobile market throughout the years. This goes on to confirm that economies of scope, although beneficial to the operator that enjoys them, do not constitute a constraint on the mobile market being investigated here.

Furthermore, Melita today may very well benefit from economies of scope in the mobile access and call origination market, despite the fact it being a relatively new player to this market. Provided that Melita, like GO, is horizontally integrated with offerings of TV,

[8] Link to MCA Decision on Retail Fixed Access (M1): http://www.mca.org.mt/article/mca-decision-access-public-telephone-network-fixed-location-mcad12-0749

broadband access and fixed telephony services, economies of scope are likely to be enjoyed and costs are likely to be saved over common processes.

Conclusively, the MCA notes that new entry has occurred and that Vodafone (not enjoying significant economies of scope) has still managed to sustain a good quality service while at the same time securing the strongest customer base. On its part, the new entrant Melita can avail itself of economies of scope arising from the fact that it is already present in a large number of electronic communications markets. To this effect, the MCA concludes that economies of scope are neither a barrier to market entry nor to the success of operators in the mobile market.

Vertical Integration

Vertical integration, essentially 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, vertical integration may deter potential entry in such markets.

In principle, the integrated provider can make 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. In view of this, it may therefore be difficult for a new entrant to effectively compete with the integrated operator unless it has its own built network.

With reference to the local mobile market, GO and Vodafone are both vertically integrated operators, in that they are active at both the wholesale and the retail level on a nationwide basis. Melita is also present in the wholesale and the retail level of mobile access and call origination market. For this reason, the MCA concludes that the main mobile providers in Malta can compete at par on this matter for they are all vertically integrated to the point that any single operator may equally leverage market power from upstream to downward markets.

The MCA however points out that Melita was able to overcome this barrier to competition by investing in its own built network. Other potential market entrants may find it difficult to replicate the integrated operators' nationwide network, for this would involve considerable infrastructure investment. For this matter, vertical integration may prove to be a barrier to entry for potential market players lacking the necessary funds to invest in their own built network.

This situation may be exacerbated in the absence of ex ante regulation where an integrated mobile network operator may refuse to deal with potential entrants by denying access to wholesale services. In such a scenario, the only wholesale access and call origination products offered would be self-supplied products where the providers of such services are present at both the wholesale and retail chain of provision.

In view of these arguments, the MCA had in the 2006 decision imposed an obligation on Vodafone and GO to meet requests for access to, and use of, specific network elements and associated facilities. In considering the type of access obligation, the MCA deemed that the imposition of an access remedy should increase competition at both the retail and wholesale level, and had therefore moved for regulation in favour of full MVNO access. In this way, potential undertakings wishing to enter the mobile market would be able to compete at the retail level by accessing the network of the incumbent operator while at the same time stimulating investment in infrastructure by way of a physical network that would comprise, at a minimum, a mobile switching centre, an HLR and authentication centre.

The MCA has already noted that since the last decision in 2006 new mobile providers have joined in. However, without prejudice to the access obligation imposed the MCA believes that new entry has happened regardless of the wholesale remedy aforementioned. As already pointed out, Melita started to provide mobile telephony access and other related services after setting up its own network infrastructure. On the other hand all MVNOs currently providing mobile services have entered the market under the *enhanced service* business case and therefore cannot be directly linked to the full MVNO access remedy. This is more so confirmed by the fact that all MVNOs in Malta are purely the result of commercial negotiation between the network operators (GO or Vodafone) and the prospective MVNO.

In view of all this the MCA therefore concludes, that while theory may suggest that in the absence of ex ante regulation new entry is likely to be barred by established operators which are also vertically integrated, market development and market forces can dictate otherwise. As with the local case, the MCA has explained that a new operator has set up its own network while MVNOs have emerged as a result of commercial negotiation. Conclusively, the MCA believes that vertical integration does not and should not pose a constraint on market entry within the timeframe of this review.

Sunk Costs

Sunk costs are the costs that a new market entrant must incur when investing in the network required to provide mobile access and call origination services and which are typically not recovered on market exit.

The MCA has already explained above that a new market entrant can offer access products in any of the identified markets by primarily investing in an own-built network. This option, however, requires a large upfront investment, most of which will be considered as sunk cost given that investment cannot be recovered if the entrant decides to exit the market. Sunk costs can therefore act as a barrier to entry for potential undertakings wishing to set up their own network and compete with the incumbent operators.

The MCA however has already noted that notwithstanding the significant upfront investment needed most of which can be considered to be sunk cost upon exit, new entry still took place by way of Melita setting up its own mobile network and competing directly with GO and Vodafone. Even if sunk costs were to be significant, to the extent that no new potential undertaking would be willing to invest in its own network as Melita did, then potential entry can still happen via wholesale access through one of the existing MNOs.

The MCA believes that even in the absence of ex ante regulation this option would be viable as evidenced by the way MVNOs have emerged in Malta. Currently all MVNOs in Malta, adopting the *enhanced service* business model, are accessing one of the incumbent's mobile networks, following agreement on a commercial basis and not as a result of regulatory intervention. Consequently, assuming a regulatory Greenfield scenario will not retract the case for MVNOs, for this has not been driven by regulation but by commercial negotiations.

The MCA therefore concludes that while sunk costs are surely to be significant in this type of market, new entry has happened by way of both investment in a new mobile network and the MVNO business case. In view of this experience, the MCA believes that sunk costs, whilst remaining high, will not act as a barrier to market entry during the timeframe of this review.

Legal and/or Administrative Barriers

So far this document has examined barriers to entry that are of a structural nature. However, as already highlighted in the introduction to this section, barriers to entry can also take a legal or administrative character. Particularly, one such barrier can arise if new market entry may not be possible where the entire spectrum available has been taken up. For this matter effective competition may be undermined and due consideration must therefore be given to this aspect.

The MCA notes that a number of spectrum bands have been fully assigned to the three mobile operators; Vodafone, GO and Melita. These are the 900MHz band assigned through an open call in 2011 and the 2.1GHz band assigned in 2005. In both cases the licence duration is for 15 years and no new mobile operators can therefore be assigned these spectrum bands before the duration expires.

In 2011 another spectrum assignment for the1800MHz band took place through an open call. In this case, while Vodafone and GO were assigned spectrum in this band, Melita had opted not to acquire any spectrum in this band. To this effect there is still roughly one third of this band which is unassigned. In addition spectrum in the 2.5GHz band remains entirely unassigned.

Setting aside the merits of whether it is feasible for someone to enter a three-operator market with a new network, the MCA notes that relevant spectrum bands are still unassigned and new operators thus have the opportunity to apply for one of these bands if they want to enter the market by investing in their own network infrastructure. The

MCA therefore concludes that no legal or administrative barriers have been identified so as to deter market entry in this regard.

Overall Conclusion

From the arguments presented above it emerges that certain barriers to entry are inherent to the mobile access and call origination market. For instance it requires significant upfront investment for a new operator wanting to enter the market with its own built network. This also results in significant sunk costs; for such investment will not be recouped upon exit from the market.

Moreover, Vodafone and GO having been in the mobile business for a number of years are likely to benefit from a number of advantages. Primarily, these operators have built a strong customer base over the years which today translates into economies of scale. This again is implicit to any established market where the incumbent operators are always likely to have a competitive edge over new undertakings by way of market experience and long standing presence. On the other hand, new operators will only benefit from such economies once they manage to penetrate the market and expand over a span of time. As a result this may serve as a barrier to new market entry.

Notwithstanding this, new entry has happened since the last market review in 2006 and new players, one of which has its own built nationwide network, are today in direct competition with the incumbent operators Vodafone and GO. In view of this, the MCA therefore concludes that while structural barriers to entry exist, they have not restrained market entry.

Subsequently, this also implies that the first criterion has not been met and therefore the market for wholesale mobile access and call origination market should not be any longer subject to ex ante regulation. The EU Commission has also provided for such a possibility in its explanatory notes to the 2007 recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation.

According to the EU Commission '*the presence of high and non-transitory entry barriers, although a necessary condition, is not of itself a sufficient condition to warrant inclusion of a given defined market.'* The Commission goes on to underline that '*given the dynamic character of electronic communications markets, possibilities for the market to tend towards a competitive outcome, in spite of high and non-transitory barriers to entry, need also to be taken into consideration.'*

In sustaining its preliminary conclusion of a possible competitive outcome for the wholesale mobile access and call origination market as resulting from assessment of the first criterion, the MCA will therefore examine the state of competition in this market. In doing so the MCA will take account of the fact that even when a market is characterised by high barriers to entry, as is the case with certain aspects of the wholesale mobile access and call origination market, other structural factors or market characteristics may mean that the market tends towards effective competition.

4.4 Assessment of second criterion

The application of the second criterion involves examining whether or not the market has characteristics such that it will tend over time towards effective competition without the need for ex-ante regulatory intervention, and this despite the reality of the market being possibly characterised by high barriers to entry. As per the 2007 EU Commission Recommendation the second criterion *'is a dynamic one and takes into account a number of structural and behavioural aspects which on balance indicate whether or not, over the time period considered, the market has characteristics which may be such as to justify the imposition of regulatory obligations as set out in the specific directives of the new regulatory framework'.*

In this second part assessment, the MCA will look at and investigate a number of market characteristics and indicators that will shed light on whether or not the wholesale mobile access and call origination market is moving towards a competitive outcome. In previous sections the MCA has already illustrated that this mobile market has been through a number of developments over the years and more so since the last market review in 2006. Of significance to this second stage analysis have been the advent of the Melita mobile operation with its own built network and the emergence of MVNOs.

The MCA however acknowledges that new entry into any market is not alone sufficient to conclude that the market is moving towards a competitive outlook. In this analysis, the MCA would therefore have to establish whether these new players are successfully managing to penetrate the market and compete with the more established operators. Simultaneously, the market must in some way or another manifest this outcome in favour of customers for otherwise competition cannot be deemed to be effective and reaching the desired results.

For this matter the MCA feels that the assessment of the second criterion shall bear an important consequence on the final conclusions of whether the wholesale mobile access and call origination market tends towards competition and whether it shall therefore be justifiable to remove regulation from the identified market. To reach such a conclusion the MCA will look at a number of criteria and market factors, including but not limited to market shares, market maturity, potential competition, price movements, market concentration and other related market trends.

In assessing these market characteristics, the MCA will determine whether the market is competitive in absence of competition or whether there exists the case for single or joint dominance. In either of the latter cases, the MCA would therefore have to resort to ex ante regulatory intervention in line with the EU regulatory framework for electronic communication networks and services.

The remainder of this section shall firstly consider whether single dominance is likely to exist in the wholesale mobile access and call origination market. Later, the analysis proceeds to assess whether collective dominance exists against the criteria set out in the relevant guidelines and the conditions set out in the Court of First Instance's Airtours judgment.

4.4.1 Assessment of single market dominance

As part of the assessment of the second criterion, the MCA shall consider a number of market characteristics to establish whether single dominance is likely to exist in the identified market starting with the market share analysis which is generally the first test used as a proxy for market power.

Market Shares & Barriers to Entry

Although high market shares by themselves are not sufficient to conclude whether an undertaking enjoys SMP in a market, market shares exceeding the 50 per cent mark are generally indicative of SMP. This notion stems out from the EU Commission Guidelines; underlying that according to established case-law, market shares in excess of 50% are in themselves, save in exceptional circumstances, evidence of the existence of a dominant position. The market share analysis, based on available statistical evidence and trends over the 2006 – 2011 period, shall establish whether any one of the undertakings providing wholesale mobile access and call origination services in Malta is in a position to exert market power.

In order to undertake market share analysis at the wholesale level it is necessary to examine a number of different market share aspects that relate to the retail level. This is because competitive conditions at the retail level are likely to impinge on the existence of market power at the wholesale level.

In its definition exercise, the MCA has concluded that the relevant wholesale product markets shall consist of all wholesale access and call origination services provided to third parties, and including self-supplied access and call origination by vertically integrated MNOs. For this matter, to aggregate the wholesale market shares of each operator at the wholesale level, the MCA shall consider the retail market shares of both MNOs and MVNOs.

Table 3

MOBILE SUBSCRIPTIONS	2006 Q4	2007 Q4	2008 Q4	2009 Q4	2010 Q4	2011 Q4
Total number of mobile subscriptions	346,771	368,530	385,636	422,083	455,579	521,748
Vodafone	52.7%	53.1%	53.9%	51.2%	49.7%	51.8%
GO	47.3%	46.9%	45.9%	43.2%	42.3%	37.6%
Melita	-	-	-	5.6%	8.0%	10.7%

MOBILE VOICE TRAFFIC	2006	2007	2008	2009	2010	2011
Total yearly number of originating minutes	181,757,317	222,771,633	249,498,431	308,468,486	380,211,195	492,755,686
Vodafone	53.8%	55.4%	56.6%	54.9%	48.9%	49.3%
GO	46.2%	44.6%	43.4%	37.7%	35.0%	28.1%
Melita	-	-	-	7.4%	16.2%	22.6%

The table above shows the annual market shares, with respect to mobile subscriptions and mobile voice traffic, of Vodafone, GO and Melita between 2006 Q4 and 2011 Q4.

As has already been highlighted in this document Vodafone, GO and Melita are the three main mobile network operators in Malta, offering not only retail services to end users but also wholesale access services to potential operators wishing to provide mobile services at the retail level, without the need to have their own built network.

In its 2006 decision on this wholesale market the MCA had established that no one operator enjoyed significant market power on its own. With Vodafone and GO being the only two players in the wholesale mobile access and call origination market, the MCA had explained that market shares in subscribers and volume of originated minutes of both operators were too symmetric as to point the MCA to a conclusion of single dominance.

Since then a number of market developments have taken place and market shares have evolved as a result of these changes. Since launching its mobile service in February 2009, Melita has managed by 2011 to capture 10.7% of the market in terms of subscriptions. By way of originating minutes, Melita's market share reached 22.6% by 2011.

In terms of subscriptions, Vodafone has more or less retained the same market share it enjoyed in 2006; this while the mobile market grew by more than 50%, in terms of actual subscriptions, between 2006 and 2011. Statistical evidence, however, also shows that Vodafone's market share, although exceeding 50% has been constrained from growing further, particularly from 2009 onwards when Melita launched its mobile service. GO, on the other hand, lost around 10 percentage points of the market share it had in 2006.

When it comes to originating traffic both Vodafone and GO lost market share when compared to 2006 levels. Vodafone's market share in this respect fell by 4.5 percentage points while GO's market share decreased by a significant 18 percentage points.

In view of this assessment, it therefore transpires that the incumbents' (Vodafone and GO) market position has been somewhat constrained by Melita's entry into the market over three years ago. To this effect, and despite the fact that Vodafone continues to hold 51.8% of the market in terms of subscriptions, the MCA concludes that no operator holds single dominance.

This conclusion can be further supported by the MCA's assessment of the first criterion whereby it had been explained that although certain barriers to entry are inherent to the wholesale mobile access and call origination market they do not appear to be posing a considerable constraint on market entry. Throughout its assessment of barriers to entry, the MCA has not found any evidence that Vodafone or GO hold single market power in the wholesale mobile market by way of barriers to entry. Neither did it find Vodafone or GO to hold significant advantage over each other and/or over Melita as a newcomer.

On the contrary, the first criterion assessment has illustrated that in some cases, particularly with economies of scope, Melita being better horizontally integrated may have a competitive edge over the incumbent Vodafone. In view of this the MCA therefore suggests that all operators are, in some way or another, at balance with each other, to the extent that no one operator can be concluded to hold single dominance and deter the development of potential competition.

Having therefore ruled out single dominance, this document will next investigate the likelihood of the wholesale mobile market being subject to a joint dominance position between two or more operators as was the case in the 2006 decision. In so doing, the MCA will test a number of criteria as per the EU Commission guidelines on market analysis and the assessment of significant market power.

4.4.2 Assessment of collective dominance

Article 82 of the EC Treaty provides for a situation where dominant position can be held by one or more undertakings. Article 14(2) of the framework Directive also provides that an undertaking may enjoy significant market power, that is, it may be in a dominant position, either individually or jointly with others.

According to recital 26 of the framework Directive *'two or more undertakings can be found to enjoy a joint dominant position not only where there exist structural or other links between them but also where the structure of the relevant market is conducive to coordinated effects, that is, it encourages parallel or aligned anticompetitive behaviour on the market'.*

In view of this, in assessing the existence or emergence of a market which is conducive to collective dominance in the form of tacit coordination, recital 96 of the EU Commission Guidelines specifies that NRAs should analyse:

a. whether the characteristics of the market makes it conducive to tacit coordination; and

b. whether such form of coordination is sustainable, that is

   i. whether any of the oligopolists have the ability and incentive to deviate from the coordinated outcome, considering the ability and incentives of the non-deviators to retaliate; and

   ii. whether buyers/fringe competitors/potential entrants have the ability and incentive to challenge any anti-competitive coordinated outcome.

Characteristics conducive to tacit coordination

For two or more operators to successfully collude with each other it is important to have present two important conditions; the *incentive* and *ability* to enter into coordinated practices. The characteristics that satisfy these conditions and facilitate such coordination shall be investigated below.

Homogenous Products

In essence all the main mobile operators in Malta have 3G network infrastructures that enable them to provide the same services and products at identical service levels. Today these services are not only restricted to the traditional voice call offerings but comprise other value added services, such as data related services, which all three network operators are providing over their 3G network. Furthermore, all mobile network providers operate at a national level and are thus able to reach the whole population in the same way. For this matter, it is possible to suggest that all conditions are in place for two or more operators to undertake coordinated practices via identical product offerings.

Naturally, as outlined in Appendix 2 to this document all mobile network operators provide an array of services tailored to meet the requirements of their customers. Having said this, the MCA notes that with a joint dominant position between Vodafone and GO prevailing in the mobile market for a number of years, some mobile services are in essence identical. For example it immediately transpires from the list of products that both Vodafone and GO offer very similar postpaid tariff plans and packages catering for low, medium and high end retail mobile users. Similarly, some prepaid tariff plans are also almost identical, as is particularly the case with Vodafone's *Talk More* and GO's *Talk & Talk* plan.

However, while a degree of product homogeneity between Vodafone and GO is still evident, the MCA has observed a marked improvement in the overall packages offered by these operators in terms of prices, as well as value for money.

The MCA notes that since Melita launched its first mobile services in 2009 the incentive for collusion between Vodafone and GO has been restricted. Melita today are offering very competitive tariff plans and have, for example, recently launched the *Tentastic* top up plan which is the cheapest call rate offered so far at €0.10 per minute to all local numbers[9]. To consolidate their market, Vodafone and GO have both devised their own separate strategies to match this new competition, leading to a breakdown of any former coordinated practices.

For example both Vodafone and GO embarked on a number of mass marketing strategies to target specific customer profiles, such as the *student plans*. However, while these plans are similar in concept, the tariffs and packages launched vary considerably and cannot be said to be homogenous. In an attempt to strengthen its prepaid customer base, Vodafone has also launched the *Trio Packs*. These new offerings bundle together a number of free minutes, SMSs and internet data within the tariff scheme.

GO, on the other hand, has also launched a number of distinct mobile products such as the *Talk plan* aimed at high end voice users on a prepaid scheme.

In view of this product analysis the MCA therefore concludes that while certain products are in essence identical, recent market developments have led all network operators to devise their own market strategies and launch distinct tariff plans and mobile packages. The MCA notes that the arrival of a new operator in the mobile market has somewhat restricted the incentive enjoyed by the other two incumbent operators to collude and engage into coordinated practices. Melita's launch of new services compelled Vodafone

[9] Link to *Tentastic* promotion on Melita's website:
http://www.melita.com/personal/mobile/packages/pre-paid-top-up-plan/

and GO to be innovative in their launch of new products and as a result today different products and tariff plans are being offered to mobile subscribers.

Similarity in Market Share

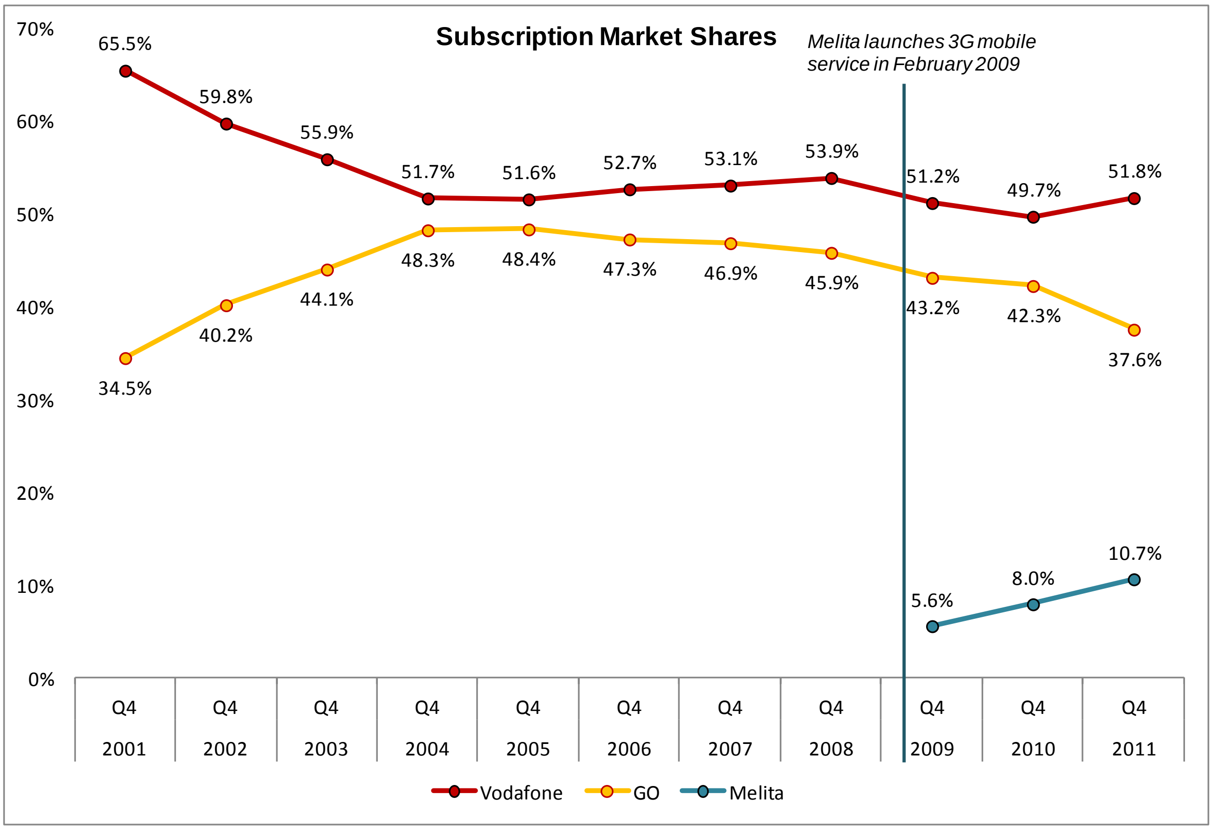
As has already been explained in the assessment to single market dominance, market share analysis is generally the first criterion used to indicate the presence of dominance in a market. Having already established that no operator enjoys single dominance in the wholesale mobile access and call origination market the MCA shall now use the same market share analysis to investigate the likelihood of the wholesale mobile market having a joint dominance position between two or more operators as was the case in the 2006 decision.

On the basis of 2006 evidence the MCA had noted that the market shares for subscribers and the volume of minutes originating from both Vodafone and GO had been constantly converging. In effect, this similarity in the market shares has led the MCA to conclude that Vodafone and GO had a clear incentive to coordinate their practices in the market place as to maintain stability and maximise their returns around a joint dominance position. In the absence of potential competition from a third network operator this incentive to maintain the prevailing symmetric position in the market had been further strengthened. Consequently, the MCA had concluded that the market structure in 2006 was conducive to tacit coordination.

However, with Melita joining the wholesale mobile market in 2009 there has been a substantial development in market shares and it has already been concluded that no operator enjoys single market dominance. These developments are illustrated in chart 5 and 6 below.

Chart 5 depicts the trend in market shares as regards mobile subscribers while Chart 6 depicts the trend in market shares with respect to the number of originating minutes. Both charts cover the eleven year period from 2001 to 2011.

Chart 5

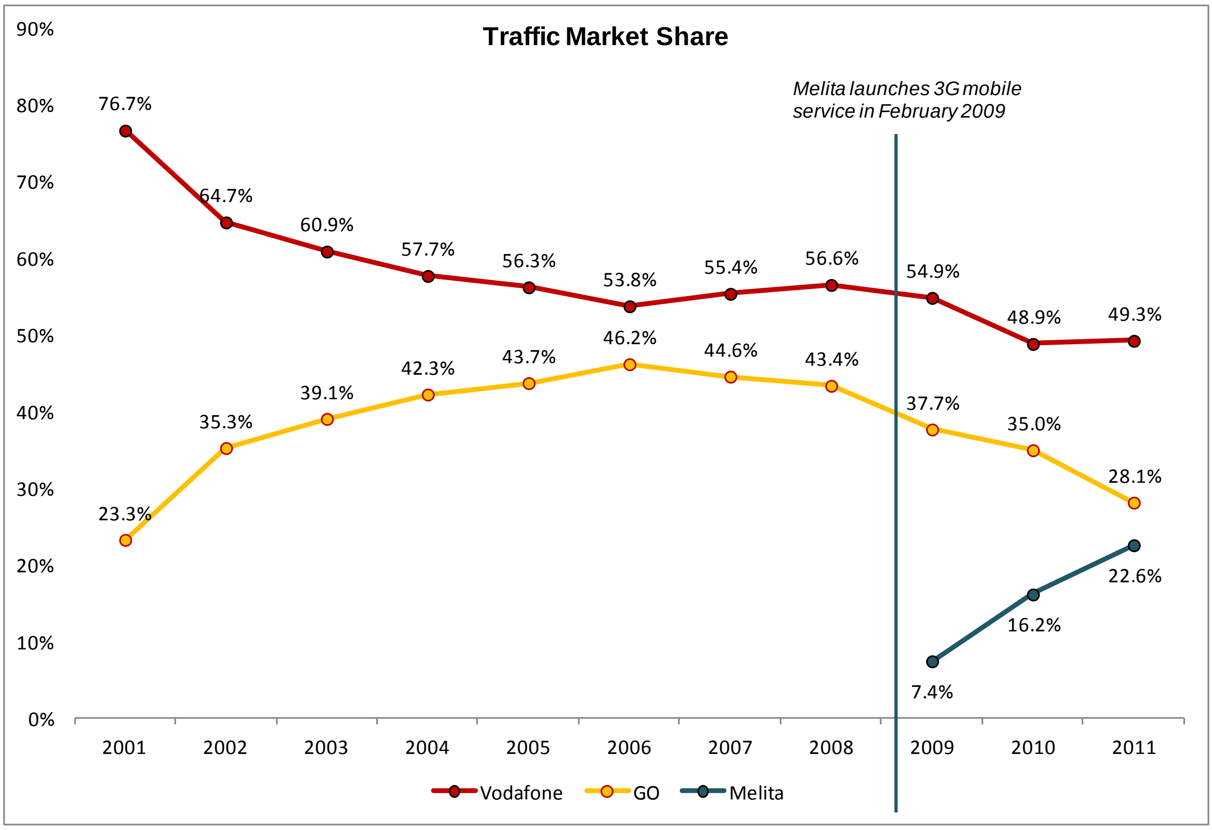


Up until December 2000, Vodafone held a monopolist position in the provision of mobile services. The arrival of GO mobile the following year however initiated price competition and opened the way for the provision of new services in the market. A marked improvement in the quality of services had also been registered as a result.

With two network operators now competing in the market, there was a surge in the number of new subscribers. The strategy adopted at the time by GO mobile was intended to reduce prices in an attempt to attract the largest possible number of new subscribers as well as customers willing to churn away from Vodafone. This strategy had eventually paid off as GO managed to acquire a good number of new subscribers, together with a number of customers from Vodafone.

Consequently Vodafone's market share in terms of subscribers and traffic had started to erode, and was heading towards the 50% mark by 2004. Notwithstanding this Vodafone still managed to consolidate its market as mobile penetration rates in Malta grew substantially and translated into a higher absolute number of subscribers. To this effect Vodafone's market share did not fall any further and stabilised around 50% between 2004 and 2008. Market shares in terms of traffic volumes for both network operators also converged towards 50% during this period.

Chart 6



In view of this the MCA had therefore started to note that Vodafone and GO were becoming relatively similar and that there existed a clear incentive for both operators to coordinate their practices as to maintain their symmetric position in the market. Following further market evidence the MCA had established that Vodafone and GO were in fact coordinating their market behaviour and thus concluded a joint dominance position between the two operators in the 2006 decision.

However, with Melita joining the wholesale mobile market in 2009 the similarity in the market shares that was between Vodafone and GO started to break down. GO's market share in terms of subscribers fell from 45.9% in 2008 to 37.6% in 2011. Vodafone's subscription market share on the other hand continued to hover close to 50%. In terms of market shares with respect to the number of originating minutes GO's market share fell from 43.4% in 2008 to 28.1% in 2011 while Vodafone's market share fell to 49.3% from 56.6% in 2008.

To this effect, the MCA concludes that the incumbent operators, Vodafone and GO no longer today have an incentive to coordinate practices. Both operators have diverging market characteristics which require different strategies in order to compete with each other and the third network operator. For this matter, the MCA feels that the current market structure as defined by market shares is no longer conducive to tacit coordination as to lead to a finding of joint dominance.

Market Concentration

Market concentration is concerned with how much power resides in the hands of firms in a particular market. To this effect, market concentration measurements are a very useful tool in this assessment for they can give us a further indication of market power in the wholesale mobile market, in comparison to previous years or to other industries.

There are various ways of measuring market concentration. However, one of the most commonly accepted measures is the Herfindahl-Hirschmann Index (HHI). Unlike some other measures of market concentration the HHI gives a much greater prominence in the data to the larger firm by taking also into account the relative size and the distribution of power between the firms in that market. This index does that by squaring the subscriber market shares of each firm competing in the market and then summing the resulting numbers.

The index will approach zero when a market consists of a large number of firms of relatively equal size. Where each firm is infinitely small, then squaring an infinitely small amount and adding them will give 0, and this is typically symptomatic of a perfectly competitive scenario. On the other hand, the HHI will increase as the number of firms in the market decreases and as the disparity in size between those firms increases.

The US Department of Justice and Federal Trade Commission Horizontal Merger Guidelines explicitly specify thresholds defined in terms of the HHI. Accordingly, markets in which the HHI is between 1000 and 1800 points are considered to be moderately concentrated, and those in which the HHI is in excess of 1800 points are considered to be highly concentrated.

As with the 2006 decision on the wholesale mobile market, it had been explained that the Maltese mobile market at the time was characterised by a duopolistic market structure and therefore expected to be highly concentrated. In fact, with Vodafone holding a subscriber market share of 52.7% and GO 47.3% as at 2006 Q4, the HHI calculation for the market resulted at 5015 points. Moreover, the MCA had concluded that given the observed stability in the market dynamics during the time, market shares were likely to remain stable over the timeframe of that review with Vodafone and GO approximately sharing an equal number of mobile subscribers. In so concluding, the MCA had not seen any potential dilution in the market concentration and expected it to remain high during the next years.

In view of this the MCA felt that this high market concentration would be conducive to coordinated practices on the part of both operators. Furthermore, the symmetry in market shares and the sustainability of the situation would have ensured that both operators are likely to benefit fairly the same from engaging in coordinated practices.

The entry of a new operator would however increase the number of operators in the mobile market and would as a result lower the level of market concentration. In fact with the arrival of Melita mobile services in 2009 market concentration has been somewhat diluted. To begin with, market power today is no longer in the hands of the two incumbent operators but split among three mobile network operators; with the latest operator Melita having already captured 10.7% of the market in subscriptions. In calculating the HHI it also transpires that the market today is less concentrated than it was in 2006 for the resulting index is 4,211 points, 804 points less than in 2006.

The MCA believes that this market concentration index will continue to subside during the timeframe of this review. The market share trends above show that Melita's market share in terms of subscribers has been constantly growing and there appears to be no stall to this development as the retail mobile market continues to grow with penetration rates of 125% as at 2011. The market share for Melita in terms of traffic volumes has also been steadily growing and now stands at 22.6% of the total number of originating minutes.

Meanwhile, as illustrated later on in this document, the number of mobile portings is quite high; a clear indication that mobile customers have been responding to the various tariff plans launched, by switching from one operator to the other. The MCA deems that the probability of Melita capturing a substantial number of these customers is quite high as it continues to launch nationwide marketing strategies and offers intended to rope in new and existing subscribers.

In view of this evidence, the MCA therefore concludes that even though market concentration is still high today by the HHI standard, it no longer presents an incentive for operators to collude and coordinate practices. With market shares today quite uneven and operators launching their own distinct products and pricing strategies the MCA deems it unsustainable and outside any scope to coordinate practices. Moreover, the MCA expects that with these developments market concentration will continue to fall as market power gets more evenly distributed among Vodafone, GO and Melita.

Lack of Reduced Scope for Price Competition

According to 2006 market conditions, it had been concluded that Vodafone and GO had a symmetric position in that both had very similar market power and each offered an overall identical portfolio of services. Such a symmetric position, complemented by market stability, transparency and lack of alternative competitors, was considered to facilitate the incentive and ability of interested parties to coordinate practices and to tacitly mute price competition.

In support of this thesis, the MCA had noticed that retail price levels during the period 2004 to 2006 had remained relatively stable with no significant movements in these price levels being reported. In the MCA's opinion, this practice was an indication that at retail level there was a lack of scope for price competition.

Both operators had realised that it was more profitable to resort to a common muted competition policy. Any decrease in price by one party, in order to gain market share, would have been immediately detected and countered by the other operator within a very short period of time. A deviation from the common outcome would have therefore not been profitable for any individual firm as it would have resulted in an overall lower market price and lower revenues. Consequently, it was more rational for the operators at the time to coordinate outcomes and maintain the current market and price structure.

The MCA believes that market conditions today no longer support the incentive for tacit coordination by way of muted price competition. The MCA notes that it is much more straightforward to coordinate practices when there are only two operators in a market. As the number of firms in a market increases it becomes more difficult to successfully organise, collude and communicate outcomes. With the arrival of Melita the MCA has already been explaining that the latter is likely to be the case.

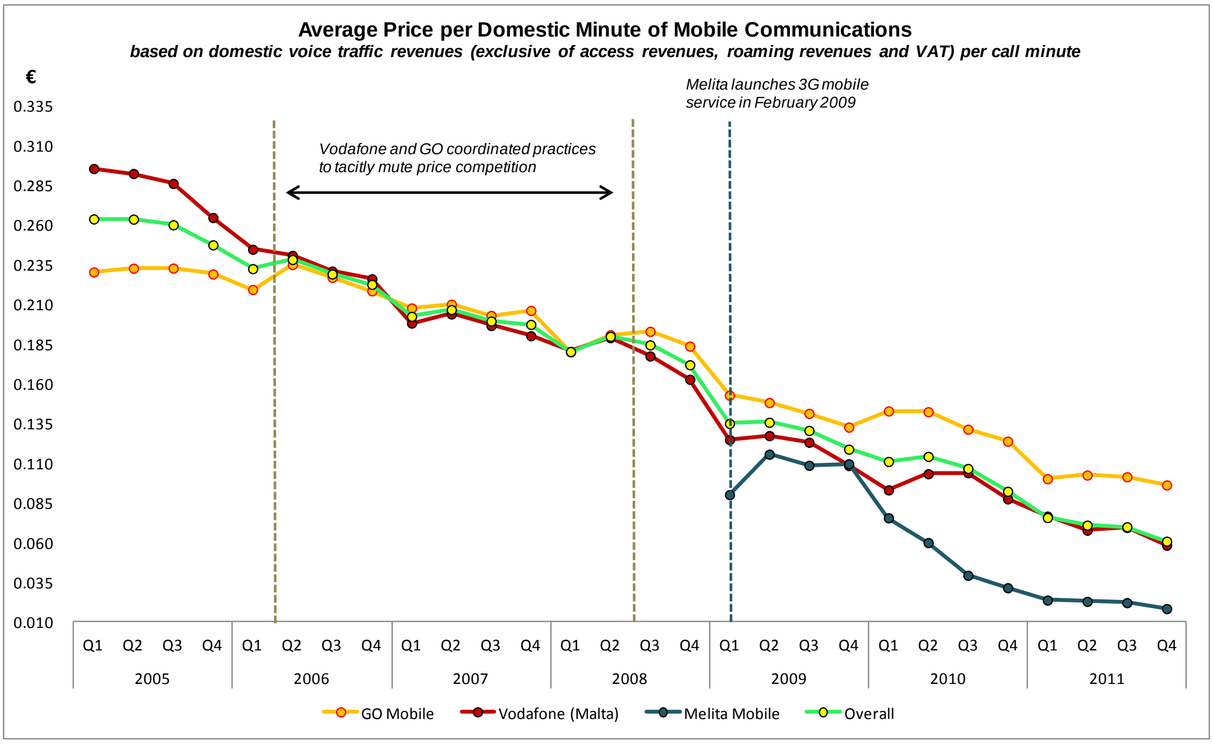
To start with, Melita has broken down any form of symmetric position enjoyed by Vodafone and GO as at 2006. Moreover, market power today is no longer equally balanced among Vodafone and GO.

To consolidate their market power and possibly win back some of the customers lost to Melita, as well as capture a significant number of new subscribers in a growing market, both Vodafone and GO must devise their own pricing strategy to match this new competition. By tacitly agreeing to manage price levels, Vodafone and GO today realise that they risk losing more of their market share in terms of subscribers to Melita, which in turn continues to undercut the incumbents' initial symmetric position with the launch of new products and offers.

It has already been mentioned in this document that Melita today are offering very competitive tariff plans and have this year launched the Tentastic top up plan which is the cheapest call rate offered so far at €0.10 per minute to all local numbers. In view of this scenario, the MCA has already illustrated that a number of different mobile products and tariff plans have been launched by Vodafone and GO, leading to a breakdown of any former coordinated practices and muted price competition.

In support of this trend, the MCA notes that retail tariffs of all operators over the past three years have been falling. The average price movements per domestic minute of mobile communications as based on domestic voice traffic revenues (exclusive of access revenues, roaming revenues and VAT) per minute call and illustrated in Chart 7 below is a clear confirmation of this.

Chart 7



From this illustration it immediately transpires that during the period 2006 to 2008 retail tariffs for GO and Vodafone were nearly identical and any movements in the average price over this period were relatively smooth. The MCA was therefore correct to conclude that both operators were coordinating practices to tacitly mute price competition. As of 2008 Q3 where Melita had already made public its intention to enter the market and launch its own network operated service retail tariffs started to fall considerably. Indeed the sheer threat of competition by a third network operator had moved the incumbent operators to lower their tariff plans and match the upcoming competition, while at the same time consolidate their market share and presence.

Since Melita joined the mobile market in early 2009 the tariff rates it offered have been lower than any other operator and lower than the market average. At one point (2009 Q4) Vodafone had managed to match the average retail prices being offered by Melita but was soon undercut as the latter continued to reduce prices in an attempt to attract the largest possible number of new subscribers as well as customers willing to churn away from the incumbent operators. In response, Vodafone and GO followed suit in their own respective way, breaking down any coordination strategy that existed on muted price competition.

In light of this the MCA notes that Vodafone and GO today no longer offer identical retail tariff rates and while GO is priced above average, Vodafone's retail tariff is more or less at par with what is charged on average by the market. Having said this, the overall average price per domestic minute has fallen by a significant 73% when compared to 2006 Q4 levels and today hovers around an average of €0.061 per minute.

This trend in lower prices has also been reflected into lower returns registered by the incumbent MNOs. The return of Vodafone and GO has declined on average by 36% since the last market review decision. Further information is being supplied in Appendix 3 (Confidential).

The MCA believes that this outcome is conducive to a competitive scenario and contrary to what would induce single or joint dominance the mobile market today is not characterised by lack of reduced scope for price competition. The MCA also concludes that while retail mobile tariffs in Malta may still be high in comparison to some other EU countries, the downward trend having been experienced since Melita joined the market is expected to persist during the timeframe of this review.

Sustainability of tacit coordination

For any tacit coordination to be successful, market conditions must not only be conducive to allow such practices but must also ensure that such coordination be sustainable over time. In essence, sustainability over time requires two main conditions to be satisfied. Firstly, sufficient transparency in the market such that members of the dominant oligopoly can detect cheating and secondly, an effective retaliatory mechanism with which they can retaliate following cheating by one of the members of the oligopoly.

So far it has already emerged that the likelihood of the wholesale mobile market having a joint dominance position between two or more operators is remote. The analysis presented above shows that market characteristics today no longer support tacit coordination.

For this reason the MCA feels that it would be rather a futile exercise to test for conditions that determine the sustainability of tacit coordination when it has already concluded that the market is moving towards a competitive outlook and that no operator enjoys single or joint dominance. The MCA will in turn produce further evidence to support the case for a competitive wholesale market.

4.4.3 Assessment of overall competition

On the basis of findings at hand, the MCA deems that the wholesale mobile access and call origination market is moving towards a competitive outcome. In the first instance it has found that barriers to entry, although in part inherent to the wholesale mobile market, do not appear to be posing a considerable constraint on market entry.

Under the second criterion assessment the MCA has also found that no operator today enjoys single market dominance. Subsequently, the MCA has ruled out the possibility of a subsisting joint dominance market position in line with the 2006 decision. All market conditions generally conducive to tacit coordination have resulted to be inadequate and the incentive that existed for operators to tacitly coordinate practices has been broken down by the arrival of a third mobile network operation.

In view of these developments the MCA therefore concludes that the market is moving towards a competitive outcome and will not retract from this position during the timeframe of this review. In support of this, the MCA has illustrated a number of market movements and characteristics as follows:

Potential Competition – New Network Operators and MVNOs

Potential competition refers to the prospect of new undertakings joining the market within a short period of time or existing operators capable of competing with the incumbent operators. In essence, the sheer threat of competition may prevent incumbent operators from raising prices above competitive levels; an attempt that can lead to a margin squeeze and thus keep back potential entrants.

The MCA has already registered the fact that since Melita joined the mobile market with its own network infrastructure in 2009 market shares in terms of subscriptions and more so in volume of traffic, have changed noticeably. In response to this market entry, new products have been launched and retail tariffs have gone down, in what has already been described in this document as an attempt by the incumbent operators to consolidate their market shares, and at the same time match the new competition.

At one point the MCA had also noted that this attempt to reduce tariff rates had in fact come sometime before Melita had actually launched its mobile services. Indeed, the sheer threat of competition by a third network operator had moved the incumbent operators to lower their tariff plans in anticipation of the upcoming competition. With three network operators in the mobile market it is therefore a clear indication that the market has started to respond and is likewise moving towards a competitive outlook.

At the same time, new potential operators are not precluded from setting up their own network during the timeframe of this review. Setting aside the merits of whether it is feasible for someone to enter a three-operator market with a new network, relevant spectrum bands are still unassigned and new operators thus have the opportunity to apply for one of these bands if they want to enter the market by investing in their own network infrastructure.

If, on the other hand, setting up one's own network is deemed to be a costly exercise by the potential operators there exist alternative ways to enter the market. The MCA has explained that a number of other operators have also started to offer their mobile services, by way of the MVNO business model. In all, three MVNOs are currently providing mobile services in Malta.

However, one may argue that these MVNOs are not sufficient enough to hold to account the more established network operators and induce effective competition. As illustrated in Table 4 below their presence in the market is not influential. Notwithstanding this, the MCA argues that these MVNOs, like network operators, are providing alternative mobile services which benefit consumers and increase choice of products in the market. More importantly the MCA explains that MVNO agreements have been concluded on a voluntary basis through commercial negotiations and not by way of some regulatory intervention or obligation.

Consequently, the MCA concludes that with the emergence of MVNOs, together with the advent of Melita mobile services the market is now subject to competitive forces. Looking forward the MCA, believes that such developments can be sustained in a market without regulation.

Table 4– Retail Market Shares

MOBILE SUBSCRIPTIONS	2006 Q4	2007 Q4	2008 Q4	2009 Q4	2010 Q4	2011 Q4
Total number of mobile subscriptions	**346,771**	**368,530**	**385,636**	**422,083**	**455,579**	**521,748**
Vodafone	52.7%	53.1%	52.1%	49.6%	47.7%	49.8%
GO	47.3%	46.9%	45.9%	43.2%	42.1%	37.4%
Melita	-	-	-	5.6%	8.0%	10.7%
Redtouch fone	-	-	1.8%	1.7%	2.0%	1.9%
Ping	-	-	-	-	0.16%	0.14%
YOM	-	-	-	-	0.04%	0.05%

Market Growth and Maturity

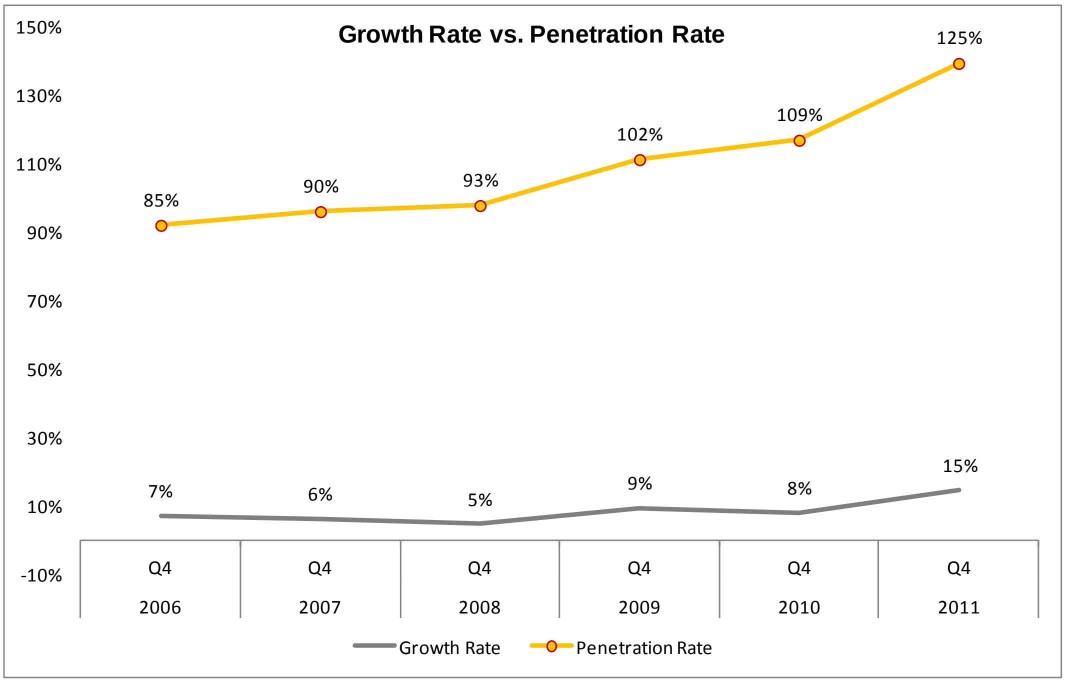
Market maturity, particularly evidence of stagnant or moderate demand-side growth, is an important aspect to the assessment of overall competition. This is because in a mature market there may be less of an incentive to compete aggressively. This situation would tend to create more favourable conditions for the adoption of coordinated behaviour, as there would be less incentive for players to compete and attract new customers. Similarly there would be less scope for successful market entry as a new operator would find it difficult to acquire market share where growth in demand is low.

With reference to the local scenario as illustrated in Chart 8 below, growth rates in the number of subscribers over the period 2006 to 2008 had stabilised at around 6%. However, as at 2009 growth in the number of subscribers had somewhat intensified and a growth rate of 15% was observed between 2010 and 2011. To this effect, mobile penetration rates also increased and have reached new record levels of 125% in 2011.

In some respects the high penetration of mobile telephony indicates that this market can be considered to be mature. The MCA however believes that this observed growth in subscribers is in line with Melita's entry into the market and the resultant increase in competition.

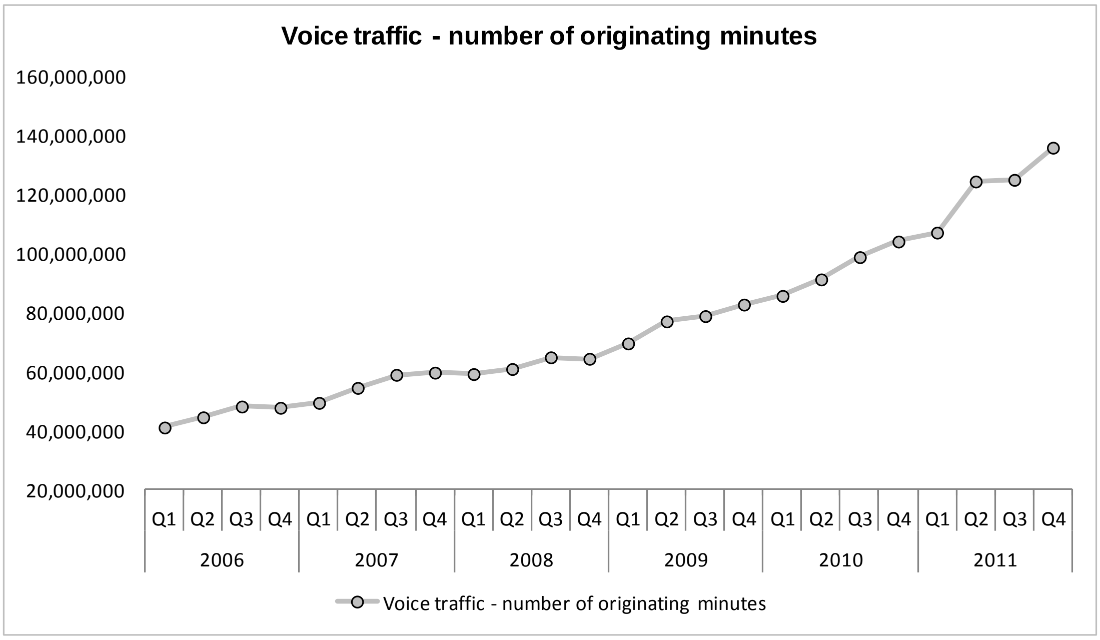
As already highlighted in detail above, the arrival of a third network operator initiated price competition and opened the way for the provision of new services in the market. In turn these market developments have resulted in a surge of new subscribers and a significant number of current customers opting to subscribe to an additional mobile network, while at the same time retaining their original connection, in order to avail themselves of the offers being launched from time to time.

Chart 8



While the MCA is of the opinion that growth rates will once again stabilise and the mobile market will eventually reach maturity levels, this is not deemed to happen during the timeframe of this review. At the outset, demand side growth in terms of new subscribers is a clear incentive for new entry and for market players to compete in order to rope in more subscribers and acquire more presence in a market that is so far growing.

Chart 9



Moreover, as reflected by the steady growth in the number of originating minutes (Chart 9) mobile usage has continued to increase and is expected to remain so during the timeframe of this review as the average retail tariff per minute call continues to fall.

According to the MCA this is not only indicative of a competitive outcome but an incentive for new operators to join the mobile market and compete with current undertakings to achieve their share of the market.

Conclusively, in view of all this the MCA believes that while the mobile market has been growing for the last years and may very well reach saturation levels in the near future, the market itself is still conducive to attract new competition during the timeframe of this review. At the same time current competitive levels are also expected to be upheld during the timeframe of this review as existent operators continue to compete with each other in order to rope in more customers and acquire a higher market share.

Countervailing Buyer Power

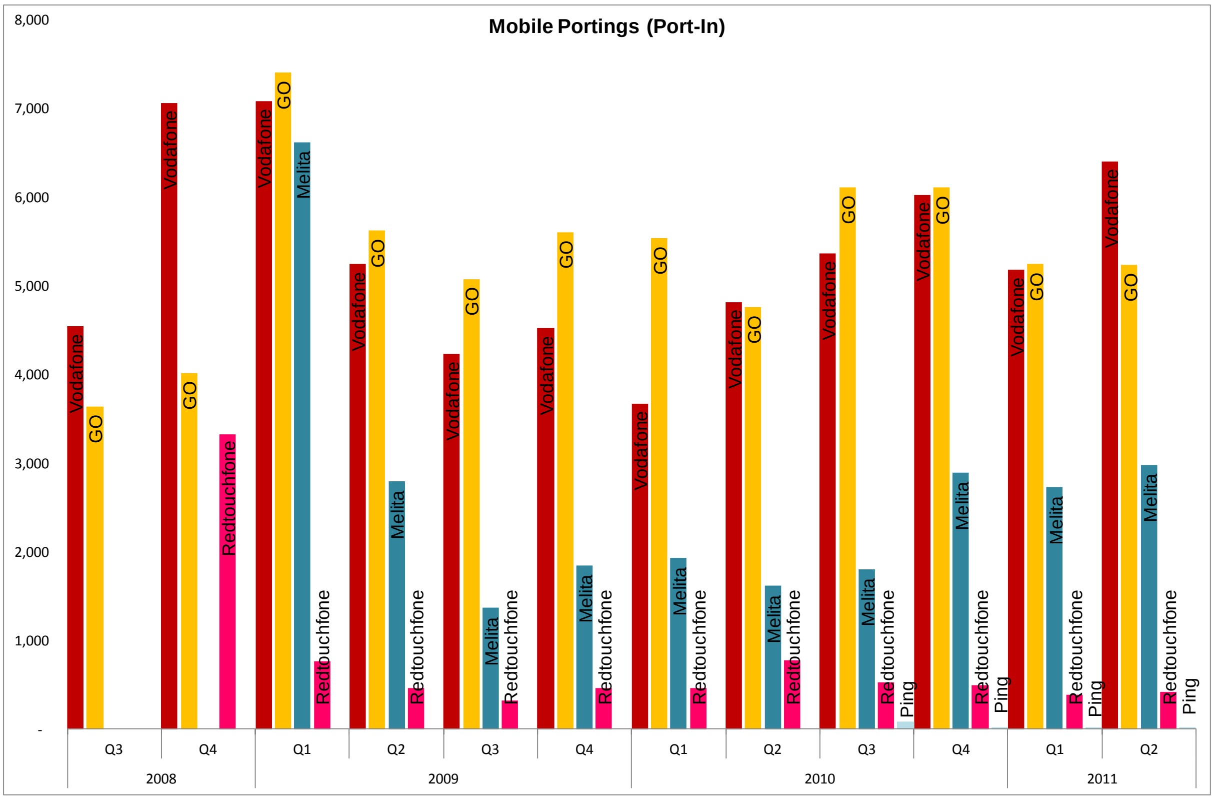
Customers with a strong negotiating position may significantly shape the level of competition in a market as this will tend to restrict the undertakings' ability to exercise market power and to act independently of their customers. In effect, when customers can exert significant pressure on a supplier of a good or service, they can effectively stop an attempt to increase prices by service providers. The extent of countervailing buyer power 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.

At the retail level, the MCA notes that customers have the possibility of acquiring mobile services from a number of operators, all of which are offering extensive and high level services to all networks in Malta. In view of this, customers can potentially exert countervailing buyer power to sufficiently constrain any market power enjoyed by a local operator. However the ease with which consumers can switch between one option and another does not solely depend on the range of services available by different operators. In essence, it also depends on whether barriers to switching are significant and therefore pose a constraint on consumers to change a particular service or an operator altogether.

In effect where switching costs are high or where subscribers are bound by a contract, then switching to alternative options may prove to be difficult. Likewise, new operators would find it likely difficult to penetrate the market and effectively compete with the incumbent operators.

With respect to the local mobile market, switching costs for prepaid customers, which comprise the vast majority of the mobile market in Malta (80%), are close to nil. On the other hand, postpaid subscribers which amount to 20% of the local subscriber base may incur some kind of exit fee if they wish to discontinue their current service before the contract expires. All in all however, the MCA notes that the level of switching between operators has been quite steady over the recent years and consistent high numbers of mobile portings effectively show ease of switching between operators (Chart 10).

Chart 10



In view of this assessment it is therefore evident that barriers to switching are not significant and the ease with which mobile customers are switching from one operator to another to avail themselves of the latest offers and tariff plans and products is quite unrestricted.

To this effect the MCA concludes that at retail level, customers have been able to exert countervailing buyer power to sufficiently constrain the market power enjoyed by Vodafone and GO.

Overall conclusion

With reference to the assessment of the second criterion above the MCA found sufficient evidence to conclude that the wholesale mobile access and call origination market today is effectively competitive, with no operator enjoying single or joint dominance, and is expected to remain so during the timeframe of this review.

This conclusion is supported by a number of factors including:

- Barriers to entry, although present, do not appear to be posing a significant constraint. For example it requires significant upfront investment for a new operator to set up its own mobile network. This will also result in significant sunk costs. Also economies of scale are likely to be enjoyed by the incumbent operators. Notwithstanding this, new entry has happened. Melita has joined the market with its own built network and is today in direct competition with the incumbent operators GO and Vodafone. Moreover Melita can avail of economies of scope since it is horizontally integrated.

- A number of MVNO agreements have also been concluded on a voluntary basis through commercial negotiations rather than by way of some regulatory intervention.

- Spectrum availability should not pose a constraint on new entry in the foreseeable future – a number of spectrum bands remain unassigned.

- Vodafone and GO's market position has been somewhat constrained by Melita. In terms of subscriptions Vodafone's market share remained stable at 51.8%. On the other hand GO lost circa 10 percentage points of the market it had in 2006 in terms of subscriptions. No operator today holds 50% of the market in terms of voice traffic.

- Since Melita launched its mobile services in 2009 the incentive for collusion between Vodafone and GO has been restricted. Melita today is offering competitive tariff plans – e.g. the *Tentastic* top up plan (€0.10 per minute to all local numbers). To consolidate their market, Vodafone and GO have both devised their own separate strategies to match this new competition, leading to a breakdown of any former coordinated practices.

- To this effect new products have been launched and retail tariffs have significantly gone down. Moreover, with Melita now in competition with the incumbents, the similarity in the market shares that was between Vodafone and GO started to break down.

- Year on year the number of subscriptions is still growing and has reached penetration rates of around 125% as at 2011. Increased mobile usage has also been observed and reflected by the steady growth in the number of originating minutes. These growth trends are expected to be persistent during the timeframe of this review as the average retail tariff per minute continues to fall.

- Consistent high number of mobile portings shows ease of switching between operators and implies high countervailing buyer power – of course ease of switching favours new entrants and induces effective competition.

4.5 Assessment of third criterion

The Recommendation states that, '*the decision to identify a market for ex ante regulation should also depend on an assessment of the sufficiency of competition law to address the market failures that result from the first two criteria being met*'. The Recommendation also adds that, '*competition law interventions are unlikely to be sufficient where the compliance requirements of an intervention to address a market failure are extensive or where frequent and/or timely intervention is indispensable*'.

In its assessment of the first and second criteria the MCA has given careful consideration to factors which could inhibit market entry and potentially restrict competition within the timeframe of this review. In this respect, the MCA concluded that some barriers to entry although inherent to the wholesale mobile access and call origination market do not pose a significant constraint, for new entry has happened. It also establishes that no operator enjoys single or joint dominance in the wholesale mobile access and call origination market and that this market is effectively competitive. To this result, the MCA can conclude that the first two criteria are not met with respect to the wholesale mobile access and call origination market.

In its assessment of the third criterion, which is being carried out independently of the findings and conclusions in the assessment of the first two criteria, the MCA considers to what extent it is possible to assume that restrictions on competition or potential market failures may still arise in the wholesale mobile access and call origination market. In this perspective, the MCA assesses whether competition law by itself is sufficient to provide adequate redress to market shortcomings.

The MCA notes that, given the characteristics of the examined market, none of the local operators can afford to engage in anti-competitive behaviour by increasing the price of its services without losing customers to competitors. No supplier can actually behave independently of competitors as all network providers are offering a ubiquitous service and have sufficient capacity to handle larger volumes of mobile traffic. Any such price increase would therefore result in a shift of customers from that operator to the competition.

On the wholesale front, no supplier can behave independently of wholesale customers as these can easily switch from one service provider to another without incurring significant additional costs.

The MCA deems it very unlikely for these characteristics to change within the timeframe of this review and therefore concludes that there is limited scope for competitive shortcomings in the wholesale mobile access and call origination market in the foreseeable future. Even so, in the absence of ex ante regulation, the Office of Fair Competition within the Malta Competition and Consumer Affairs Authority can effectively deal with any potential issues that may arise in the local wholesale mobile market, through vested ex post powers.

4.6 Summary of responses to national consultation and the MCA's replies regarding the market analysis

The MCA notes that both respondents to the consultation have agreed with the findings of the market analysis, albeit with some qualification.

GO agrees and supports the finding that there is no collective dominance in the market under review. According to GO, it is clear that with the entry of the third mobile operator the market shares and positions of both Vodafone and GO have continued to diverge, leaving little scope for any collusive behaviour.

On the other hand, however, GO expresses some reservations on the MCA's conclusion that no operator holds single dominance in the wholesale mobile access and call origination market. In GO's view there is sufficient evidence to conclude that *'Vodafone* *enjoys enduring long term dominance in the mobile market in general and in the market under review in particular'.*

According to GO, Vodafone has a unique advantage in the market in that it forms part of the world's largest mobile operator. GO argued that Vodafone's global reach affords its Maltese subsidiary unique advantages that result in economies of scale and product intelligence which may not be available to other operators in Malta.

In its submission, GO also referred to Vodafone's market share in terms of mobile connections, arguing that it has hardly moved since the last market review in 2006. This, according to GO, is in contrast to the experience of market shares of other operators. In effect GO believes that Melita's gain in market share came solely at the expense of GO with Vodafone *'losing practically no market share'*.

On the other hand, in its response Vodafone laid stress on the impact that certain undertakings may have on the local market as a result of horizontal integration. According to Vodafone this advantage allows these undertakings to provide a multitude of services to end-users, thus precluding other undertakings from making a significant impact in the market and hence also preventing lasting competition.

In its response to GO's comments the MCA acknowledges that Vodafone enjoys economies of scale in the local market, as also does GO itself. As has already been explained in the market analysis, both Vodafone and GO have now been present in the mobile market for a number of years and have managed to establish themselves as nationwide service providers of mobile telephony access. To this effect, each of these two operators have today over 200,000 mobile subscribers which is likely to result in similar economies of scale.

On this basis, the MCA therefore believes that Vodafone holds no unique advantage in the market over GO as to induce one to conclude that a situation of single dominance on the part of Vodafone subsists. Furthermore, the MCA had also noted that new entry has occurred since the last market review and both GO and Vodafone had to adapt their behaviour in the market to compete with the new entrant. Such an environment does not give rise to the presumption of single dominance.

The MCA also does not agree with GO's other claim that Vodafone should have been found to enjoy single dominance on the basis that its market share in subscriptions has remained relatively stable. While it is true that Vodafone's market share in mobile connections has continued to hover around the 50% mark the MCA believes that Vodafone cannot act independently of the other operators.

According to Regulation 6(2) of the ECNSR '*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*'.

In this context, the MCA believes that Vodafone today no longer holds a position of economic strength as to afford it the power to behave independently of competitors, customers and ultimately consumers. Vodafone has had to respond to Melita's competitive mobile tariff plans by cutting down on retail tariffs while at the same time launching new products to match the new competition. It is only in doing so, that Vodafone has managed to secure its 2006 market position and subscription base. It is also noted that in terms of voice traffic no operator holds 50% of the market, implying that both incumbents are being constrained by the new competition.

As for GO, the MCA believes that it has failed to respond effectively to movements in the retail tariffs and continues to be priced above the market average. This, in the MCA's view has been the primary reason behind the fact that GO suffered the most in terms of market share erosion to Melita as more people switched to the competition to benefit from cheaper tariffs.

With this assessment the MCA therefore maintains its position that no operator holds single or joint dominance and that the mobile access and call origination market is effectively competitive.

In reply to Vodafone's comments the MCA acknowledges in its market analysis exercise that although Vodafone offers multiple services which can lead to some cost savings on common processes, the range of services is limited only to broadband access and to a very small number of fixed access connections.

Notwithstanding this, the MCA had also noted that Vodafone still managed to remain a key player in the local mobile market throughout the years. This goes on to confirm that economies of scope, although beneficial to the operator that enjoys them, do not constitute a constraint on the mobile market being investigated here. This conclusion can also be supported by statistical evidence as at 2011 Q4, whereby only 9.4% of all mobile postpaid subscriptions are part of a bundle offer. This, the MCA notes, is very low when compared to the other electronic communication services.[10]

[10] As at the end of 2011, 44.2% of all digital Pay TV subscriptions were purchased as part of a bundle while 40.9% and 42.4% of fixed broadband subscriptions and postpaid fixed line connections were part of a bundle offer.

4.7 Overall conclusion on the three criteria test assessment

On the basis of the findings from the three criteria test, the MCA concludes that:

1. The wholesale mobile access and call origination market does exhibit high and non-transitory barriers to entry, however these have not precluded market entry;

2. The wholesale mobile access and call origination market is effectively competitive and is expected to remain so within the timeframe of this review; and that

3. Competition law by itself is adequate to address any potential market shortcomings, should these arise in the absence of ex ante regulation.

Chapter 5 Regulatory Implications

5.1 Background to regulation

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.

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 or maintain any specific ex ante regulatory obligations. In the case where no SMP designation is made and where regulatory obligations already exist in the market, the MCA, in accordance with regulation 5(3) of the ECNSR, is to withdraw such obligations placed on undertakings subject to an appropriate period of notice to be given to all parties affected by such withdrawal of obligations.

5.2 Existing obligations

Prior to the revision of the EU Recommendation, the wholesale mobile access and call origination market was considered as part of the list of markets susceptible to ex ante regulation.

In accordance with its powers under the EU Regulatory Framework for Electronic Communications, the MCA carried out its first round of market reviews with respect to the provision of wholesale mobile access and call origination services in 2006. Under this review the MCA had established that Vodafone and GO jointly (collectively) held significant market power. To this effect the MCA had therefore concluded that the relevant market for wholesale mobile access and call origination was not effectively competitive[11].

Following this finding, the MCA imposed a number of regulatory obligations on both Vodafone and GO, mandating them to:

- provide sufficient access to, and use of, specific network facilities to undertakings making reasonable requests for mobile access and call origination services, including access to mobile network facilities for the purposes of deploying a full MVNO (as defined in the 2006 decision) and national roaming;
- provide all access obligations on terms and conditions which are fair, reasonable, and timely and which do not differ from those provided by Vodafone and GO to their own respective retail arm;

[11] Link to 2006 MCA Decision on Wholesale Mobile Access and Call Origination (Ex Market 15): http://www.mca.org.mt/article/wholesale-access-and-call-origination-mobile-networks

- apply a cost oriented pricing methodology to ensure fair and efficient access to Vodafone's and GO's network and services, by implementing a cost-based accounting system; and

- implement accounting separation so as to ensure that prices charged are non-discriminatory and transparent.

5.3 Decision on regulatory intervention

With reference to the evidence presented above the MCA concludes that the wholesale mobile access and call origination market today is effectively competitive, with no operator enjoying single or joint dominance, and is expected to remain so during the timeframe of this review.

Moreover, the MCA has also explained that it did not intervene to set access conditions for Full MVNOs. MVNO agreements have been concluded on a voluntary basis through commercial negotiations and not by way of regulatory intervention. Likewise Melita has joined the mobile market with its own built network and without requesting access to national roaming. Therefore developments in the wholesale mobile market happened co-incidental to the regulatory obligations set in the 2006 decisions.

Given these conclusions and considerations, and the provisions under regulation 5(3) of the ECNSR, the MCA does not deem it justifiable to mandate regulatory obligations on undertakings active in the wholesale mobile access and call origination market. To this effect, the MCA shall therefore withdraw existing regulatory measures governing the provisions of GO and Vodafone. This withdrawal shall however be implemented without prejudice to any other general obligations at law or remedies emanating from other market analysis decision.

In order to have a smooth transition from a regulated market to a non-regulated market, the MCA shall withdraw the existing obligations within 30 calendar days following the publication of the final decision concerning this market. This is in accordance with regulation 5(3) of the ECNSR. 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 wholesale mobile access and call origination market.

5.4 Monitoring of future market developments

The MCA considers that, given the dynamic nature of the local wholesale mobile access and call origination market, it is important to keep a close watch on the progress and developments in this market.

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 deterioration in the competitive level of the market.

Appendix 1

MCCAA
MALTA COMPETITION AND CONSUMER AFFAIRS AUTHORITY
Mizzi House National Road, Blata-l-Bajda, Hamrun HMR9010
Tel: +356 2395 2000 Fax: +356 21 242 406
VAT Reg No: MT 2039 0516

Office for Competition

28 June, 2012

Ing. Philip Micallef,
Executive Chairman,
Malta Communications Authority,
Valletta Waterfront,
Pinto Wharf,
Floriana FRN1913.

Dear Ing. Micallef,

The Office for Competition (OC) has been asked to provide its opinion on the review and market analysis concerning wholesale access and call origination on mobile networks carried out by the Malta Communications Authority (MCA).

The OC agrees with the identification and analysis of the market concerned for the period under review. Nonetheless, the MCA should continue to monitor any market developments in this regard.

The OC would like to point out that its views are being submitted in the context of the specific provisions of the SMP guidelines and it reserves the right to re-examine any or all of the issues underlying MCA's recommendations in the light of facts and evidence that may arise in specific future cases before it.

Yours sincerely,

S. Aquilina Zahra

Sylvann Aquilina Zahra
Director General

Appendix 2

Prepaid Products

Vodafone	GO	Melita
Standard Rate - €0.25 per minute - €0.05 per SMS	*Base Plan* - €0.16 per 30 seconds - €0.05 per SMS	*Standard Top-up Plan* - €0.24 per minute - €0.05 per SMS
Talk More - €0.30 per hour to all Vodafone mobile numbers - €0.15 per 30 seconds to any other local mobile number - €0.30 per hour to all local fixed numbers - €0.05 per SMS	*Talk & Talk* - €0.29 per hour to all GO mobile numbers - €0.16 per 30 seconds to any other local mobile number - €0.29 per hour to all local fixed numbers - €0.05 per SMS	*Tentastic* - €0.10 per minute to all local mobile & fixed networks - €0.05 per SMS
Student Freebee Plan i) Student plan €10 per month - Free calls & SMS to 3 Vodafone numbers + 100MB of data ii) Student plan + €15 per month - Unlimited calls & SMS to all Vodafone numbers + 2GB of data *Rates outside bundle* : €0.20/min €0.02/SMS	*GO Student Plan* i) Basic Student plan - Free calls to 1 GO mobile number - Other GO mobile & fixed numbers: €0.07/min €0.02/SMS - Other local numbers: €0.16/30sec €0.05/SMS ii) Student plan + €10 per month - €0.04/min to all GO student plan members + 500MB of data	
Trio Pack i) €10 per month - Unlimited calls to 2 local Vodafone numbers - 100 SMS to all local numbers - 100 MB of internet data i) €20 per month - 60 free minutes to all local numbers - Unlimited SMS to all Vodafone numbers - 200 MB of internet data *Rates outside bundle* : €0.25/min €0.05/SMS	*Talk* - €0.07/minute & €0.07/SMS to 3 GO mobile numbers - €0.09/30 seconds & €0.07/SMS to other GO mobile numbers - Other local numbers: €0.16/30sec €0.07/SMS *HomePack - Pay As You GO* - Free mobile minutes with Home Pack 33 and Home Pack 42 *For more information refer to:* http://www.go.com.mt/gomobile/terms_template.cfm?terms=home_pack_pay_as_you_go	

Postpaid Products

Vodafone	GO	Melita
Lower End Users		
Pay Monthly 35 - Access Fee: €35/Month Included in Plan: -50 free minutes to all local & EU networks -Unlimited calls & SMS to Vodafone numbers -500MB mobile internet *Rates outside bundle* : €0.25/min €0.05/SMS	*Pay Monthly 15* - Access Fee: €15/Month Included in Plan: -50 free minutes to all local & EU networks -100 additional minutes when subscribing to GO's Home Pack -250 SMS to all local networks *Rates outside bundle* : €0.20/min €0.05/SMS	*Medium Pay Monthly* - Access Fee: €15/Month Included in Plan: -Unlimited free minutes to Melita mobile and fixed line -240 free minutes to 1 GO or Vodafone mobile number -60 free minutes to all other local & EU networks -60 free SMS to all networks *Rates outside bundle* : €0.20/min €0.05/SMS
Medium Users		
Pay Monthly 55 - Access Fee: €55/Month Included in Plan: -100 free minutes to all local & EU networks -Unlimited calls to: Vodafone numbers & fixed line numbers -Unlimited SMS to any local network -1GB mobile internet *Rates outside bundle* : €0.25/min €0.05/SMS *Pay Monthly 75* - Access Fee: €75/Month Included in Plan: -300 free minutes to all local & EU networks -Unlimited calls to: Vodafone numbers & fixed line numbers -Unlimited SMS to any local network -2GB mobile internet *Rates outside bundle* : €0.25/min €0.05/SMS	*Pay Monthly 25* - Access Fee: €25/Month Included in Plan: -110 free minutes to all local & EU networks -100 additional minutes when subscribing to GO's Home Pack -250 SMS to all local networks *Rates outside bundle* : €0.20/min €0.05/SMS *Pay Monthly 40* - Access Fee: €40/Month Included in Plan: -180 free minutes to all local & EU networks -100 additional minutes when subscribing to GO's Home Pack -250 SMS to all local networks *Rates outside bundle* : €0.20/min €0.05/SMS	*Large Pay Monthly* - Access Fee: €35/Month Included in Plan: -Unlimited free minutes to Melita mobile and fixed line -480 free minutes to any 2 GO or Vodafone mobile numbers -120 free minutes to all other local & EU mobile networks -500 free minutes to all other local fixed lines -120 free SMS to all networks -3GB mobile internet *Rates outside bundle* : €0.20/min €0.05/SMS

Postpaid Products

Vodafone	**GO**	**Melita**
	High End Users	
Pay Monthly 95 - Access Fee: €95/Month Included in Plan: -600 free minutes to all local & EU networks -Unlimited calls to: Vodafone numbers & fixed line numbers -Unlimited SMS to any local network -2GB mobile internet *Rates outside bundle* : €0.25/min €0.05/SMS	*Pay Monthly 40 Unlimited* - Access Fee: €40/Month Included in Plan: -Unlimited calls to all GO mobile numbers -150 free minutes to all local & EU networks -400 SMS to all local networks *Optional*: +€49.99/month - 1GB mobile internet *or* +€54.99/month - 2GB mobile internet *Rates outside bundle* : €0.20/min €0.05/SMS	*Extra Large Pay Monthly* - Access Fee: €60/Month Included in Plan: -Unlimited free minutes to Melita mobile and fixed line -720 free minutes to any 3 GO or Vodafone mobile numbers -300 free minutes to all other local & EU mobile networks -750 free minutes to all other local fixed lines -300 free SMS to all networks -3GB mobile internet *Rates outside bundle* : €0.20/min €0.05/SMS
	Pay Monthly 60 Unlimited - Access Fee: €60/Month Included in Plan: -Unlimited calls to all GO mobile numbers -300 free minutes to all local & EU networks -Unlimited SMS to all local networks *Optional*: +€74.99/month - 2GB mobile internet *Rates outside bundle* : €0.20/min €0.05/SMS	
	Pay Monthly 85 Unlimited - Access Fee: €90.99/Month Included in Plan: -Unlimited calls to all GO mobile numbers -625 free minutes to all local & EU networks -Unlimited SMS to all local networks -100MB mobile internet *Optional*: +€99.99/month - 2GB mobile internet *Rates outside bundle* : €0.19/min €0.05/SMS	

Appendix 3 - Confidential

The MCA notes that the return on capital employed (ROCE) of both Vodafone and GO may at first sight be indicative of high returns. However a closer look at the figures below indicate that profits for both Vodafone and GO as indicated by the ROCE have declined by an average of 36% over the last five years. The MCA attributes this shift to the level of increased competition. The MCA believes that as a result of increased competition the ROCE figures will continue to experience a downward trend in the future.

Return on Capital Employed

[✂] – Additional confidential information disclosed in a separate document to the EU Commission