ComReg Document 04/118a Appendices

Appendix A – Competition Authority Opinion

Under Regulation 27(1), ComReg is required to liaise with the Competition Authority in its definition and analysis of markets. The Competition Authority has been asked to provide their view with respect to the outcome of ComReg's review and analysis of the market for wholesale mobile access and call origination. This view is set out below.

The Competition Authority
An tÚdarás Iomaíochta

Isolde Goggin
Chairperson
Commission for Communications Regulation
Abbey Court
Irish Life Centre
Lower Abbey Street
Dublin 1

6th December 2004

Re: ComReg Market Review –
Wholesale Mobile Access and Call Origination

Isolde
Dear ~~Chairperson~~,

I have been asked, in my capacity as a Member of The Competition Authority ("the Authority"), to provide the Authority's view with respect to the outcome of the Commission for Communications Regulation's ("ComReg") review and analysis of the *"wholesale access and call origination market"* in Ireland.

The Process

ComReg is obliged under the EU Communications Regulatory Framework to conduct market definition and market analysis activities to determine the relevant markets for the purposes of the new regulatory framework and in accordance with competition law. Under regulation 27.1 ComReg is required to liaise with The Competition Authority ("the Authority") in its process of market definition and analysis of markets that are within or differ from those recommended by the Commission under the *Relevant Market Recommendation*. In December 2002, a cooperation agreement was signed between the Authority and ComReg in accordance with Section 34 of the Competition Act 2002 to facilitate *inter alia* cooperation in this type of exercise.

Members of staff at the Authority participate in the Steering Group, the senior group of advisors and ComReg staff involved in recommending market analysis decisions to ComReg, and have provided comments to the final decision. Due to the particular market circumstances in this instance the Authority met with representatives of ComReg twice (28th September 2004 and 5th November 2004) to discuss ComReg's proposal on its finding of collective dominance in the recommended market.[1] At those meetings, ComReg outlined arguments in support of a finding of collective dominance by Vodafone and O_2. The Authority made certain observations and comments that ComReg considered in the final draft of its proposal. The Authority considers that ComReg took account of the comments made by it and its staff in the preparation of the consultation documents and recommendations in drafting the market proposal.

[1] Staff from the Authority also met with representatives from Vodafone, at Vodafone's request, to discuss the company's submission to ComReg on its market consultation.

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The Market Recommendation

The EU Commission recommends, in its *Relevant Markets Recommendation*, that NRAs should analyse the relevant market for "wholesale access and call origination on public mobile telephone networks".[2] The Commission notes that network access and call origination are at present typically supplied together by a network operator so that both services can be considered as part of the same market at the wholesale level.[3] The Commission further notes that entry barriers to the provision of such services need to be absolute, especially where the possibilities exist for the development of national roaming or indirect access relationships. According to the Commission, a determination as to whether ex-ante regulatory intervention at the wholesale level might be warranted will take account of 'the level of competition generally observed in the market at the retail level'.[4]

For the purpose of analysing the relevant market for mobile wholesale access and call origination, ComReg identified key elements of the market at the retail level which is linked to the wholesale market, with a view to determining whether the level of competition generally observed at the retail level suggests that any market failure identified at the wholesale level is reflected in the level of competition witnessed in the linked retail market. Based on an extensive analysis of the large volume of data and information collected by its staff, ComReg has concluded that the relevant market proposed by the European Commission is appropriate and supported by the market conditions prevailing in Ireland for the period under review.

ComReg has defined this wholesale mobile market in accordance with competition law and taken utmost account of the SMP Guidelines issued by the EU Commission in accordance with Regulation 27.1 of the Framework Regulations. The Authority believes that it is reasonable to accept that the markets identified by ComReg are appropriate, at least for the period under review.

Market Analysis

ComReg tested the circumstances of this wholesale market for mobile access and call origination against established legal tests and case law, including the decision of O'Higgins J in relation to Meridian/Eircell. The conclusion of this discussion is that none of the MNOs is singularly dominant. The Authority has no reasons, at this time, to disagree with this finding.

ComReg's market review team has put forward arguments to support a finding of joint dominance for O_2 and Vodafone in the proposed market. Consequently, ComReg is proposing that both O_2 and Vodafone should be designated has having SMP for the purpose of ex ante regulation.

Based on the information presented by ComReg and given the framework under which ComReg is required to review markets, the Authority is of the view that ComReg's analysis of the relevant market presents convincing evidence of the existence of market failures. The Authority agrees that there

[2] This market corresponds to that referred to in Annex I (2) of the Framework Directive.
[3] Explanatory Memorandum to the Relevant Markets Recommendation.
[4] Commission Recommendation and Explanatory Memorandum on Relevant Product or Service Markets within the Electronic Communications sector susceptible to ex ante regulation in accordance with directive 2002/21/EC of the European Parliament and of the Council on a Common Regulatory framework for electronic communication network and services.

is a good case for regulatory intervention in this market to address those failures.

ComReg presents numerous structural characteristics of this market that are consistent with economic and legal theory on factors that facilitate tacit co-ordination. In an appendix to the document ComReg deals with arguments put forward in responses to the consultation document (04/05) identifying factors that are not consistent with such a finding setting out its response to those arguments. ComReg concludes that on balance the structural characteristics of the market support a finding of joint dominance. The Authority accepts that the structural characteristics are such that a finding of collective dominance is reasonable given the regulatory framework in which ComReg is operating. ComReg also examines the market within the scope of the Airtours test. The Authority agrees in the main with this analysis, and the only aspect on which it might take a different view is the retaliatory mechanism put forward by ComReg in its review.

Based on evidence from other EU countries where wholesale access has been granted on reasonable grounds and ComReg's analysis of pent-up demand in the proposed market, the Authority agrees that requiring Vodafone and O_2 to permit indirect access to the wholesale market via MVNO agreements and other alternatives would promote competition at the retail level and can only be effectively brought about in the Irish market through regulatory intervention.

Notwithstanding the above, it should be noted that the Authority's comments are made in the context of the specific provisions of the SMP guidelines relating to the relationship between the markets defined for the purposes of ex ante regulation vis-à-vis competition law enforcement. I would note, in particular, that the Authority's conclusions are drawn having regard to, *inter alia*,

- The specific regulatory framework in which ComReg conducts these market reviews;
- The *ex ante* nature of the reviews;
- The 2-year time period of the review – during which the effectiveness of the proposed remedies will be tested; and
- The information put before the Authority by ComReg.

As provided for by the Regulation and in case law, the Authority reserves the right to re-examine any or all of the issues underlying these recommendations in the light of facts and evidence that may arise in specific future cases before it.

Sincerely,

Paul

Dr. Paul K. Gorecki
Member, Competition Authority

Appendix B – Price Index

This Annex summarises the assumptions underlying the calculations of Minimum Monthly Bills (MMBs).

Methodology
The minimum monthly bill (MMB) is the monthly cost to a subscriber with a given user profile (in terms of volume of minutes, distribution between peak/off-peak/weekend, and between calls to fixed networks/ mobile on-net calls/ mobile off-net calls) assuming that he / she uses the best available tariff option from his / her mobile operator.

The following tariff components are reflected in the MMB:

- monthly rental;
- free calls and/or free money; and
- peak off-peak and weekend national call charges to fixed and (on-net and off-net) mobile phones.
- SMS

The cost of handsets, connection charges, international call charges, international roaming charges, prices for data and Internet access are not taken into account.

Changes to ComReg Price Index Following Consultation
Following comments received from operators and also to provide a more accurate reflection of pricing developments at the retail level in Ireland ComReg has made the following adjustments to its Price Index;

- Time Period
ComReg has extended the duration of its price index from December ’02 to December ’04. The Price index now shows the development of retail tariffs in Ireland over a period of 4 years and 10 months.

- Network effects
ComReg’s original price index had the same distribution of Off-net and On-net calls for all mobile operators. ComReg has adjusted the distribution of calls for each mobile operator in line with their share of the market. For example the operator with the smallest market share, Meteor, will have a greater proportion of off-net calls than both Vodafone and O_2.

- Selection of Add-on for Choices package for O_2
ComReg’s original price index incorporated the 3c weekend calls to O_2 and fixed line numbers as its choices add-on. From and examination of MMB ComReg’s analysis showed that in the majority of instances if consumers chose text 100 as the

free add on that this resulted in marginally lower MMBs. For this reason ComReg has chosen text 100 as the free add on for O_2 in its new price index.

Price Index Submitted by Vodafone
As part of the consultation process ComReg was submitted an alternative price index by Vodafone which it uses to track the development of MMBs for itself and its competitors. As this price index was submitted to ComReg on a confidential basis ComReg has not published the results. There are some differences between the methodologies chosen by Vodafone compared to ComReg's methodology which are outlined below.

- Treatment of O_2 pre-paid packages
O_2 offers two pre-paid packages which have different peak and off-peak rates depending on the package chosen. The O_2 Nightowl package is suited to users who use their phone at off-peak time (from 6pm – 10am) while the Earlybird package is suited to users who use their phone at peak times (from 2am – 6pm). The rates consumers pay during traditional "peak" i.e. daytime hours and "off-peak" i.e. evening and weekend hours varies depending on the package chosen. ComReg has made this differentiation in its MMB analysis while Vodafone has not. This results in a higher MMB for O_2 in the Vodafone Low User and Medium User baskets than the ComReg baskets.

- Voicemail
The ComReg basket excludes voicemail while the Vodafone basket includes voicemail. The inclusion of voicemail in the Vodafone basket results in a marginally lower MMB for Vodafone in all of its baskets.

- Special numbers
The ComReg basket excludes "special numbers" such as Vodafone's call a friend for free, friends for less and O_2's friends and family. The inclusion of special numbers in the Vodafone basket results in lower MMB's for Vodafone in all of its baskets.

- Alltime
- The ComReg basket includes "Alltime" a post-paid tariff package previously offered by Vodafone. The Vodafone basket excludes "Alltime". The inclusion of Alltime in the ComReg basket show a reduction in Vodafone's MMB in four of the baskets when the tariff was introduced and an increase in Vodafone's MMB in four of the baskets when the tariff ceased.

Overall ComReg's conclusions on the price indices do not change whether one accepts the Methodology chosen by ComReg or by Vodafone. Although ComReg only publishes the results of its own price index in this annex, the conclusions drawn from the price index are from an analysis of Vodafone's basket and assumptions together with ComReg's basket and assumptions.

Vodafone More to Say pre-paid tariff
Vodafone introduced a pre-pay tariff in June 2004 called More to Say. This tariff has a 30c minimum call charge. To incorporate that tariff in its price index ComReg has made an assumption of a two minute average call duration.

Assumptions

All the main pre-pay and contract tariff options are considered in calculating the MMBs, with the exception of multiple connection tariffs designed for SMEs and add-on packages for international calls or international roaming. The analysis covers the period from January 2000 to December 2004. The tariffs cited are in Euro and exclusive of VAT.

The following must be borne in mind when analysing the tariffs:

- Promotional tariffs and discounts for multiple connections have not been included;
- Different time periods apply for different tariff plans, *i.e.* peak, off-peak and weekend times may vary;
- Tariffs which are valid at the first day of the month are taken as being relevant for the calculation for the full month;
- Tariff options have different peak/off-peak/weekend times (certain tariff options may have a longer off-peak time than others);
- Voicemail is not included;
- "Call a friend for free" is not included for Vodafone; and
- Tariff plans are only included where they are available to a new subscriber. *i.e.* where a tariff plan expires it is no longer included in the basket.

User Profiles

The user profiles are differentiated by: (1) traffic volumes (average number of minutes and number of SMS): (2) peak/off-peak usage patterns; and (3) call distribution between calls to fixed networks, mobile on-net calls and mobile off-net calls.

Traffic volumes: The four basic user profiles are: (a) low volume users: (b) medium volume users: (c) high volume users; and (d) very high volume users (see Table B.1).

Table B.1

Traffic Profiles				
Profiles	Low User	Medium User	High User	Very High User
Total Usage Voice	55	160	400	850
SMS	80	53	73	58

Peak/off-peak usage: Each user profile is further divided into three peak/off-peak profiles which are: (a) mostly peak usage: (b) even usage: and (c) mostly off-peak usage (see table B.2).

Table B.2

Traffic Time Profiles			
Profiles	Mostly Peak	Even Usage	Mostly Off-Peak
Peak	60%	50%	40%
Off-Peak	20%	25%	30%
Weekend	20%	25%	30%

Type of national calls: Each user profile is characterised by a particular percentage distribution of national traffic volume between: (a) calls to fixed networks: (b) on-net mobile calls: and (c) off-net mobile calls (see table B.3). The distribution profile varies by operator depending on their market share. The profile applied to each operator are taken from the profiles supplied by Vodafone from their price index and are outlined below.

Table B.3 Low User

	Vodafone			**O_2**			**Meteor**		
	mostly peak	even	Mostly off-peak	Mostly peak	even	mostly off-peak	mostly peak	even	mostly off-peak
Mobile to fixed calls	29%	23%	17%	29%	23%	17%	29%	23%	17%
Mobile on-net calls	54%	57%	61%	39%	41%	45%	5%	5%	6%
Mobile off-net calls	17%	20%	22%	32%	36%	39%	66%	72%	78%

Table B.4 Medium User

	Vodafone			**O_2**			**Meteor**		
	mostly peak	even	mostly off-peak	Mostly peak	even	mostly off-peak	mostly peak	even	mostly off-peak
Mobile to fixed calls	33%	29%	26%	33%	29%	26%	33%	29%	26%
Mobile on-net calls	48%	49%	49%	35%	36%	36%	4%	4%	4%
Mobile off-net calls	19%	22%	25%	32%	35%	38%	63%	67%	70%

Table B.5 High User

	Vodafone			O_2			Meteor		
	mostly peak	even	mostly off-peak	Mostly Peak	even	mostly off-peak	mostly peak	even	mostly off-peak
Mobile to fixed calls	32%	26%	24%	32%	26%	24%	32%	26%	24%
Mobile on-net calls	47%	50%	50%	34%	36%	36%	4%	5%	5%
Mobile off-net calls	21%	24%	26%	34%	38%	40%	64%	69%	71%

Table B.6 Very High User

	Vodafone			O_2			Meteor		
	mostly peak	even	mostly off-peak	Mostly Peak	even	mostly off-peak	mostly peak	even	mostly off-peak
Mobile to fixed calls	32%	27%	24%	32%	27%	24%	32%	27%	24%
Mobile on-net calls	46%	49%	49%	33%	36%	36%	4%	4%	4%
Mobile off-net calls	22%	24%	27%	35%	37%	40%	64%	69%	72%

The MMB analysis is based on information about user profiles provided by Vodafone and tariff information provided by all mobile operators to ComReg. User profiles somewhat vary between the mobile operators, but the overall conclusions are not affected.

MMB Developments from January 2000 – December 2004.

The charts below outline the development in tariffs for each operator over the period from January 2000 to December 2004. Figures B.1-B.6 are for Low and Medium Volume users and are relevant for both pre and post paid tariffs. Figures B.7-B.12 include post paid tariffs only. For each operator the tariff plan that results in the lowest MMB is selected in each case. Figures B.1-B.12 present the MMB for each operator on a scale of 0 to 100.

Figure B.1 Low Volume User Mostly Peak

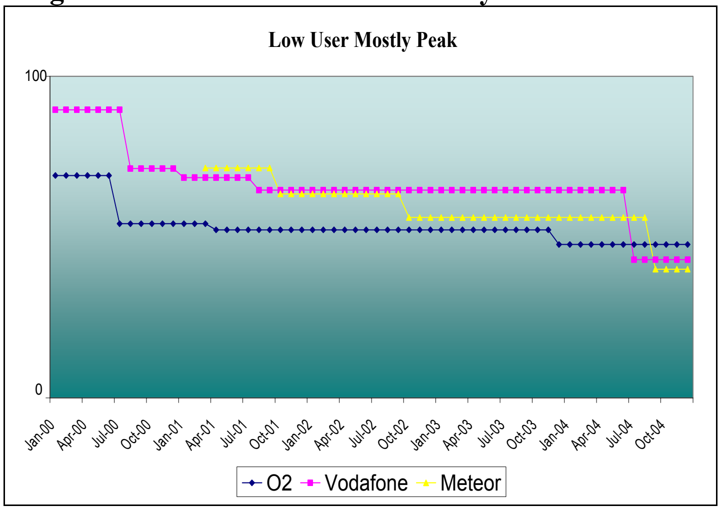


Figure B.2 Low Volume User Even Usage

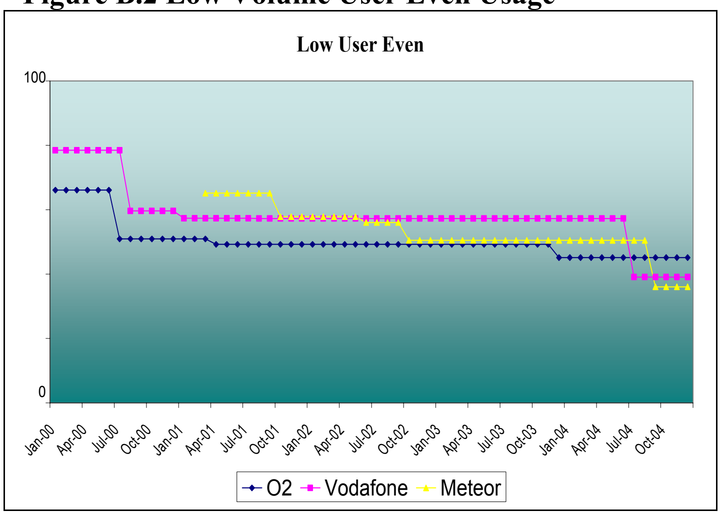


Figure B.3 Low Volume User Mostly Off-peak

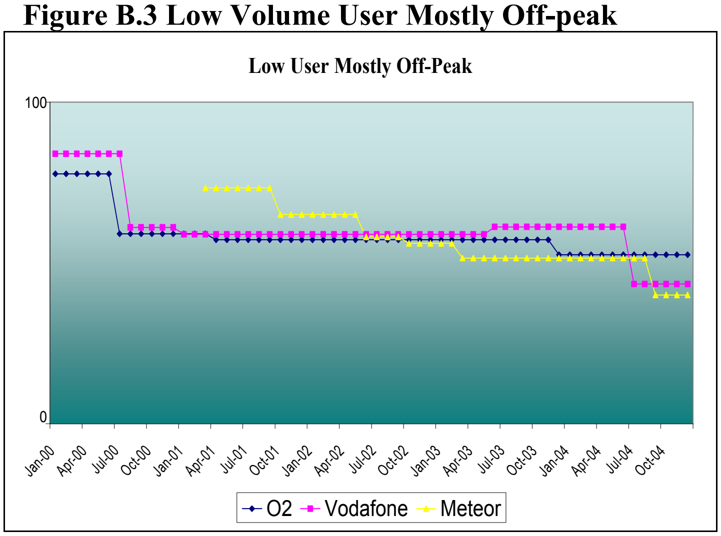


Figure B.4 Medium Volume User Mostly Peak

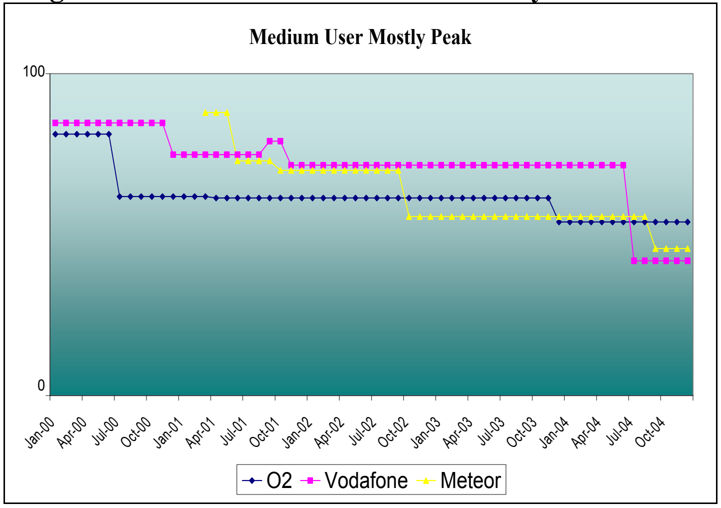


Figure B.5 Medium Volume User Even Usage

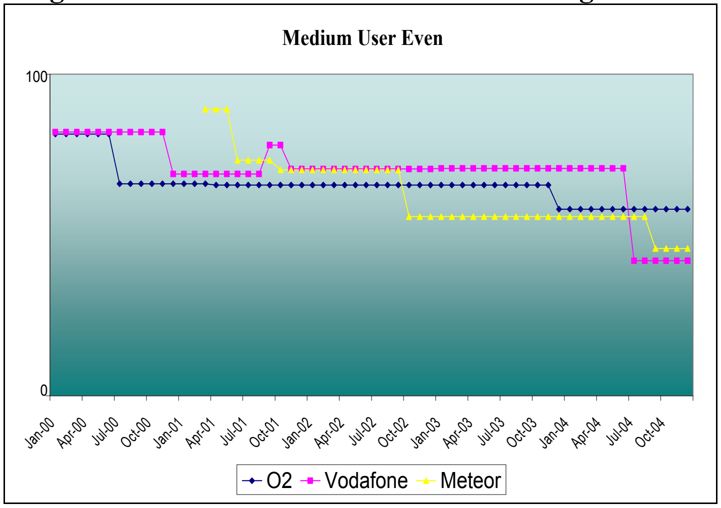


Figure B.6 Medium Volume User Mostly Off-peak

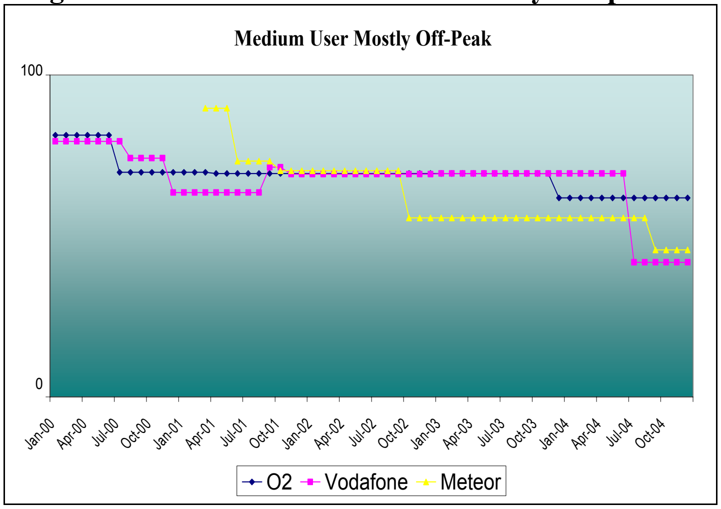


Figure B.7 Post-pay High Volume User Mostly Peak

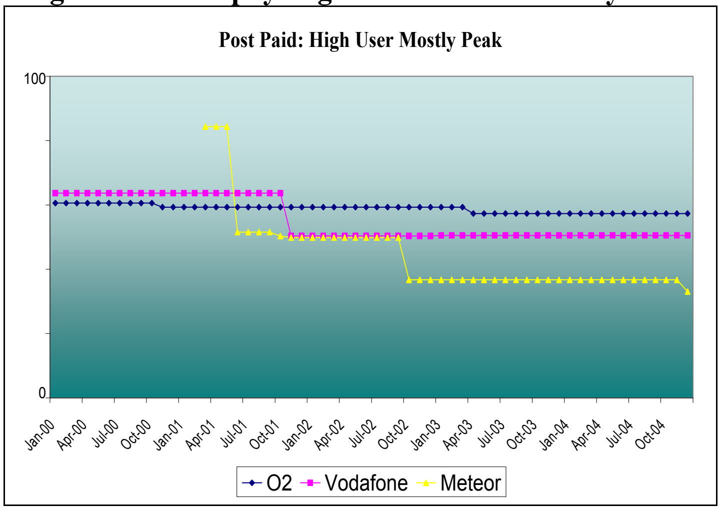


Figure B.8 Post-pay High Volume User Even Usage

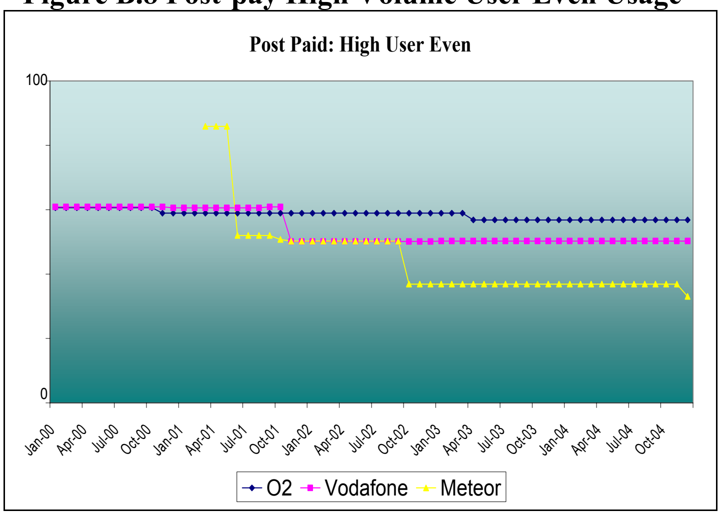


Figure B.9 Post-pay High Volume User Mostly Off-peak

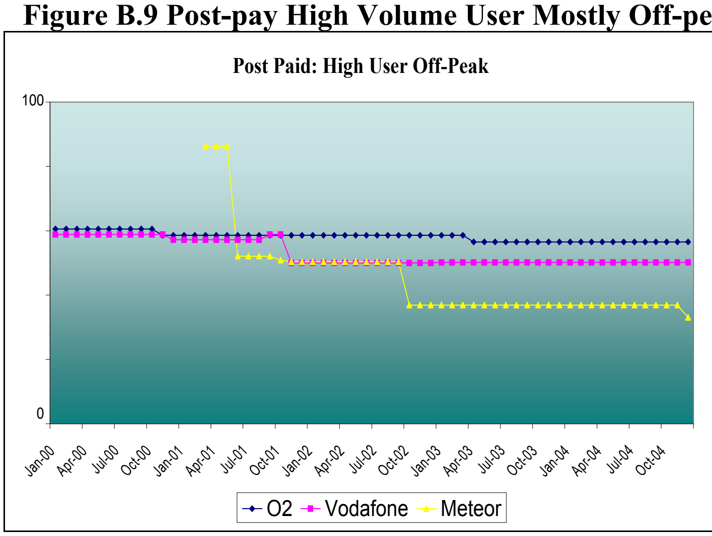


Figure B.10 Post-pay Very High Volume User Peak

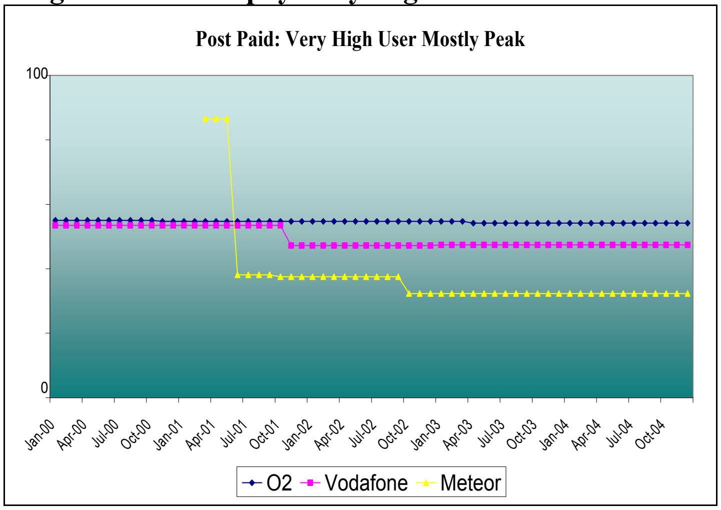


Figure B.11 Post-pay Very High Volume User Even Usage

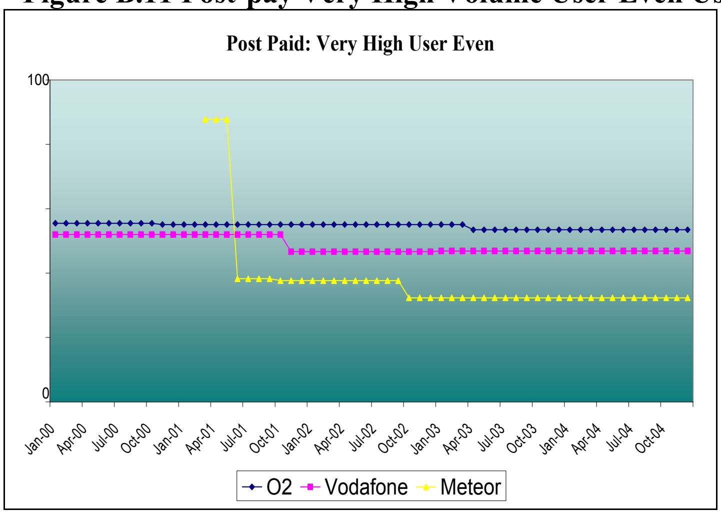
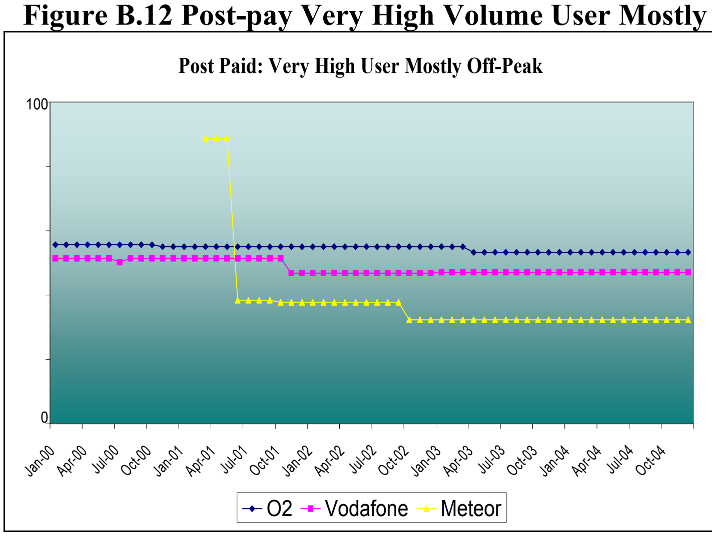


Figure B.12 Post-pay Very High Volume User Mostly Off-Peak



Teligen Mobile Baskets

Figure B.13 Low Usage Basket

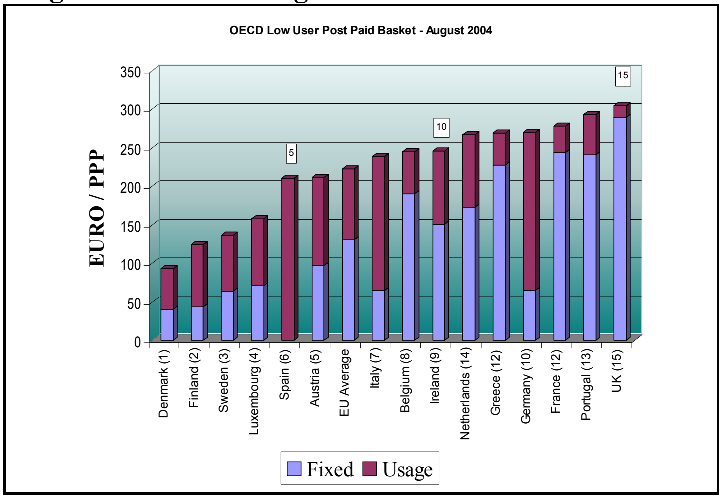


Figure B.14 Medium Usage Basket

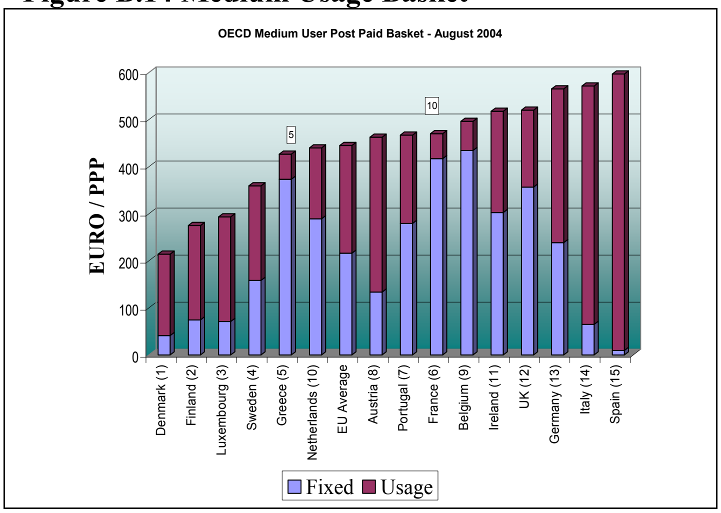


Figure B.15 High Usage Basket

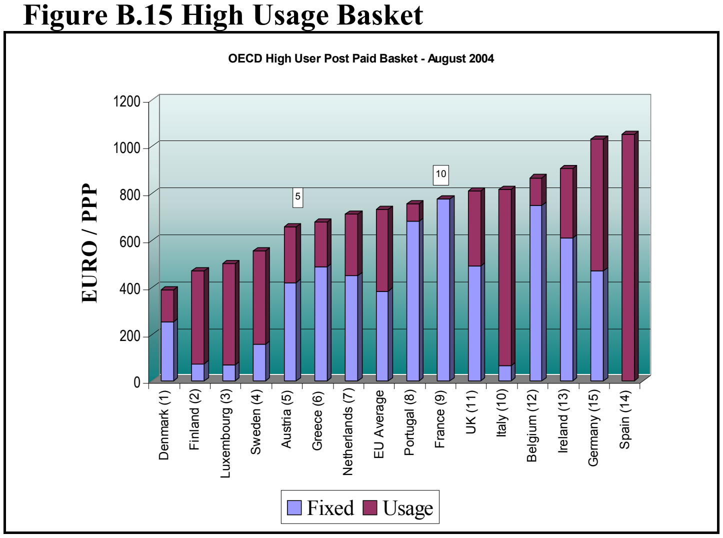


Figure B.16: OECD Pre-pay Basket

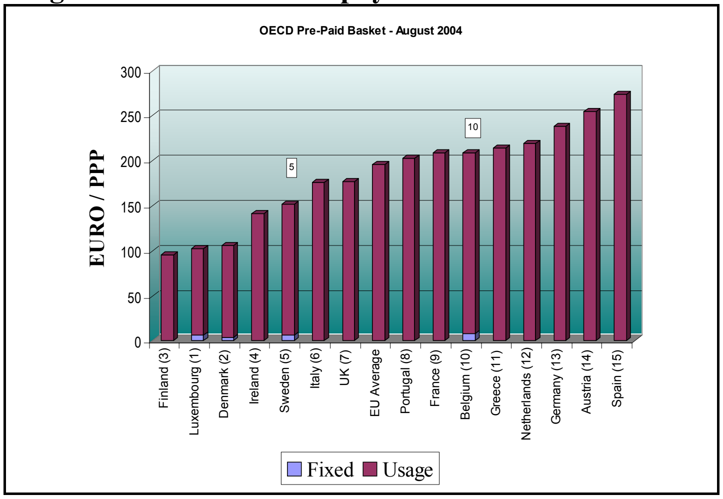
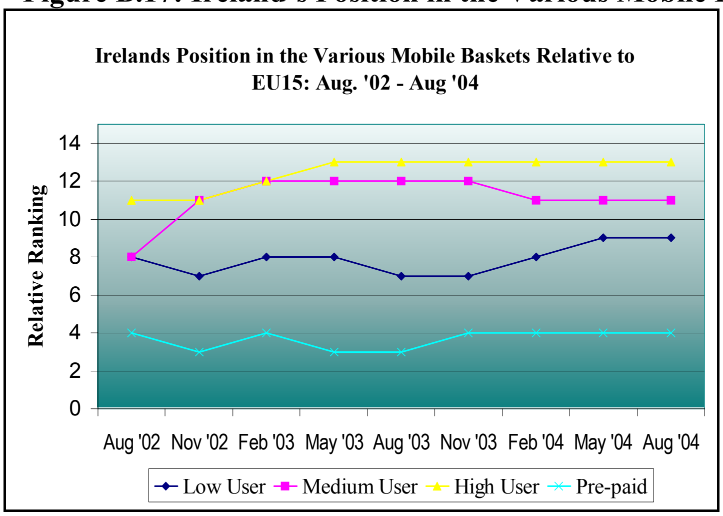


Figure B.17: Ireland's Position in the Various Mobile Baskets



OECD Mobile Baskets Methodology

1. The new baskets are based on the principles agreed in the Mobile Basket Workshop in London in October 2001, where representatives from a large number of OECD countries, regulators and operators were present.

2. The baskets outlined in this document are based on averages or summaries of the information provided by the representatives at the October 2001 meeting, and others responding to a call for information from the OECD.

3. All baskets will include:

   - Registration or installation charges with 1/3 of the charges, *i.e.* distributed over 3 years.

   - Monthly rental charges and any option charges that may apply to the package, or package combination.

4. The three new baskets are:

- Low user basket. The usage level of this basket is low, with a call volume less than half of that in the Medium user basket.

- Medium user basket. This basket will have 75 outgoing calls per month.

- High user basket. The usage level is about twice the Medium user basket.

5. The usage profiles will also include a number of SMS messages per month.

6. Call and message volumes for each basket are:

	Outgoing calls /month	SMS per month
Low user	25	30
Medium user	75	35
High user	150	42

7. The information received showed that there is little difference between the average pre-pay usage and the low user post-pay usage. The low user basket can therefore be used for both pre- and post-pay tariffs, allowing a simple comparison also between the two types.

8. Only national calls are included in the profiles, with 4 different destinations:

   - Local area fixed line calls. This is used to accommodate the tariffs that have separate charges for the local area. When such charges are not available, this proportion of calls is included in the National.

   - National fixed line calls. This covers all fixed line calls outside the local area, except in cases as noted above.

   - Same network mobile calls (On-net). This includes all calls made to mobiles in the same mobile network as the caller.

   - Other network mobile calls (Off-net). This includes calls to all other mobile networks in the caller's country. When the charges are different depending on destination network, the market shares based on subscriber numbers are used for weighting the charges. Up to 3 other networks will be considered in each country.

9. Distributions per destination for each basket are:

% of total number of calls	Fixed Local area	Fixed National area	On-net mobile	Off-net mobile
Low user	28.0%	14.0%	40.0%	18.0%
Medium user	24.0%	12.0%	43.0%	21.0%
High user	26.0%	14.0%	42.0%	18.0%

10. As the information received produced little evidence on the split between local and national fixed line calls, the assumption has been used that the ratio would be 2:1 for local: national, *i.e.*, 67% local and 33% national. This assumption is taken from the averages in fixed baskets, and the scarce information received.

11. Instead of splitting time and day into distinct times and days the following approach will be used:

- Peak time calls at weekdays, most expensive time during daytime.
- Off-peak time calls at weekdays, cheapest time before midnight.
- Weekend time calls, at daytime Sundays.

12. Distributions over time and day for each basket are:

% of total number of calls	ToD Peak	ToD Off-peak	ToD Weekend
Low user	38.0%	35.0%	27.0%
Medium user	47.0%	30.0%	23.0%
High user	63.0%	22.0%	15.0%

13. There will be 3 separate call durations:

- Local and national fixed line calls
- Same network mobile calls (On-net)
- Other network mobile calls (Off-net)

14. Call durations for each basket are:

Minutes per call	Dur Fixed National	Dur Mobile On-net	Dur Mobile Off-net
Low user	1.6	1.4	1.4
Medium user	2.1	1.9	1.9
High user	2.2	2.0	2.1

15. Any call allowance value included in the monthly rental will be deducted from the usage value once the basket is calculated. The deduction cannot be larger than the actual usage value, i.e. negative usage is not allowed. No transfer of unused value to next month is taken into account.

16. Any inclusive minutes will be deducted from the basket usage before starting the calculation of usage cost. The inclusive minutes are assumed to be used up with the same calling pattern that is described in the basket, i.e. the same peak/off-peak ratio and the same distribution across destinations. Where the inclusive minutes are clearly limited to specific destinations or times of day this will be taken into account. No transfer of unused minutes is taken into account.

17. Any inclusive SMS-messages will be deducted from the basket before starting the calculation of the SMS message cost, up to the number of messages in the basket.

18. For each of the operators covered a set of packages shall be included so that the cheapest package offered by that operator can be calculated for each of the 3 baskets.

19. Multiple operators in each country shall be included, with at least the two operators with highest number of subscribers in each country. The operators included shall have a total market share of at least 50% based on subscriber numbers.

20. Basket results are calculated for a period of one year.

Appendix C – Decision

1 STATUTORY POWERS GIVING RISE TO DECISION

1.1 In making this Decision and imposing the obligations set out herein, ComReg has taken account of, amongst other things, its functions under Regulation 6 (1) of the Access Regulations,[1] has assessed the proportionality of the obligations imposed relative to the objectives of ComReg set out in section 12 of the Act of 2002,[2] has taken in to account the factors set out in Regulation 13 (4) of the Access Regulations, has taken the utmost account of the EU Commission's Recommendation[3] and the Guidelines[4] and has (where appropriate) complied with and taken in to account the Policy Directions made by the Minister.[5] This Decision is based on the market analysis and reasoning conducted by ComReg in relation to the market for wholesale access and call origination on public mobile telephone networks[6] related to the Consultation Paper entitled *Market Analysis: Wholesale Mobile Access and Call Origination* ('Document No. 04/05') dated 27 January, 2004. Document No. 04/05 forms part of this Decision.

1.2 This Decision is made pursuant to Regulations 25, 26 and 27 of the Framework Regulations[7], Regulations 9, 11, 12, 13 and 14 of the Access Regulations and having regard to sections 10 and 12 of the Act of 2002.

1.3 In this Decision:

'Access' shall have the same meaning as in the Access Regulations and for the avoidance of doubt, it includes, but is not limited to, the following:

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1 S.I. No. 305 of 2003 the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2003 which transposes Directive 2002/19/EC of the European Parliament and the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities.

2 The Communications Regulation Act 2002.

3 EU Commission Recommendation of 11 February, 2003 on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services.

4 Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services.

5 Policy Directions made by Dermot Ahern T.D. Minister for Communications, Marine and Natural Resources on 21 February 2003 and 26 March 2004.

6 Referred to in the EU Commission's Recommendation.

7 S.I. No. 307 of 2003 the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2003 which transposes Directive 2002/21/EC of the European Parliament and the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services.

I. National roaming services i.e. facilities enabling an Access Seeker to provide and receive electronic communications services (as defined in the Framework Regulations) on a public mobile communications network, including but not limited to: bearer services (as defined in current and future versions of the ETSI GSM technical specifications) teleservices (as defined in current and future versions of the ETSI GSM technical specifications), standard supplementary services (those supplementary services which are most widely used by mobile retail customers i.e. subscribers) and supplementary services (as meant by the relevant ETSI GSM standards, or equivalent standards).

II. Indirect access, including various forms of wholesale service provider access such as independent service provision on the basis of airtime resale, indirect access providers and access for a mobile virtual network operator ('MVNO');

'Access Agreement' means a legally binding agreement for Access with an Access Seeker and any amendment thereto;

'Access Seeker' means an undertaking, seeking Access to the mobile network of a SMP MNO;

'MNO' means a mobile network operator;

'SMP' means significant market power as referred to in Regulation 25 of the Framework Regulations; and

'SMP MNO' means the mobile network operators designated as having SMP in section 3 of this Decision in accordance with Regulations 25-27 of the Framework Regulations.

2 MARKET DEFINITION

2.1 This Decision relates to the market for wholesale access and call origination on public mobile telephone networks, as identified in the EU Commission's Recommendation. The market in this Decision is defined as the market for wholesale access and call origination on public mobile telephone networks in accordance with the EU Commission's Recommendation.

2.2 The relevant geographic market for the market for wholesale access and call origination on public mobile telephone networks is defined as Ireland.

3 DESIGNATION OF UNDERTAKINGS WITH SMP

3.1 Vodafone Ireland Limited and O2 Communications (Ireland) Limited are each designated as having SMP jointly with the other, in the market for wholesale access and call origination on public mobile telephone networks in Ireland.

4 SMP OBLIGATIONS[8]

[8] ComReg is legally obliged to impose ex ante SMP obligations that are appropriate, based on the nature of the problem identified, proportionate and

4.1 ComReg has decided to impose the *ex ante* SMP obligations, as provided for by Regulations 11, 12, 13 and 14 of the Access Regulations. These SMP obligations are described further in the sections below.

5 OBLIGATION TO MEET REQUESTS FOR AND TO PROVIDE ACCESS

5.1 As provided for by Regulation 13 of the Access Regulations, a SMP MNO shall have an obligation to meet reasonable requests for Access to its mobile network by an Access Seeker, if such a request is made by an Access Seeker.

5.2 Without prejudice to the generality of section 5.1 of this Decision, a SMP MNO shall not withdraw Access already granted to Access Seekers prior to the effective date of this Decision.

5.3 Any Access Agreement between a SMP MNO and a MNO concerning roaming services shall not be effective until such time as the Access Seeker has constructed its own mobile network to cover 20% of the population of Ireland.

5.4 A SMP MNO who has been requested to provide Access by an Access Seeker shall submit to ComReg a comprehensive progress report on the status of commercial negotiations with respect to the negotiation of an Access Agreement, no later than one month following the effective date of this Decision and every two months thereafter.

5.5 A SMP MNO shall submit to ComReg a copy of any Access Agreement no later than one week from the date that it has been concluded by the SMP MNO and the Access Seeker.

5.6 An SMP MNO shall submit to ComReg a copy of any Access Agreement concluded before the effective date of this Decision.

6 OBLIGATION OF NON-DISCRIMINATION

6.1 The SMP MNOs shall have an obligation of non-discrimination, as provided for by Regulation 11 of the Access Regulations. Without prejudice to the generality of this obligation, the SMP MNOs shall:

I. Ensure that they apply equivalent conditions in equivalent circumstances to Access Seekers and other MNOs providing equivalent services.

II. Ensure that they provide services and information to Access Seekers and other MNOs under the same conditions and of the same quality as the SMP MNOs provide for their own services or those of their subsidiaries or partners.

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justified in the light of the objectives set out in Article 8 of Directive 2002/21/EC of the European Parliament and the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services in order to remedy SMP in the market on which Vodafone and O2 designated as jointly having same.

7 OWN INITIATIVE ACTION BY COMREG OR AT REQUEST OF AN ACCESS SEEKER OR SMP MNO

7.1 If an Access Agreement is not concluded pursuant Section 5 and 6 of this Decision, ComReg may decide to exercise its powers, on its own initiative, where justified and as appropriate[9] or either at the request of an Access Seeker seeking to conclude an Access Agreement or a SMP MNO, under the Access Regulations, the Framework Regulations, the Authorisation Regulations and the Universal Service Regulations[10] as provided for by Regulation 6 (5) of the Access Regulations.

7.2 A SMP MNO and the Access Seeker concerned shall be informed by ComReg of any decision referred to in section 7.1 of this Decision within one week from the date of such a decision.

7.3 If ComReg decides to exercise its powers under the Access Regulations on its own initiative, it may, amongst other things, direct that the SMP MNO and the Access Seeker conclude an Access Agreement within a specified period and ComReg may set the terms and conditions (including price) of an Access Agreement.

8 DISPUTE RESOLUTION

8.1 Either an Access Seeker or a SMP MNO may, if there is a dispute arising between them regarding rights or obligations under this Decision or the Access Regulations notify the existence of the dispute to ComReg under Regulation 31 of the Framework Regulations and the dispute resolution procedures set out in ComReg Decision D18/03[11] shall apply.

9 ADDITIONAL OBLIGATIONS ON SMP MNOS

9.1 In addition to the SMP obligations imposed in Section 5 and 6 of this Decision, the SMP MNOs shall have the SMP obligations set out below imposed on them. The SMP obligations shall become effective upon a Direction being issued by ComReg to a SMP MNO in respect of any one or more of the SMP obligations.

I. Obligations in relation to cost recovery and price control viz cost orientation, as provided for by Regulation 14 of the Access Regulations.

II. Obligations in relation to accounting separation, as provided for by Regulation 12 of the Access Regulations. ComReg will consult further on

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9 ComReg will have regard to amongst other things, any progress reports submitted in accordance with section 5 of this Decision or, the non-compliance of a SMP MNO with the obligation to submit such reports.

10 S.I. No. 308 of 2003 the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2003 which transposes Directive 2002/22/EC of the European Parliament and the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services.

11 ComReg document entitled 'Response to Consultation & Decision Notice D18/03 - Dispute Resolution Procedures' Reference Number: 03/89.

the detailed requirements of and the practical implementation of this obligation.

III. Obligations in relation to cost accounting, as provided for by Regulation 14 of the Access Regulations. ComReg will consult further on the detailed requirements of and the practical implementation of this obligation.

10 EFFECTIVE DATE

10.1 This Decision is effective on the **[●] day of [●] 2004** and until further notice by ComReg.

Isolde Goggin
Chairperson
The Commission for Communications Regulation

Dated the [●] day of [●] 2004

Appendix D – Pent-up Demand - Confidential

Appendix E – Notification of Draft Measures Pursuant to Article 7(3) of the Directive 2002/21/EC

Under the obligation in Article 16 of the Directive 2002/21/EC, ComReg, has conducted an analysis of the market for wholesale mobile access and call origination in the Republic of Ireland.

Under Article 6 of the Directive 2002/21/EC, ComReg has conducted a national consultation, contained in ComReg document 04/05. This consultation ran from 27th January 2004 and ended 9th March 2004. The responses to this consultation have been taken into consideration and ComReg has now reached decisions in market definition, designation of SMP and regulatory obligations, which are contained in ComReg Document 04/118 and ComReg Document 04/118a.

ComReg hereby notifies the Commission of its proposed remedies and obligations consistent with Article 7(3) of Directive 2002/21/EC. These remedies and obligations are set out in the attached summary notification form. Under Regulation 27(1), ComReg is required to liaise with the Competition Authority in its definition and analysis of markets. The views of the Competition Authority are attached.

Section 1 - Market Definition

Please state where applicable:

1.1	The affected relevant product/service market (s). Is this market mentioned in the Recommendation on relevant markets?	Wholesale mobile access and call origination. Yes	Page 13-29
1.2	The affected relevant geographic market (s)	The Republic of Ireland	Pages –29
1.3	A brief summary of the opinion of the national competition authority where provided;	The Authority supports the approach and findings of this market definition exercise.	Pages – 103 – 106
1.4	A brief overview of the results of the public consultation to date on the proposed market definition (for example, how many comments were received, which respondents agreed with the proposed market definition, which respondents disagreed with it)	In total eight responses were received by the closing date.	Pages – 133 -151
1.5	Where the defined relevant market is different from those listed in the recommendation on relevant markets, a summary of the main reasons which justified the proposed market definition by reference to Section 2 of the Commission's Guidelines on the definition of the relevant market and the assessment	Not applicable	

	of significant market power[12], and the three main criteria mentioned in recitals 9 to 16 of the recommendation on relevant markets and Section 3.2 of the accompanying Explanatory Memorandum[13].		

Section 2 - Designation of undertakings with significant market power

Please state where applicable:

2.1	The name(s) of the undertaking(s) designated as having individually or jointly significant market power. Where applicable, the name(s) of the undertaking(s) which is (are) considered to no longer have significant market power	Vodafone and O_2, been designated as having significant market power in the wholesale mobile access and call origination market. A reference in this section to any given undertaking shall be deemed to include that undertaking and any undertaking which is associated with, or is controlled by, or controls, directly or indirectly, the undertaking in question and which carries out business activities in Ireland, where the activities engaged in (either directly or indirectly) are activities falling within the scope of the relevant markets defined in section 3.	Page 71
2.2	The criteria relied upon for deciding to designate or not an undertaking as having individually or jointly with others significant market power	• Market Share • Absence of Potential Competition • Absence of or low Countervailing Buying Power • Pricing and Profitability- mature market, • Stagnant or moderate growth on the demand side, • Low elasticity of demand, • Homogeneous product, • Similar cost structures,	Pages 31-70

12 Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications and services, OJ C 165, 11.7.2002, p. 6.

13 Commission Recommendation of 11.2.2003 on Relevant Product and Service Markets with the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for ECNs and ECSs, C (2003) 497

		• Similar market shares, • Lack of technical innovation, mature technology, • Absence of excess capacity, • High barriers to entry, • Lack of countervailing buying power, • Lack of potential competition, • Various kinds of informal or other links between the undertakings concerned, • Retaliatory mechanisms, • Lack or reduced scope for price competition. • Pent-up demand for mobile access	
2.3	The name of the main undertakings (competitors) present/active in the relevant market.	Vodafone, O_2, Meteor and '3'.	
2.4	The market shares of the undertakings mentioned above and the basis of their calculation (e.g., turnover, number of subscribers)	Vodafone has a market share of 54% and O_2 has a market share of 40% when measured by subscribers (Collective share of 94%). Vodafone has a market share of 58% and O_2 has a market share of 39% when measured by revenue (Collective share of 97%).	Page 33, 36, 40-41

Please provide a brief summary of:

2.5	The opinion of the national competition authority, where provided	The Authority supports the approach and findings of this analysis exercise.	Page –103-106
2.6	The results of the public consultation to date on the proposed designation(s) as undertaking(s) having significant market power (e.g., total number of comments received, numbers agreeing/disagreeing)		Page –151-207

Section 3 - Regulatory Obligations

Please state where applicable:

3.1	The legal basis for the obligations to be imposed, maintained, amended or withdrawn (Articles 9 to 13 of Directive 2002/19/EC (Access Directive)) And pursuant to the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2003, SI No. 305 of 2003.	The following obligations are proposed: ▪ An obligation to provide network access on foot of a reasonable request by an access seeker (Regulation 13); ▪ An obligation of non discrimination (Regulation 11); ▪ An obligation of price control to be implemented by way of cost orientation (Regulation 14); ▪ An obligation to prepare separated accounts (Regulation 12); and ▪ An obligation to implement appropriate cost accounting systems (Regulation 14).	Pages 72-91
3.2	The reasons for which the imposition, maintenance or amendment of obligations on undertakings is considered proportional and justified in the light of the objectives laid down in Article 8 of Directive 2002/21/EC (Framework Directive). Alternatively, indicate the paragraphs, sections or pages of the draft measure where such information is to be found	Such information can be found in Sections 6 & 7 of this document.	Pages 72 - 101
3.3	If the remedies proposed are other than those set out in Articles 9 to 13 of Directive 2002/19/EC (Access Directive), please indicate which are the 'exceptional circumstances' within the meaning of Article 8(3) thereof which justify the imposition of such remedies. Alternatively, indicate the paragraphs, sections or pages of the draft measure where such information is to be found	Not applicable	

Section 4 - Compliance with international obligations

In relation to the third indent of the first subparagraph of Article 8(3) of Directive 2002/19/EC (Access Directive), please state where applicable:

4.1	Whether the proposed draft measure intends to impose, amend or withdraw obligations on market players as provided for in Article 8(5) of Directive 2002/19/EC (Access Directive)	Not applicable	
4.2	The name(s) of the undertaking(s) concerned	Not applicable	
4.3	Which are the international commitments entered by the Community and its Member States that need to be respected	Not applicable	

Appendix F – Consultation Responses

F.1 This section summarised the preliminary view expressed by ComReg and the responses received to the consultation document 04/05. Responses were received from eight interested parties. ComReg would like to thank all those who responded to the consultation. Responses to the consultation have been considered in coming to the conclusions outlined in sections 3 – 7.

Consultation Question 1

Q. 1. Do you agree with the scope of ComReg's review of wholesale mobile access and call origination services? Please elaborate your response.

F.2 ComReg's consultation document outlined that the wholesale services under examination in this review embrace the full range of services that potentially could be provided by Mobile Network Operators ("MNOs") to other undertakings or themselves, including:

Wholesale call origination – this enables indirect access operators to supply mobile originated calls via, for example, carrier selection or pre-selection or other means e.g. Number Translation Codes[14] ("NTCs"). Indirect access allows mobile subscribers to use an operator for mobile calls other than the one with which they have subscribed.

Wholesale call origination bundled with access - this enables Mobile Virtual Network Operators ("MVNOs") to provide the full set of retail mobile communications services. There is a great diversity in the potential forms which MVNO arrangements might take. In their more extensive form, MVNOs provide access and origination and termination, but also buy the interconnection which allows their customers to make complete calls. This service can be characterised as a form of access to unbundled network access elements (in particular, the radio access network).

Wholesale airtime bundled with access – this enables service providers to resell mobile communications services. Service providers may either purchase minutes or capacity.

National roaming – a particular form of access which is relied upon on a transitional basis by an entrant, normally for the purposes of offering service over a wider geographic area while they are completing their full network rollout.

14 Non-geographic numbers - these are numbers which are used to identify a type of service rather than a geographical location. These services are sometimes referred to as Specially Tariffed Services and include freephone (1800), local rate, national rate and premium rate numbers. These numbers generally require number translation codes ("NTCs") to allow network termination, thus enabling the service (e.g. 1800, 1850, 1890) to be provided.

Self-supply – the supply of access and call origination services from the wholesale to the retail arm of an integrated MNO.

Responses to question 1

F.3 All of the respondents generally agree with the scope of ComReg's review of wholesale mobile access and call origination services. A number of respondents outlined that the precise market definition applied is unlikely to have a material impact on the subsequent market analysis.

F.4 One respondent, who agreed with the scope of ComReg's review, believes that ComReg should identify the basic market which is origination services and the associated access requirements to support those origination services because, by trying to list individual components, ComReg might inadvertently exclude some.

ComReg's position

F.5 One respondent requested that ComReg should not list the components at the wholesale level. ComReg points out that the services listed are merely illustrative, not exhaustive. Reference could be made to the listed services as "examples" of wholesale services under review, for even greater clarity.

Conclusion

F.6 ComReg has received wide support for the scope of its review of the wholesale mobile access and call origination market. The scope of the review remains unchanged from ComReg's initial position, i.e. the wholesale services under examination in this review embrace the full range of services that potentially could be provided by Mobile Network Operators ("MNOs").

Consultation Question 2

Q. 2. Do you agree with the preliminary conclusion that fixed communication services and access, on the one hand, and mobile communications services and access, on the other, represent distinct relevant markets? Please provide a reasoned response and support your view with empirical evidence, as appropriate.

Does a "communications" market encompassing both fixed and mobile services exist at the retail level?

F.7 The European Commission has, in a number of decisions, found that there is a market for mobile communications services that cannot be seen as being substitutable to fixed communications services. The Commission notes that the key difference between mobile and fixed services is the mobility inherent in all mobile services (*i.e.*, mobile numbers are associated with individuals on the move, rather than a fixed location). Thus, even though technological advances may mean that similar services could be offered over both fixed and mobile networks, fixed services do not offer this mobility.[15]

F.8 ComReg has considered whether an unregulated monopoly supplier of retail mobile services would be able to profitably raise its prices above the competitive level by, say, 5-10% for a period of about a year.

F.9 Although fixed and mobile access services provide many of the same basic functions, important differences between the two remain, with mobile service being distinguished by its mobility, while fixed service boasts superior transmission quality and bandwidth. Technically speaking, mobile can be a substitute at least for voice services because users can place and receive calls just as they do with fixed service. The relevant question is whether an increase in mobile prices would cause customers to switch to fixed services.

F.10 ComReg compared the price of fixed and mobile calls and found a significant difference in price for local and national calls from a fixed line and a mobile phone.

F.11 The difference in price between fixed and mobile retail services combined with the inability of other firms such as fixed operators to switch to providing mobile services and the key mobility differentiator preliminarily indicate that mobile services are in a separate market from fixed services.

Responses to Question 2

F.12 All of the respondents agree with ComReg's preliminary conclusion that fixed communication services and access, on the one hand, and mobile communications services and access, on the other, represent distinct relevant markets.

F.13 Two respondents who agree with ComReg's conclusion note that there may be substitutability between retail fixed and retail mobile telephony services. They outlined that customers may substitute their fixed-to-mobile calls with mobile-to-mobile calls and note that ComReg has not conducted econometric analysis into substitution between fixed and mobile communications services.

F.14 One respondent outlined that comparing price is misleading without including the line rental for *eircom*. Prices should be compared for particular usage patterns rather than on a marginal minute basis.

ComReg Position

F.15 ComReg confirmed its preliminary conclusion that mobile services form part of a different market than fixed services. As outlined by one respondent this is based primarily on the fact of the different product characteristics of fixed and

15 See, for example, Commission Decision of 10 July 2002, Case No. COMP/M.2803 – TeliaSonera, Commission Decision of 20 September 2001, Case No. COMP/M.2574 – Pirelli/Edizone/Olivetti/Telecom Italia, Commission Decision of 20 September 2001, Case No. COMP/M.1439 – Telia/Telenor and Commission Decision of 12 April 2000, Case No. COMP/M.1795 – Vodafone Airtouch/Mannesmann.

mobile, namely mobility. Further the general price premium for making calls from a mobile suggests that mobile prices do not constrain the prices of calls from fixed line.

Conclusion

F.16 ComReg concludes that there are separate markets for fixed and mobile services at the retail level.

Consultation Question 3

> **Q. 3. Do you agree that a combined relevant service market exists for the retail provision of the above identified mobile communications services? Should any or all of the individual services identified in the cluster be excluded from that cluster? If so, why? Please provide a reasoned response and, as appropriate, supporting data.**

Does a "mobile communications" services market exist based upon a cluster of services at the retail level?

F.17 In considering this issue, ComReg first assesses whether there is a separate market for access at the retail level. Access to the network is generally incorporated in retail charges. In the case of post-pay customers, charging for mobile communications services is based on tariff plans that generally consist of two parts, namely, a fixed charge and an additional call charge that varies relative to the tariff plan selected (a fixed charge may also include "free" minutes or budget). ComReg is therefore of the view that access does not appear at present to be sufficiently unbundled from other mobile retail services so as to constitute a separate product market.

F.18 A narrow interpretation of the principles of demand-side substitution from the perspective of mobile end users could lead to the conclusion that each, or many, of the above individual mobile services presents different physical characteristics, prices and end uses. Thus, each service might not be considered as an effective substitute for the other. For example, an outgoing voice call would not be substitutable in all cases for SMS from a demand-side perspective.

F.19 As acknowledged by the Commission in similar circumstances,[16] however, such a narrow approach would not facilitate a comprehensive analysis of the competitive conditions that prevail in this market. It is therefore proposed that a broader view of the relevant market be adopted which takes into account both the commercial offerings of the component services and the consumer response thereto.

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16 See, for example, Commission Decision of 29 October 1993, Case No. IV/M.330 – McCormick/CPC/Rabobank/Ostmann, Commission Decision of 13 January 1999, Case No. IV/M.1355 – Newell/Rubbermaid and Commission Decision of 3 June 1997, Case No. IV/M.906 – Mannesmann/Vallourec.

F.20 As regards demand-side characteristics, consumers purchase a cluster of services from mobile operators. Consumers have the ability to make and receive calls and SMS once they subscribe to a mobile network. Consumers can choose between the cluster of services and may place greater significance on the availability of one service above another.

F.21 As regards supply-side substitutability, provided that capacity is available on the network, it is clear that mobile operators could in theory easily supply services within the cluster of retail services in response to a hypothetical price increase for a particular service. This results from the fact that the majority, if not all, of the individual services within the cluster are provided over the same mobile network and use more or less the same network elements (i.e., the same radio access network, similar elements in the core network, the same access and core transmission networks and generally the same operation and maintenance layer). However, mobile operators offer such services on a bundled basis, and have done so for a number of years, thus reducing the likelihood of potential supply-side substitutability for individual services in practice, as mobile operators generally compete on a bundle of services.

F.22 ComReg is mindful of the fact that several mobile communications services within the above cluster may be provided individually by service providers, thereby potentially providing mobile users with a choice of service providers for all their mobile service requirements. Accordingly, it is arguable that such services might fall outside the scope of a cluster market. However, ComReg is of the initial view that the provision of a mobile communications service on an individual basis should not materially affect the identification of the cluster market indicated above, at least where it can be demonstrated that the provision of such a service on an individual basis has an insignificant impact on the degree of competition between the provider of the individual service and the provider of the range of mobile services.[17] ComReg is also of the preliminary view that the impact of the provision of several mobile communications services on an individual basis may be left open for the purposes of this review, as their inclusion or exclusion is unlikely to have a significant impact on the market definition process at this point in time.

F.23 ComReg is of the preliminary view that the retail market for which access and call origination at the wholesale level should be available includes the provision of a cluster of services currently provided by MNOs, which includes:

- mobile access;
- basic voice services, including international roaming calls;[18]

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17 This approach draws from the concept of interchangeability under Community competition rules, whereby products and/or services which are only to a limited extent interchangeable with other products, and which are characterised by an insignificant degree of competition between each other, are excluded for the purposes of the market definition exercise.

18 Basic voice services provide the conveyance and switching necessary to access a called party. These services are generally categorised according to whether the call is of a national, international or international roaming nature. They may be further broken down into pre-pay and post-paid services, with the latter category further sub-divided according to various subscription packages. These services may be also divided between on-net (i.e., a call originated and terminated on the same

- supplementary and value-added voice services;[19] and
- basic and value-added SMS.

Response to Question 3

F.24 Almost all of the respondents agree that a combined relevant service market exists for the retail provision of the various mobile communications services identified by ComReg in its Consultation Paper.

F.25 There was some disagreement in terms of what services should be included in the cluster. Some of the services that respondents felt should be included in the cluster are termination services and broadly defined data services. One respondent believed that international roaming calls were improperly included in the cluster.

ComReg's Position

F.26 All of the respondents agree that a combined relevant service market exists for the retail provision of the various mobile communications services at the retail level. Some of the respondents outlined that ComReg improperly exclude / included some mobile communications services from the cluster preliminary defined in its consultation paper. These are discussed below:

Broadly defined data services

F.27 The service "cluster" which is the focus of ComReg's attention is predominantly voiced-based. In Ireland, SMS is not only mature as a service offering, but is also sold as an integral part of an integrated service package by MNOs. The nature of the data transfer facilitated by SMS messaging means that it acts as a partial substitute for voice calls and, for a significant part of the population, as an actual substitute for certain types of calls. The 'service' cluster defined would represent approximately 95%[20] of the Irish incumbent operators revenues and the service cluster is likely to remain the principal source of revenue for mobile operators going forward

F.28 Advanced data services will be provided through the use of 2.5G and 3G technology. Ultimately, it is anticipated that 3G technology will supersede 2G technology. Consistent with the European Commission's administrative practice, if this technological migration is to occur, it will be appropriate at some point in time to treat both voice and data services as encompassing services provided using either technology. Although, the bridge between 2G and 3G is being crossed by 2.5G, 2.5G technology is being fundamentally used to provide embryonic sophisticated data services.

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mobile network), fixed off-net (i.e., a mobile call terminated on a fixed network) and mobile off-net calls (i.e., a mobile call terminated on a mobile network other than the one on which it originated).

19 Supplementary voice services are provided in addition to basic voice services and generally at an additional cost. Such services are accessed to a large extent via short-codes and include premium-rate services (e.g., horoscopes), directory services, voicemail, conference calls, etc.

20 Credit Swisse First Boston, 'Competition increasing', July 2004, estimates O2 Ireland's non-SMS data revenues for Q1 2004 at 5.6%

F.29 Accordingly, ComReg has considered it appropriate to exclude advanced data services from its market definition, primarily on the basis that the services provided are data-based and do not fall within the scope of the cluster of voice-based services currently acquired and provided. ComReg has also taken into account that the cluster of voice and SMS–based services, consistent with the principle of technology neutrality, may be offered over 2G, 2.5G or 3G networks.

F.30 ComReg has excluded advanced data services from the demand side characteristics referred to above as consumers have the automatic ability to use basic voice and SMS services once they subscribe to the mobile operator. Advanced data services typically provide additional utility to the basic mobile 'cluster' and consumers use of advanced data services will be dependent on handset functionality and availability of applications to support advanced data services.

F.31 One MNO has argued that such new data services should be included in ComReg's market definition of retail services, on the ground that their take-up is growing fast. Although the arguments are finely balanced, ComReg has concluded that it is more appropriate to exclude such services from the current market review on the grounds that:

- they currently represent a minimal amount of revenue;
- market evidence of the entry of '3' in the UK suggests that the principal competitive impact between new and existing operators will continue to be for the provision of voice services: and
- other technologies such as WLAN impose a different constraint on data services than they do on voice and SMS services.

F.32 This does not, of course, preclude ComReg from taking another view in a later market review, should circumstances differ.

International Roaming Calls

F.33 The 'international roaming' service at the retail level is the ability of Irish customers to use their mobiles abroad. Wholesale roaming services provided by Irish operators to other MNOs allows foreign operators consumers to use their mobile while in Ireland. This market is the subject of a separate review by ComReg, having being defined by the European Commission as part of its relevant markets recommendation.[21] However the ability of Irish consumers to use their mobile abroad falls under the retail cluster of services subscribed to by consumers.

Termination services

F.34 In relation to call reception being included as part of the retail cluster ComReg considers that wholesale mobile termination should not be included in the same relevant product market as originating mobile services. As is reflected in ComReg's market analysis for mobile access and call origination, the wholesale origination market is a multi-operator market, whereas the wholesale termination market is operator-specific. This reflects the fact that the conditions of supply and

[21] The wholesale national market for international roaming on mobile networks.

demand for termination services are significantly different to origination services.

Conclusion

F.35 ComReg's decision on the cluster market is consistent with that outlined in its consultation document. i.e. the cluster defined at the retail level consists of the following services:

- Mobile access,
- Basic voice services, including international roaming calls
- Supplementary and value-added voice services; and
- Basic and value added SMS

F.36 The cluster of services outlined by ComReg at the retail level may be offered over 2G, 2.5G or 3G technologies.

Consultation Question 4

Q. 4. Do you agree that pre-pay and post-pay mobile communications services are part of the same relevant services market at this time? Please elaborate on your response.

F.37 As part of its consideration of whether outbound mobile communications services constitute a relevant product market, ComReg has also needed to address the following additional issues:

- Customer segmentation: Pre-pay and post-pay mobile;
- Advanced mobile data services at the retail level;
- 3G services in Ireland at the retail level;
- WLAN; and
- Case Precedents

(a) Customer segmentation: Pre-pay and post-pay mobile

F.38 ComReg has considered the switching behaviour of end-users in relation to retail services. ComReg is of the preliminary view that pre-pay and post-pay users fall within the same relevant product market. The number of pre-pay customers (which account for the majority of users – 74%[22]) switching to post-pay contractual services in response to an increase in the price of pre-pay services by a monopoly supplier of pre-pay services is likely to render the price increase unprofitable. This is equally true from a supply-side perspective. While there are greater costs associated with switching from post-pay to pre-pay services, ComReg considers there is sufficient interchangeability between these services from a demand and supply-side perspective and is of the preliminary view that pre-pay and post-pay are in the same market. This is consistent with the Commission Recommendation where it is stated that "Pre- and post- pay mobile services can also be considered to

22 ComReg Quarterly Key Data Report, September 2004.

be part of the same market. Supply substitutability is relatively easy as is demand substitutability (in particular from pre-pay to contractual terms)".

Responses to Question 4

F.39 The majority of respondents agree with ComReg's preliminary conclusion that pre-pay and post-pay mobile communications services are part of the same relevant services market. One operator disagrees outlining that pricing, handset subsidies, SIM lock and the loss of credit predicate against a move from post paid to pre paid but encourages a mover from pre paid to post paid.

ComReg Position

F.40 ComReg believes that pre-paid services and post-paid services are in the same services market. Functionally pre-paid and post-paid service offerings are more or less identical (e.g. data services such as WAP, international roaming, GPRS, voicemail services, etc. are available in both pre-paid and post-paid service packages). ComReg recognises that customer switching costs are asymmetric, in that the costs of switching from pre-paid to post-paid are lower than the costs of switching from post-paid to pre-paid. This asymmetry in costs is due largely to the terms in post-paid contracts usually requiring advance notification (typically 30 days) to close a post-paid account, and a minimum term of 12 months from the start of a contract. While such customer switching costs may dampen the competitive effects of demand-side substitution, they do not eliminate such effects. Furthermore, ComReg believes that supply-side substitution is a sufficient constraint on the hypothetical monopolist. A provider of pre-paid services could easily switch into offering post-paid services. Consequently, a hypothetical monopolist of post-paid services seeking to increase prices by 5-10% above cost would not find this profitable because (i) some customers would switch to pre-paid services and (ii) suppliers of pre-paid services would find it profitable to enter and provide post-paid services.

Conclusion

F.41 ComReg concludes that pre-pay and post-pay form part of the same relevant market.

F.42 ComReg recognises however that certain market segments may be more likely to choose a pre-paid service while other market segments may be more likely to choose post-paid services. Large Corporate and SMEs may be more likely to choose post-paid services while cost conscious users may choose pre-paid to try and control expenditure. As such competitive conditions may be different between both markets. However ComReg recognises that for the purposes of market definition that both pre-paid and post-paid form part of the same market.

Consultation Question 5

> **Q. 5. Do you believe that ComReg should include or exclude the services discussed above from the definition of the relevant market? Please detail your reasons for so responding and, as appropriate, provide supporting data.**

(b) Advanced mobile data services at the retail level

F.43 Unlike SMS services, which ComReg considers to form part of the "cluster" that customers expect to receive from MNOs, ComReg's preliminary view is to omit advanced data-based services supplied via WAP-enabled Internet access, GPRS and 3G from its consideration of the existing cluster market for retail mobile communications services, because the provision of these more advanced data-based services is generally in its infancy and for the demand side characteristics referred to above.

(c) 3G services in Ireland at the retail level

F.44 As regards the issue of whether 3G services should, or could, be included in the identified cluster market at the retail level, ComReg has considered whether the delivery of 3G services falls within the same cluster as 2G services, consistent with the principle of technology neutrality. ComReg's preliminary view is that the market definition should be technology neutral, *i.e.*, based on the nature of the product and services provided, not on the technological platform used to provide them. 3G telephony services, from a demand-side functionality perspective, are not distinguishable from their 2G equivalents, and appear to be part of the same relevant product market. ComReg notes that this is consistent with the views expressed by the Commission in its response, of the 29th August 2003, to Oftel's notification of the wholesale access and call origination market.

"In general, the Commission considers that market definition should be technology-neutral, i.e. based on the nature of the products or services provided, not on the technological platform used to provide them. 3G voice and SMS services offered at present or in the near future are, from a demand-side perspective, not distinguishable from their 2G equivalents, and appear to be part of the same relevant product market. However, given the current state of this market, the explicit inclusion of 3G telephony would not have a material effect on the results of the analysis at issue. In any event, the inclusion, within the market for mobile network access and call origination of the 3G services currently offered, is without prejudice to any subsequent determination of market definition regarding new "enriched" 3G services that may develop".

(d) WLAN

ComReg is of the view that WLAN services are not an effective substitute for mobile services at this time. By embracing the technology and enabling seamless roaming between their mobile network and their WLAN networks, operators could use the technology to enhance significantly their data offerings, by combining high speed WLAN access in areas of particularly high density with ubiquitous wide area connectivity via mobile network coverage. WLAN may provide a competitive alternative in certain hotspots, but it does not offer mobility. ComReg is therefore of the preliminary view that WLAN services are unlikely to be part of this market.

(e) Case precedents

F.45 Regulatory and competition authorities in other jurisdictions have also defined a relevant product market for the provision of mobile communications services. In its Explanatory Memorandum to the *Relevant Markets Recommendation*, the Commission states that it is possible to define a mobile outbound calls market at the retail level that includes national, international and roaming calls.

F.46 Concerning mobile voice telephony markets, the Commission has so far generally not distinguished between different technologies. Most decisions have determined that both analogue and digital GSM 900 and 1800 are part of the same mobile voice telephony market, while testing narrower market definitions to ensure that no dominant positions arose on any market definition. [23]

F.47 As regards customer segmentation, the Commission has identified an emerging market for the provision of advanced seamless pan-European mobile communications services to internationally mobile customers.[24] Based on the distinguishing factor of mobility, the Commission has so far considered that mobile and fixed data services are in separate markets.[25]

F.48 Given the fact that retail pricing and service offers of digital mobile telephony are currently national, markets remain national in scope, with the exception of the emerging market for the provision of seamless pan-European mobile telecommunications services to internationally mobile customers, as first identified by the Commission in the *Vodafone/Mannesmann* Decision.[26] International roaming services are not considered to be a substitute given the high prices and limited functionality of international roaming.[27]

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[23] Cf. Commission Decision of 21 May 1999 in Case IV/M.1430 —Vodafone/Airtouch (OJ C 295, 15.10.1999, p. 2); Commission Decision of 21 May 1999 in Case COMP/JV.17 —Mannesmann/ Bell Atlantic/Omnitel (OJ C 11, 14.1.2000, p. 4); Commission Decision 98/2001/EC in Case COMP/M.1439 — Telia/Telenor (OJ L 40, 9.2.2001, p. 1); Commission Decision of 20 December 1999in Case COMP/M.1760—Mannesmann/Orange (OJ C 139, 18.5.2000, p. 15); Commission Decision of 12 April 2000 in Case COMP/M.1795 — Vodafone Airtouch/Mannesmann (OJ C 141, 19.5.2000, p. 19); Commission Decision of 4 August 2000 in Case COMP/M.2053— Telenor/BellSouth/Sonofon (OJ C 295, 18.10.2000, p. 11); Commission Decision of 11 August 2000 in Case COMP/M.2016 — France Telecom/Orange (OJ C 261, 12.9.2000, p. 6); Commission Decision of 25 September 2000 in Case COMP/M.2130 — Belgacom/Tele Danmark/ T-Mobile International/Ben Nederland Holding (OJ C 362, 18.12.2001, p. 6).

[24] Commission Decision of 12 April 2000 in Case COMP/M.1795 — Vodafone Airtouch/Mannesmann (OJ C 141, 19.5.2000, p. 19).

[25] In relation to dial-up access to Internet via mobile handsets and via fixed means. Cf. Commission Decision of 20 July2000 in Case COMP/JV 48 — Vodafone/Vivendi/Canal+, http://europa.eu.int/ comm/competition/mergers/cases/.

[26] Cf. Commission Decision of 12 April 2000 in Case COMP/ M.1795 — Vodafone Airtouch/Mannesmann (OJ C 141, 19.5.2000, p. 19); Commission Decision of 11 August 2000 in Case COMP/M.2016 — France Telecom/Orange, (OJ C 261, 12.9.2000, p. 6).

[27] Cf. Commission Decision of 22 June 1998 in Case IV/JV.2 — ENEL/FT/DT (OJ C 178, 23.6.1999, p. 15); Commission Decision of 21 May 1999 in Case IV/M.1430 —

Responses to Question 5

F.49 There is mixed support from the respondents for ComReg's exclusion of particular data services from the definition of the relevant market.

F.50 One operator argues that it is not consistent to include 3G but exclude 2.5G in the market definition. The operator outlines that 3G services will have a serious impact on the retail market with data services accounting for approximately 35% of mobile revenues in Ireland by the end of the period of review. The operator also considers that WLAN should not be considered to be in its infancy and it is another package switched mechanism which could act as a competitive threat to mobile services.

F.51 One of the mobile operators considers it premature to consider whether particular 3G data services and / or WLAN are in the same relevant product market.

ComReg Position

F.52 ComReg will discuss each of the items in turn as they are outlined above.

Advanced Mobile Data Services

F.53 ComReg's preliminary conclusion is to exclude advanced mobile data services at the retail level from the cluster market definition. Since retail mobile data services are relatively under-developed and the services offered are typically demand side complements to basic voice and SMS services. The markets may be distinct from other mobile services if consumers are faced with no effective substitutes for the data product. Since the markets are very immature it is too early to say whether other demand-side substitutes will emerge, but it may be that non GSM radio data communications services, currently used for tracking and telemetry applications will develop as competitors to GPRS based data services. For these reasons ComReg is excluding advanced data services from its cluster market definition as outlined previously.

3G Services in Ireland at the retail level

F.54 ComReg's position on 3G services at the retail level are detailed above. As the cluster of services defined earlier by ComReg can be carried over 2G, 2.5G or 3G ComReg believes that it is appropriate to include all technologies. Following consultation ComReg has excluded advanced data services at the retail level provided over 3G technology networks because, given their infancy, it would be too speculative for ComReg to do so as regards market definition.

WLAN

F.55 ComReg's preliminary conclusion was to exclude WLAN. There was a mixed response to the consultation as to whether WLAN should be included or excluded. ComReg maintains its view that WLAN services are not an effective substitute for mobile services at this time. WLAN may provide a competitive

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Vodafone/Airtouch (OJ C 295, 15.10.1999, p. 2); Commission Decision 98/2001/EC in Case COMP/M.1439— Telia/Telenor (OJ L 40, 9.2.2001, p. 1).

alternative in certain hotspots, but it does not offer mobility.

Conclusion

F.56 ComReg maintains its preliminary view that advanced mobile data services and WLAN at the retail level be excluded from the cluster definition. In relation to 3G, ComReg believes that it should be included, consistent with the principle of technology neutrality and the fact that the cluster of basic voice and SMS services can be offered over any technology.

Consultation Question 6

Q. 6. Do you agree with the above preliminary conclusions on the definition of the market for mobile communications services at the retail level? Please provide a reasoned response.

Preliminary Conclusion on Retail Market Definition

F.57 The evidence above suggests that there is a retail "*mobile communications*" services market, based on a cluster of services.

Responses to Question 6

F.58 There is general but mixed support from the respondents for ComReg's preliminary conclusions on the definition of the relevant market. Half of the respondents express complete or general agreement with ComReg's preliminary conclusions, while only one respondent believes that ComReg has defined the relevant market too narrowly by excluding various data services. As noted above, there is also some disagreement on the issue of whether or not WLAN services should be excluded or included

ComReg Position

F.59 Whatever the precise scope of the product market at the retail level, it is important to take into account the fact that ComReg's assessment of the services which are said to fall within that market is only taking place in order to determine whether there exists a market failure at the wholesale level whose effects are being felt at the retail level. It is in this connection that the EU Commission has used the 'level of competition generally observed at the retail level' rather than express reference to a designated 'relevant' market at retail level

Conclusion

F.60 ComReg concludes that a cluster market exists at the retail level based on the following services, which may be offered over 2G, 2.5G or 3G technologies:

- Mobile access,
- Basic voice services, including international roaming calls
- Supplementary and value-added voice services; and
- Basic and value added SMS

Wholesale Market Definition

Consultation Question 7

Q. 7. Do you agree with ComReg's preliminary conclusion on the definition of the wholesale market for access and call origination? Please explain with relevant technical and / or economic reasons.

F.61 ComReg is required, under the terms of the *Relevant Markets Recommendation*, to assess the scope of the mobile wholesale access and call origination market. The scope of the market definition at the wholesale level is conditioned by the extent to which operators require access and call origination services to be able to provide the range of retail mobile services described above.

F.62 In defining a relevant product market for wholesale access and call origination services on the basis of a range of hypothetically substitutable services, ComReg has addressed the following issues:

(i) whether call origination, MVNO access and other wholesale services provided over a mobile network belong to the same relevant product market;

(ii) whether wholesale services provided over different mobile networks belong to the same relevant product market; and

(iii) whether self-supply should be included in the relevant product market, together with wholesale services provided to third parties.

F.63 Each of these issues is discussed below:

<u>Do call origination, MVNO access and other wholesale services provided over a mobile network belong to the same relevant product market?</u>

F.64 A variety of business models used by operators in other parts of the EU depend on the availability of wholesale access and call origination services being provided by MNOs. For example, indirect access operators require call origination; MVNOs require access to the radio access network, while independent service providers require access to airtime (either minutes or capacity). In the case of national roaming, however, this form of access would be available only to a licensed MNO, usually on a transitional basis. The mobile wholesale services required to support those business models do not appear to be *prima facie* substitutable, since they are based on different economic assumptions and usually reflect qualitatively different entry strategies. However, these various wholesale access and call origination services are a means of satisfying retail customer's needs, thus supporting the argument for demand-side substitutability.

F.65 From a supply-side perspective any operator providing a call origination service to indirect access operators could in theory, where capacity is available, switch with relative ease to providing access to an MVNO within a relatively short timeframe, and *vice versa*. Given the relative importance of supply-side substitutability analysis in connection with the range of potential wholesale services that could be provided, and the probability of demand-side substitutability, ComReg is of the preliminary view that the relevant product market will, therefore, consist of all wholesale access and call origination services that could be offered over an MNO's network.

Do wholesale services provided over different mobile networks belong to the same relevant product market?

F.66 Unlike call termination services, it is arguable that an indirect access operator does not necessarily require access to all mobile subscribers in Ireland. It might be sufficient for such an operator to have access to a single MNO, based on the assumption that this operator has a sufficient number of subscribers, given the target audience contained in the business plan of the particular indirect access operator. From an indirect access operator's perspective, therefore Vodafone is likely to be substitutable by O_2, and *vice versa*. It is, however, debatable whether Meteor currently has a sufficient subscriber base to be a full substitute for the networks of Vodafone or O_2 from an indirect access operator's point of view.

F.67 From an MVNO's perspective, the number of mobile subscribers on any given network is of less relevance, since an MVNO does not sell its services directly to the MNO's customers. In order to render mobile networks substitutable other characteristics including coverage levels must be comparable. Seen in this light, Vodafone and O_2 appear to be readily substitutable from an MVNO's perspective, while Meteor, before its national roaming agreement with O_2 may be perceived as having a more restricted geographic coverage and might only represent a relatively imperfect substitute. Overall, ComReg's conclusion is that there is a single relevant market that includes all MNOs.

Should self-supply be included in the relevant product market?

F.68 In the context of this market review the issue of substitutability will need to be assessed on the basis of potential market transactions for the wholesale provision of mobile access and call origination services, as no wholesale services are currently provided, except in the form of self-supply by vertically integrated operators and indirect access via NTCs, in Ireland.[28] The possibility for the review of potential markets, especially for the purposes of imposing sector-specific regulation, has long been foreseen under Community administrative practice.[29]

F.69 ComReg's preliminary view is that the taking into account of self-supply at the level of market definition for the purposes of determining the scope of the wholesale mobile access and call origination market is not only appropriate as a matter of economic principle, but is also consistent with emerging Community jurisprudence[30] and Commission administrative practice.[31] It is particularly appropriate for ComReg to take self-supply at the level of market definition given

[28] National Roaming deal between O_2 and Meteor signed after consultation

[29] Paragraph 33, Notice on the application of the competition rules to access agreements in the telecommunications sector – framework, relevant markets and principles. O.J. 1998 C 265/2.

[30] See European Court of First Instance judgment in Schneider Electric SA v. Commission, where the Court rejected the Commission's view that vertically integrated channel sales were not 'sold' in the wholesale market (and would therefore not constrain the conduct of the merged entity).

[31] Refer to Draft Commission Notice – Guidelines on the application of Article 81 of the EC Treaty technology transfer agreements, at point 2.1 (see also Article 3(3) of the draft revised Technology Transfer Block Exemption Regulation).

that there is no third party access being granted at present.

Preliminary Conclusion on Wholesale Market Definition

F.70 ComReg's review of the commercial and economic evidence suggests that a relevant market can be identified for the wholesale provision of access and call origination. For the reasons explained above, ComReg's preliminary view is that the relevant product market consists of:

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

Responses to Question 7

F.71 There is general support from the respondents for ComReg's preliminary conclusion on the definition of the wholesale market for access and call origination. Half of the respondents express complete or partial agreement with ComReg's preliminary conclusion, while no respondent expresses complete disagreement. Two respondents believe that it is unnecessary for ComReg to define the wholesale market at this time. One respondent, which expresses partial agreement with ComReg's preliminary conclusion, believes that ComReg has defined the wholesale market too narrowly by excluding various data services, particularly WLAN-based services.

ComReg Position

F.72 ComReg has received general support for its preliminary conclusion on the wholesale market definition. The list of wholesale services listed by ComReg in its consultation document is merely illustrative, not exhaustive. Reference could be made to the listed services as "examples" of wholesale services under review, for even greater clarity.

Conclusion

F.73 ComReg's views are consistent with the wholesale market definition set out in its original consultation paper.

The Relevant Geographic Market

Consultation Question 8

Q. 8. Do you agree that the relevant geographic markets for the provision of mobile communications services at the retail level, as well as access and call origination services at the wholesale level are national in scope? Please expand in your response.

F.74 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 relation to which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different to those areas.[32]

F.75 On the basis of the above definition, ComReg takes the view that the respective geographical markets for wholesale (self-supplied) access and call origination and retail mobile communications services are national in scope. In particular, the pricing and service offers at the retail and wholesale levels are currently national, as are the relevant pricing procedures. Mobile operators' licences are also national in scope.

Response to Question 8

F.76 ComReg has confirmed its conclusion that the relevant geographic markets for the provision of mobile communications services at the retail level, as well as access and call origination services at the wholesale level are national in scope.

F.77 One respondent agrees but outlined that while the market is for now limited to the twenty six counties, future offerings may mean that a thirty two county market assessment would be more appropriate with all island offerings in the market within the next thirty six months.

ComReg position

F.78 ComReg has confirmed its preliminary conclusion on the geographic scope of the relevant market.

Conclusion

F.79 ComReg's concludes that the geographic market for the provision of mobile communications services at the retail level and national level are national in scope.

Preliminary Conclusions on Market Definition

Consultation Question 9

Q. 9. Do you agree with the above preliminary conclusions regarding the market definition exercise? Please provide a reasoned response.

F.80 The communications sector is characterised by two or more functional levels of competition, namely, the provision of communications services to end users (i.e., the retail market) and an upstream market for the provision of access to facilities necessary to provide such communications services (i.e., a wholesale market).

F.81 ComReg's review of the commercial and economic evidence suggests that a relevant market can be identified for the wholesale provision of access and call origination. For the reasons explained above, ComReg's preliminary view is that this relevant product market consists of:

32 See, for example, United Brands v. Commission, [1978] ECR 207, the Market Definition Notice, the SMP Guidelines and ComReg's Information Notice on Market Analysis and Data Collection for market reviews of electronic communications networks, ComReg Document No. 02/117, for additional guidance.

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

F.82 ComReg acknowledges that emerging access services might result in a variation of this wholesale market definition over time, but ComReg believes these will not be material during the period of this review. Consequently, these conclusions are without prejudice to the future existence of multiple separate markets for call origination and various forms of access to mobile networks, particularly if the mobile value chain becomes increasingly fragmented over time. Access could take a number of forms, including independent service provision (*e.g.,* (un)branded airtime), national roaming, access by so-called mobile virtual network operators ("MVNOs") and indirect access (*i.e.*, carrier pre-selection).

F.83 The broad scope of the relevant wholesale market reflects the ability of Electronic Communication Network ("ECN") providers to address the retail market for mobile communications services, which includes all mobile services sold to end users as a "cluster" of services. Accordingly, ComReg's preliminary view is that there exists a services market for the retail provision of mobile communications services, which is comprised of mobile access, basic voice services, including national, international and international roaming calls, supplementary and value-added voice services, and basic and value-added SMS. Pre-pay and post-pay mobile communications services form part of the same relevant services market.

F.84 ComReg has excluded from its market definition advanced data based services on the basis of its cluster definition of retail mobile communications services, as their inclusion or exclusion from the relevant market, at least at this stage of their development in Ireland, is not material to the conclusions of this market review for the purposes of determining SMP on any relevant market.

F.85 ComReg's preliminary view is that the geographical scope of the markets for the provision of mobile communications services at the retail level, as well as for access and call origination services at the wholesale level, is limited at this point in time to the national territory of Ireland.

Response to Question 9

F.86 There is general but mixed support from the respondents for ComReg's preliminary conclusions regarding the market definition exercise. One respondent expresses complete agreement, while three express partial agreement and one respondent expresses complete disagreement. The general point of disagreement appears to be whether ComReg properly excluded certain data services, particularly, WLAN-based services, from its definition of the retail and wholesale markets.

F.87 One respondent who disagrees believes that the inclusion or exclusion of data services in the product cluster will not impact materially on the outcome of market analysis, the respondent believes that the basic retail service cluster cannot be limited to simply voice and SMS and should include at a minimum the components of the standard retail offering. The respondent notes that ComReg should not disregard the impact of 3G and WLAN on the retail cluster.

ComReg Position

F.88 In general ComReg has received support for its market definition conclusions. One respondent reiterates the points raised earlier, namely that the market definition should include all data services and WLAN. The cluster of services identified at the retail level by ComReg serves as the basis for its analysis of the general level of competition at the retail level so as to determine whether it should adopt ex-ante measures addressing any market failure at the wholesale level.

Conclusion

F.89 ComReg concludes that there exists a cluster market at the retail level based on the following services, which may be offered over any technology:

- Mobile access;
- Basic voice services, including international roaming calls;
- Supplementary and value-added voice services; and
- Basic and value added SMS.

F.90 ComReg concludes that there exists a market at the wholesale level based on the following services:

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

Market Analysis
Consultation Question 10

> Q. 10. Do you agree with ComReg's preliminary view that joint dominance should be investigated? If not, please reason your response.

Background

F.91 ComReg outlined in its consultation document that given the structure of the market in Ireland that collective dominance should be investigated.

Summary of Responses to Question 10

F.92 Although ComReg has received general support for its preliminary view that collective dominance should be investigated, with all respondents excepting two expressing agreement. The two dissenting responses have each presented arguments against ComReg' preliminary view that joint dominance should be investigated.

F.93 One of the dissenting respondents asserts that ComReg has failed to address the question of whether or not Vodafone is in a position of single dominance in the market, and furthermore argues that it must presumably conclude that it is not before it can attempt to make a finding of collective dominance with respect to O_2 and Vodafone. Another respondent also raised the issue of whether Vodafone may hold a position of single dominance in the relevant market.

F.94 In addition, the two dissenting respondents both argue that although the wholesale mobile access and call origination market is currently included in the Commission's "*Recommendation on Relevant Markets*," its inclusion has always been heavily qualified and the Commission has already indicated its intention to remove this market from the scope of *ex ante* regulation at the first opportunity.

ComReg Position

F.95 ComReg has a duty, when assessing whether an undertaking has significant market power or whether two or more undertakings are in a joint dominant position in a relevant market, to act in accordance with European Community law and take utmost account of guidelines on market analysis and the assessment of significant market power published by the European Commission pursuant to Article 15(2) of the Framework Directive and, in addition, in the case of an assessment of whether two or more undertakings are in a joint dominant position, the criteria set out in the Schedule to the Framework Regulations.[33]

F.96 This assertion that single market dominance should be addressed before assessing joint dominance is not supported by any legislative or jurisprudential authority. Article 15 of the Framework Directive makes no reference to any such legal requirement, even where it expressly addresses the concept of collective dominance.[34] The Guidelines,[35]which set out in Section 3 thereof the principles and methodology for carrying out a market analysis of the conditions of competition prevailing in the markets identified in the Recommendation,[36]make no reference whatsoever to any such legal requirement. In addition, neither dissenting respondent refer to any case law of the ECJ or an Irish Court which is authority for this proposition.

F.97 In the consultation document ComReg noted the market share of Vodafone and noted that the EC Guidelines state that large market shares — in excess of 50% — are in themselves, save in exceptional circumstances, evidence of the existence

[33] Regulation 25, Framework Regulations.

[34] Article 14 (2) provides amongst other things '…In particular, national regulatory authorities shall, when assessing whether two or more undertakings are in a joint dominant position in a market, act in accordance with Community law and take into the utmost account the guidelines on market analysis and the assessment of significant market power published by the Commission pursuant to Article 15. Criteria to be used in making such an assessment are set out in Annex II.'

[35] Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services.

[36] EU Commission Recommendation of 11 February, 2003 on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services.

of a dominant position. An undertaking with a large market share may be presumed to have SMP, that is, to be in a dominant position, if its market share has remained stable over time. The fact that an undertaking with a significant position on the market is gradually losing market share may well indicate that the market is becoming more competitive, but it does not preclude a finding of significant market power. On the other hand, fluctuating market shares over time may be indicative of a lack of market power in the relevant market."[37]

F.98 ComReg's analysis presents circumstances that ultimately do not give rise to a finding of single dominance. Of particular significance are low barriers to expansion, a factor that was also noted to be important in the Meridian judgment in April 2001, which ruled that Vodafone did not hold a position of single dominance in the Irish retail mobile market because barriers to expansion on the part of O_2 (then Digifone) were low.[38] ComReg notes each dissenting respondent agrees with ComReg that barriers to expansion in the market are low.

F.99 ComReg notes that a number of factors demonstrate that there is a *prima facie* case for ComReg to investigate joint dominance. These are discussed in further detail in this document, but in summary include observations that:

- The market is highly concentrated;
- The market shares held by O_2 and Vodafone are relatively high (40% and 54% respectively), and the difference between Vodafone's and O_2's market shares is less today than it was in 2001;
- The market share held by O_2 has been relatively stable at 40% over the period since the end of 2001;
- The market shares of O_2 and Vodafone have been slowly approaching each other since the end of 2001, whereas before this date the difference in their market shares declined appreciably;
- New competition in the form of a third network operator (Meteor), which launched commercially during 2001, has not disrupted the market and remains on the fringe of substantial segments within the market;
- Prices are relatively high and stable within substantial segments of the market;
- The profitability of O_2 and Vodafone appears to be high; and
- There is evidence of parallel behaviour by O_2 and Vodafone in substantial segments within the market.

F.100 ComReg also notes that its claim that factors also relevant to a finding of dominance may equally be considered in relation to O_2 was not refuted.[39]

Conclusion

F.101 ComReg believes that the evidence does not support the claim that Vodafone holds a position equivalent to individual dominance in this market. ComReg notes that barriers to expansion are low for both O_2 and Vodafone, and

[37] Paragraph 75 Guidelines.
[38] Paragraph 124 Meridian Communications Judgment.
[39] Paragraph 4.6 of the consultation document.

this factor, combined with a number of other factors as presented (such as economies of scale and scope, access to capital, etc.), enables O_2 to exert sufficient competitive pressure on Vodafone such that Vodafone could not act independently of O_2, and furthermore, for Vodafone to exert sufficient competitive pressure on O_2 such that O_2 could not act independently of Vodafone.

F.102 In the responses to this question, the observations made by ComReg with regard to market developments since the *Meridian Communications* judgment were not rebutted and therefore ComReg remains of the view that a position of joint dominance needs to be investigated.

Joint (or Collective) dominance

<u>Consultation Question 11</u>

Q. 11. Do you agree with ComReg's preliminary assessment of market share developments at the retail level in Ireland?

<u>A. The Degree of Market Concentration</u>

F.103 ComReg is of the preliminary view that the retail mobile communications market is highly concentrated in Ireland, as outlined below. There are currently four vertically integrated mobile operators in Ireland, namely, Vodafone, O_2, Meteor and '3'. To date, there are no independent mobile service providers in Ireland.

F.104 A large combined market share among very few undertakings might indicate that they form a collectively dominant group of undertakings and that a situation prevails which threatens effective competition. Currently, the Irish mobile market continues to be dominated by two operators who, between them, command a 94% market share of the retail market for mobile communications services based on mobile subscribers. The third operator, Meteor, appears to have had little impact on the market share of the established operators since its entry into the market in February 2001, nearly four years ago. For example, Meteor's entry and pricing strategy appears to have had only a small effect on the competitive interactions between O_2 and Vodafone.

F.105 There are significant gaps between the two largest firms, Vodafone and O_2, and the current remaining market participant, Meteor ('3's market presence is negligible at this stage). In addition to a combined market share of 94% of the total subscriber base, it is estimated that Vodafone and O_2 have a combined market share of greater than 97% by value for outbound mobile communications services. In the case of a duopoly and, in the absence of evidence to the contrary, the CFI in Gencor/Lonhro[40] held that a large market share provides a "strong" indication of the existence of collective dominance.

F.106 As illustrated in the chart below, since the beginning of 2001 the Irish retail market has been characterised by a high degree of market share stability. Vodafone's market share is at 54% and O_2's share at 40%. The same high degree of stability is also revealed when looking at market shares in terms of outbound

[40] Case T-102/96, Gencor Ltd. v. Commission.

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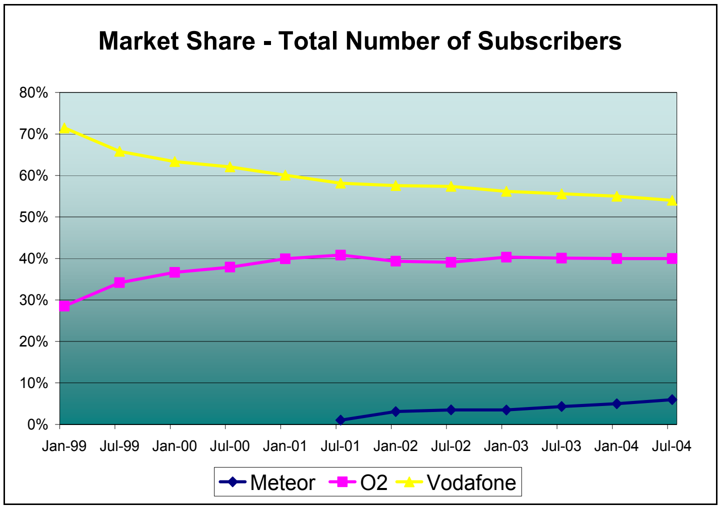
minutes or total retail revenues.

Market Share



Source: ComReg

<u>Response to Question 11</u>

F.107 A majority of the respondents agrees with ComReg's preliminary assessment of market share developments at the retail level in Ireland, although none commented directly on market share developments. The two dissenting respondents disagree with ComReg's preliminary assessment of market share developments and present similar arguments:

(i) the 14% differential between Vodafone and O_2's market shares means that their market shares cannot be described as symmetric, a fact that is said to make tacit collusion between the undertakings very unlikely; and

(ii) Vodafone and O_2's market shares are said to have experienced substantial *instability*, especially since the entry of Meteor, which is evidence of the absence of any tacit collusion between the undertakings.

F.108 In summary, the dissenting respondents claim market shares are asymmetric and volatile, which in their view makes tacit collusion improbable and supports their argument that there is effective competition in the market.

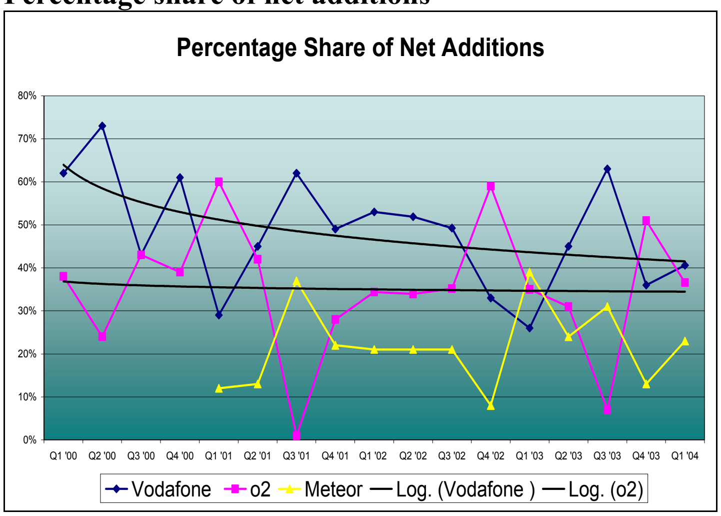
<u>ComReg Position</u>

F.109 ComReg focuses first on the claim that the market shares of O_2 and Vodafone are asymmetric and that this feature of the market is incompatible with tacit collusion between O_2 and Vodafone.

F.110 In its consultation document ComReg stated that the market shares of Vodafone and O_2 "are sufficiently proximate to one another". At end of September 2004 Vodafone had a total share of subscribers of around 54% and O_2 had a share of around 40%, when combined is 94% of the market–which is highly concentrated. The most recent data available to ComReg indicate that the market shares in terms of revenue shares[41] are Vodafone 58% and O_2 39%.

F.111 ComReg acknowledges that there is an asymmetry in market shares between O_2 and Vodafone, but notes that this difference does not preclude the possibility of tacit collusion. ComReg notes the difference of 14% between Vodafone and O_2 but also notes the 34% difference between O_2 and Meteor. ComReg also notes that the asymmetry between O_2 and Vodafone is less marked when viewed with respect to the share of net additions. It is informative to look at the share of net additions (which is a mix of churning and new customers), as these are the class of customers that have little or no switching costs[42] and are consequently far more representative of the customer type that would react to a deviation. In the chart below, we note that the share of net additions for O_2 and Vodafone are variable over time (an issue that is dealt with below) and trending towards each other. Based on the data available to ComReg, Vodafone's trend share of net additions is a little over 40%, and O_2's share is just under 35%. On this basis, there is much less asymmetry in the market than some other data suggests, and ComReg believes that the net additions data are more relevant for the assessment of the incentive for O_2 to deviate from the tacit agreement.

Percentage share of net additions[43]



F.112 On the second issue of *variability* in market shares, ComReg suggested in its consultation document that Vodafone's market share had stabilised at around 56% and O_2's at around 39%. The comments received from the dissenting respondents strongly disputed the claim that Vodafone's market share had stabilised at 56%, and one respondent presented detailed statistical analysis to show

41 Termination revenues are excluded.

42 Churning customers represent customers that already have a mobile phone subscription with a network, but are in the process of moving to a new subscription – which could involve a move to another network operator. Churning customers hold either post-paid (contract) or pre-paid subscriptions. Post-paid churning customers have typically held a subscription for over a year and therefore have relatively low contractual liabilities associated with the termination of their contracts. Pre-paid customers face no liabilities associated with changing subscription, other than the possibility of having to purchase a new SIM card or handset. Customers new to the market have relatively low set-up costs.

43 Subscriber figures were restated during the period by the mobile operators which results in a number of anomalies in the charge

this to be false The dissenting respondents have argued that the slowdown in the rates of change in market share, coupled with their variability over time, is not the result of tacit collusion but a reflection of a vigorously competitive market.

F.113 However, ComReg notes that over time there has been little variation in trend market shares. ComReg agrees that when market share data are presented over time intervals as short as a month, there is more variability than occurs in quarterly or semi-annually data over the same periods.

F.114 ComReg needs to assess whether the greater variability in market share data over shorter time intervals is reflective of effective competition in the market and therefore inconsistent with the view that O_2 and Vodafone are tacitly colluding. The greater variability in market shares over short time intervals is probably due to a number of factors, as well as reflecting random fluctuations. The non-random component of the market share variability will be explained by changes in firms' prices and changes in non-price variables, such as handset subsidies, marketing, special promotions, etc.

Conclusion

F.115 ComReg does not accept that the asymmetry in market shares would undermine the tacit collusion in this market. ComReg accepts that asymmetric market shares, other factors equal, makes tacit collusion more difficult to sustain. However, asymmetric market shares do not necessarily preclude tacit collusion.

F.116 ComReg also does not accept that variability in market shares undermines the tacit collusion in this market. ComReg believes that the high level of transparency in the market would enable O_2 and Vodafone to identify when a deviation occurs. The limited variability that does occur is largely over the short-term and reflects limited customer churn as opposed to head to head competition. The relatively high prices and high profitability (both discussed in detail below), along with the structural characteristics of the market (such as the high level of concentration, high degree of market transparency, etc.), lead ComReg to conclude that the observed market shares held by O_2 and Vodafone are consistent with tacit collusion rather than effective competition.

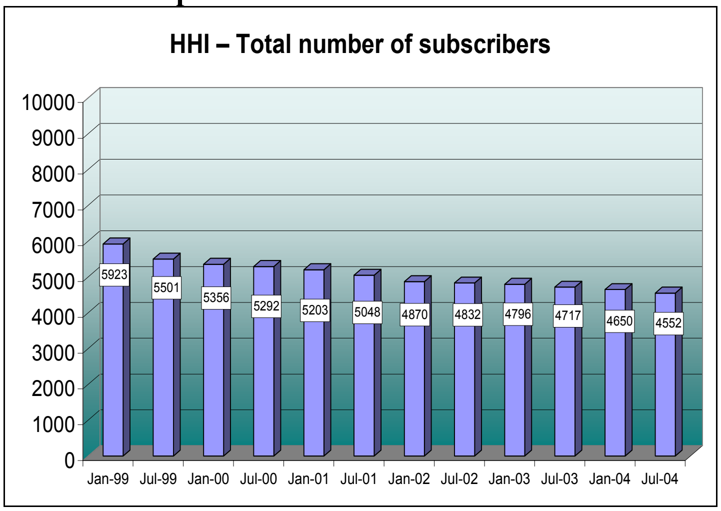
Consultation Question 12

Q. 12. Do you agree with ComReg's preliminary conclusion that the mobile communications market at the retail level is highly concentrated in Ireland?

F.117 A further issue consulted on by ComReg is the more complex measure of market concentration, the Herfindahl-Hirschman Index ("HHI") and ComReg's preliminary view that the Irish market was highly concentrated. The HHI index is greater than 4,500 for Ireland, whether measured by mobile subscribers or mobile outbound minutes or revenues. The chart below demonstrates the HHI development in the Irish mobile market over the period January 1999 to July 2004.

A market with a HHI greater than 1,800 is "highly concentrated" for the purposes of economic analysis.[44] While the chart below shows that the HHI for Ireland has declined over time, the level of concentration for Ireland, 4,500, greatly exceeds the figure of 1,800 mentioned above.

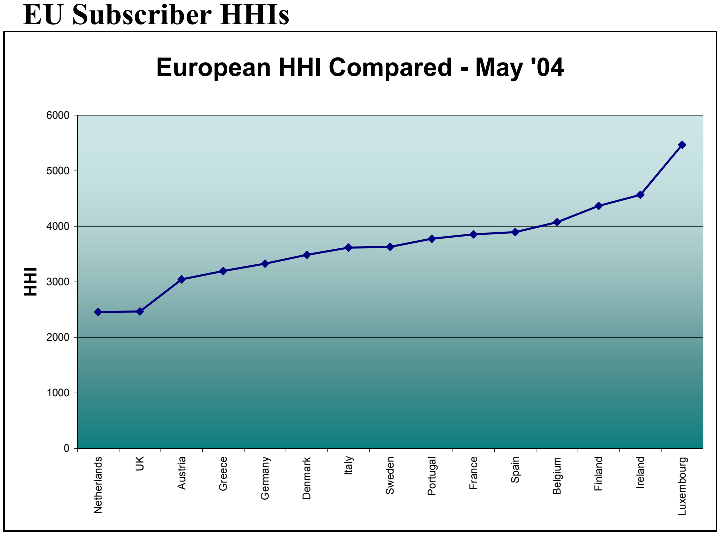
HHI Development in mobile market in Ireland



Source: ComReg

F.118 According to the chart below, with the exception of Luxembourg which has only two mobile operators, Ireland has the highest HHI of the European operators examined, measured on the basis of mobile subscribers.

EU Subscriber HHIs



Source: ComReg[45]

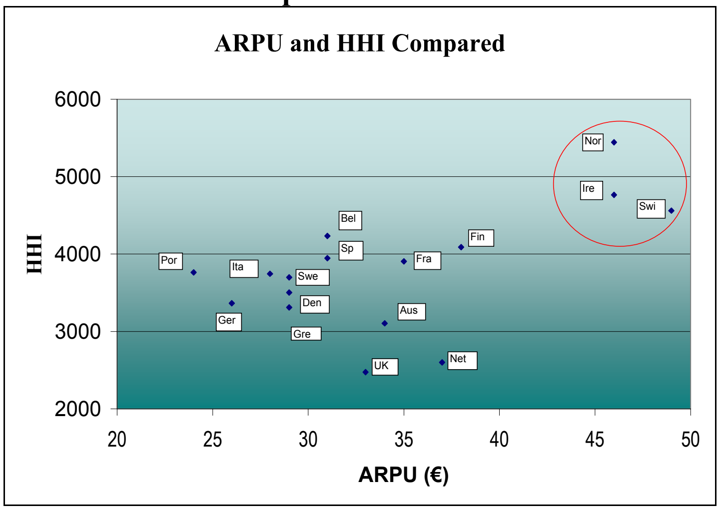
F.119 The chart below compares Average Revenue Per User ("ARPU")[46] to the HHI in various European countries. There appears to be a correlation between high

44 See The Competition Authority Guidelines for Merger Analysis (N/02/004). A market with a HHI less than 1000 is considered "unconcentrated", while a market with a HHI between 1000 and 1800 is considered moderately concentrated.

45 Subscriber figures taken from Baskerville May 2004

ARPUs and high market concentration. Ireland, Switzerland and Norway are the countries with the highest levels of concentration, and which are also the countries with the highest levels of ARPU.

ARPU and HHI compared



Source: ComReg[47]

Response to Question 12

F.120 A majority of the respondents agrees with ComReg's preliminary conclusion that the mobile communications market at the retail level is highly concentrated.

F.121 One of the dissenting respondents compares the decline in concentration in Ireland against that which has occurred in other European markets, and concludes that the Irish market has seen appreciable falls in the level of concentration. It argues further that the "fall in the HHI in Ireland (18.18%) compares favourably to the changes in other markets, not least in the other European markets (Germany, UK and France)".

F.122 The two dissenting respondents also dispute the claim made that there is an apparent positive correlation between ARPUs and the HHI measure of market concentration. One of the respondents argues in detail that ComReg's chart showing the HHI and ARPUs was spurious, and stated ComReg's analysis was lacking in rigour.

46 As far as possible, ARPU figures are obtained directly from operators. Where unavailable, ARPU is calculated by dividing annual service revenues by the mid-term installed base (the sum of the opening and closing customer bases for the period divided by two). Once the Yankee group has obtained or calculated all individual ARPU figures, they are applied to each operator's mid-term user base to obtain service revenues by operator, which are then combined to obtain a country total. This total revenue figure is then divided by total mid-term users to derive country-level ARPU.

47 Subscriber figures are from Baskerville for November 2003 while ARPU figures are from The Yankee Group for Q3 2003.

F.123 In conducting its analysis the respondent argued that ComReg had failed to perform proper statistical analysis of the data and used a very limited set of countries.

F.124 Another respondent argues it is wrong to infer that because high ARPUs are associated with high HHI in some countries, prices are higher in countries with a high HHI. The respondent argues that because ARPUs embody both price and quantity dimensions, they are imperfect measures of underlying prices as they contain minutes of use which vary across different countries due to factors other than price.

ComReg Position

F.125 ComReg's view remains unchanged with respect to the conclusion that (no matter what measure of concentration is used) the Irish mobile market is highly concentrated. At the end of September 2004 Vodafone and O_2 had 94% of subscribers and 97% of outbound revenues and the HHI was over 4,500 with regard to subscriber shares and over 4,800 with regard to outbound revenue shares. These data unambiguously demonstrate that the Irish market is highly concentrated.

F.126 ComReg also notes that relative to other countries, and in particular relative to France, Germany and the UK, the decline in the HHI in Ireland has not been as impressive as claimed by one of the respondents. First, it should be noted that the HHI in most of the countries (except the US) would be relatively high even if each firm had the same market share. Second, in some countries the number of firms in the market increased over the period. For example, Meteor became commercially operational in February 2001, resulting in an increase in the number of operators in Ireland increasing from 2 to 3. Because the HHI is quadratic (based on the sum of the squares of market shares), it places a greater weight on those firms with market shares further away from the symmetric position.

F.127 Hence, in markets where market shares are relatively close to the symmetric position, percentage changes in the HHI will likely be low if, over time, the shares held by the firms becomes more symmetric and the number of firms does not change. ComReg believes that the figures presented by one respondent overstate the significance of the relative decline in the HHI in Ireland. If account is taken of the theoretical minimum value for the HHI,[48] the HHI in the Irish market reflects growing disparities in market shares across the firms in the market compared against France, Germany and the UK. The HHI in 2003 Q3 in Ireland, although lower than that in 1999Q1, shows an increase of 180% away from the theoretical minimum, whereas in France, Germany and the UK the difference between the HHI and the theoretical minimum HHI declined over the same period.

48 For a fixed number of firms in an industry, the HHI reaches its theoretical minimum value when each firm in an industry has an equal share of the market, however measured. For example, if there are two firms in an industry the HHI cannot be lower than 5,000, if there are three firms it cannot be less than 3,333, and with four firms it cannot be lower than 2,500, etc.

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		1999Q1			2003Q3		
	Min HHI	Actual	% Difference	Min HHI	Actual	% Difference	
France	3333	4038	21.2%	3333	3882	16.5%	-22.1%
Germany	2500	3839	53.6%	2500	3358	34.3%	-35.9%
Ireland	5000	5722	14.4%	3333	4682	40.5%	180.3%
UK	2500	2783	11.3%	2500	2504	0.2%	-98.6%

F.128 ComReg acknowledges that a high level of concentration on its own does not represent a competitive concern. For example, a high level of concentration can arise in markets where firms compete aggressively and successful innovating firms acquire large shares of the market (Schumpeterian competition). A high level of concentration in a market is a necessary condition for the application of market power, not a sufficient condition.

F.129 ComReg notes, however, that economic analysis identifies a high level of concentration as one of the structural characteristics needed to support tacit collusion.

F.130 ComReg presented evidence that suggested that ARPUs and the HHI measure of concentration were positively related among a selection of European countries. In the same chart ComReg showed that Ireland had both a relatively high ARPU and high HHI.

F.131 The European countries in the sample chosen by ComReg were selected because they have similar telecommunications regulatory regimes, and their economies share many characteristics. The countries also feature operators using the same mobile technologies (GSM), with firms having launched services at similar times, and also feature firms that provide services in several countries. All the countries also feature mobile markets where the calling party pays for services.

F.132 ComReg recognises that statistically it would be beneficial to have a larger sample of countries having similar characteristics to those in the sample used in the consultation document. However, this is difficult to achieve because the mobile sector has not evolved uniformly in different regions of the world. Of course, extending the sample of countries and controlling for such effects would give the potential for richer analysis.

F.133 ComReg welcomes the statistical analysis on the relationship between ARPUs and HHI applied to a larger sample of countries undertaken by one of the respondent's. However, ComReg is not persuaded that the apparent correlation between high ARPUs and high HHI in the sample of European countries chosen by ComReg is necessarily misleading or spurious. As the respondent showed, extending the sample to include other countries from outside of Europe affects parameter estimates. However, ComReg believes this also indicates possible parameter instability and as such calls into question the specification of the model. In econometric analysis, parameter instability "generically makes it difficult to interpret regression results".[49] Unfortunately the respondent did not present a

[49] Bruce E. Hansen (1992) "Testing for Parameter Instability in Linear Models", *Journal of Policy Modeling*, 14(4): 517-533.

discussion on parameter stability, nor raise the issue of model specification.

F.134 On the use of ARPUs as a proxy for prices, ComReg accepts that ARPU is a mix of both quantity and price data. ComReg accepts that usage of mobile phones in Ireland is high by European benchmarks. The issue of whether the ARPU in Ireland indicates relatively high prices is addressed further in the response to Question 15.

Conclusion

F.135 ComReg believes that the Irish mobile market has a high level of concentration and notes that this is a necessary condition for tacit collusion. ComReg recognises that market concentration has been declining in Ireland, however, ComReg notes that the decline of market concentration in Ireland is relatively unimpressive when compared against a number of other European countries. ComReg also believes, and discusses reasons for this belief in answers to other questions in the market analysis of this review, that market concentration is unlikely to decline appreciably over the lifetime of this review.

Consultation Questions 13 & 14

Q. 13. Do you agree that the mobile communications marketplace is mature, at least for the services defined in the retail cluster market? If not, what scope exists for growth, and in which areas? Please elaborate in your response.

Q. 14. Do you agree that technological innovation is mature in the Irish mobile communications sector? Please elaborate in your response.

B. Incentive and Ability to Co-ordinate

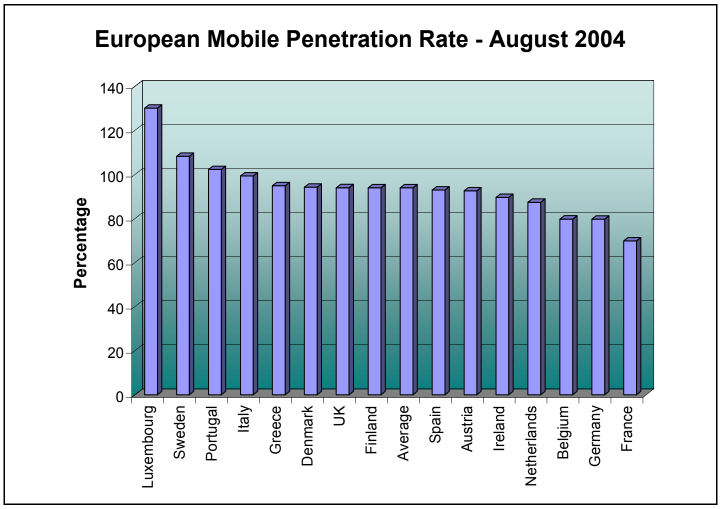
F.136 Whether or not undertakings operating in a highly concentrated industry, such as the Irish mobile sector, have the necessary economic incentives to implicitly co-ordinate their market behaviour will depend on the interaction between a number of factors, including:

B.1 the relative maturity of the market;
B.2 the degree of symmetry and its consequences in terms of market shares, technological innovation, costs and profitability;

B.1 Maturity of the market

F.137 The adoption of co-operative behaviour is facilitated in relatively stable and foreseeable sectors and a stable market structure. In common with other European countries, Ireland is a relatively mature market for 2G mobile services. Mobile penetration in Ireland is currently at 89%. It is arguable that there is, therefore, some room for further penetration, but this is limited and it may also be the case that those remaining customers are not particularly attractive in revenue terms.

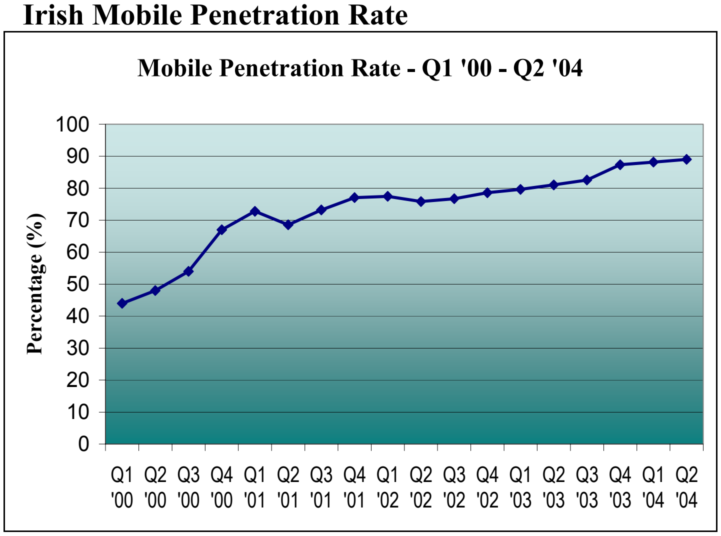
European Penetration Rate



Source: Baskerville

F.138 As illustrated below, the rate of growth of mobile penetration has been in decline in Ireland in recent years.

Irish Mobile Penetration Rate

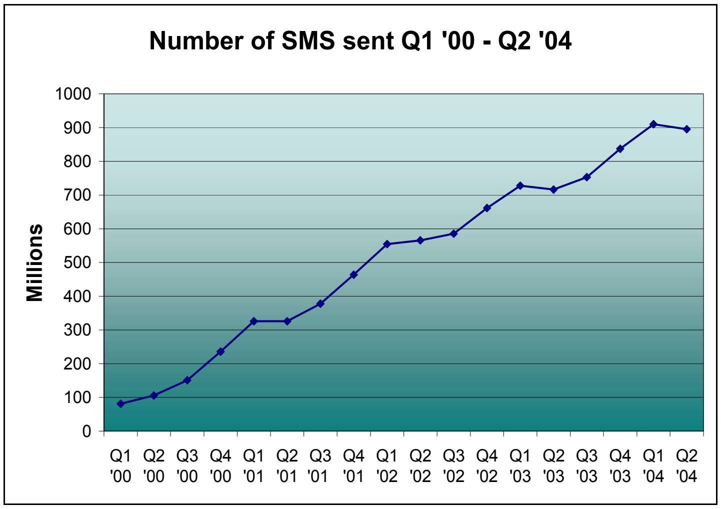


Source: ComReg

F.139 When considering the rate of growth of the mobile retail market in terms of subscribers, minutes and revenues, data available to ComReg suggests that this has slowed over time, suggesting that the market is becoming more mature.

F.140 It is not clear whether new products in the mobile portfolio will have the effect of further increasing the mobile market penetration. While products such as SMS have shown growth, as illustrated below, SMS is just one product out of a bundle of mobile services offered at the retail level. As stated in the previous paragraph, the rate of growth of revenue of mobile services has slowed over time.

Number of SMS sent



Source: ComReg

F.141 A market characterised by slow growth is considered to discourage new entry and/or aggressive moves to capture growth in the market, and is therefore unlikely to provide high incentives for competition. Given that growth in the voice market has slowed, continued industry growth is likely to be contingent on the development of mobile data services.

F.142 It could be argued that, given the fact that existing services such as voice are to be provided along with future innovative services on a bundled basis; there should be an incentive on the part of mobile operators to compete in the provision of the voice component of such bundles, along with other services. Nevertheless, it also appears to be economically rational, and hence profitable, for Vodafone and O_2 at least, not to compete aggressively on voice tariffs, as to do so would only harm their existing core voice revenues, which currently account for approximately 80%[50] or greater of their revenue.

F.143 Even though Full Mobile Number Portability ("FMNP") was introduced in Ireland in July 2003, the evidence in the mobile market thus far suggests that the advantage enjoyed by Vodafone and O_2, as well established operators, is of such significance that their current market positions in terms of their shares of the total subscriber base are unlikely to be eroded significantly by operators such as Meteor or '3' over the timeframe of this review. The inability of Meteor to gain market share, despite its undercutting of the retail prices of Vodafone and O_2, where nearly four years after launch Meteor have 3% of the market when measured in revenue terms, suggests that a sufficient challenge to the existing major operators is not very likely over the timeframe of this review. It is more than likely that the current positions of Vodafone and O_2 in a 2G environment will translate into comparable positions in the provision of 3G services. The migration of an existing 2G customer base into a 3G customer base seems to be a significant commercial driver for both Vodafone and O_2. As regards '3', its ability to operate in both the UK and Irish markets should provide it with some additional competitive advantage as compared

[50] Source: Vodafone and O_2 Group Interim Results for the six months to 30th September 2003.

to Meteor. However it is difficult for ComReg to determine how 3G will develop in Ireland at this early stage. Moreover, it is arguable that '3' will need to rely on 2G national roaming to be able to provide voice services on a national level, particularly in the early stages of network build-out.

F.144 Finally, the mobile market, particularly the 2G environment, is characterised by a stable level of technological innovation. The industry functions on the basis of harmonised standards, with innovation being driven by the industry as a whole, which is made up of a combination of equipment providers, service providers and MNOs. Accordingly, once handset or functionality innovation is introduced to the marketplace, it is embraced by all MNOs, the effect of which is to ensure that any given MNO cannot disrupt the overall market through access to a unique technology. 3G represents an extension of the existing mobile service provider industry to new services and as such does not represent a radical departure from underlying industry structure, representing more of an evolution than a revolution. While 3G technology offers scope for a different service offering to that available over 2G technology, given the timing uncertainties with respect to the wider availability of 3G services to end users, 3G technological developments are unlikely to affect the current positioning of the mobile market over the timeframe of this review. Rather, these 3G technological developments have the potential to strengthen the position of Vodafone and O_2 in the future as these operators have vertically integrated 2G and 3G networks, as opposed to '3' which is a 3G "greenfield" entrant. While '3' should bring further competition to the market, it is unlikely to be able to act as an effective competitive constraint on Vodafone and O_2 over the timescale of this review.

F.145 Taking into consideration the above, ComReg took the preliminary view that the mobile communications market is mature, at least for the services defined in the retail cluster market.

<u>Response to Question 13</u>

F.146 Some of the respondents agree with ComReg's preliminary conclusion that the mobile communications market in Ireland is mature, at least for the services defined in the retail cluster. There are, however, two notable dissenting respondents.

F.147 One dissenting respondent strongly disagrees with ComReg's preliminary conclusion and argues that the recent introduction of new data services, the existence of high churn rates, and the presence of unstable market shares are all indicators that the market is not mature. At least one other respondent agrees that the data services element of the mobile market is not mature, as evidenced by continued innovation and new product offerings.

F.148 The other dissenting respondent argues that the current level of market maturity in Ireland is not consistent with tacit collusion. The respondent asserts that ComReg's analysis is flawed and criticises ComReg for not analysing quantitatively the relationship between market maturity and outcomes. The respondent also accuses ComReg of having an erroneous understanding of the economics of tacit collusion. The respondent concludes by stating that as the Irish mobile penetration has reached a plateau in recent years, this actually lessens the evidence for a finding of collective dominance.

Response to Question 14

F.149 A majority of respondents disagrees with ComReg's preliminary conclusion that technological innovation is mature in the Irish mobile market. In support of their disagreement, the respondents cite the recent introduction of new technologies in the Irish market (e.g., Wi-Fi and 3G), the rapid growth of SMS services, and the expected introduction of new data services in the near future.

F.150 One respondent emphasised that operators are engaged in competitive races to launch new services based on innovations occurring at an industry level, and that this was evidence that emphatically rejects the view that technological innovation is mature. The respondent criticised ComReg for presenting a contradictory position, noting that ComReg had presented statements to the Oireachtas Committee on 2 October 2003 such as "MMS-interconnection can help the market grow".

ComReg Position

F.151 Market maturity matters for tacit collusion because of its relationship to both market demand and supply. A mature market is one where stability (or more accurately, predictability) in both supply and demand is present. For example, in a mature market, growth may have stabilised and technological innovations may no longer have a 'drastic' affect.

F.152 In an oligopolistic market, maturity (predictability) can, along with other factors, help sustain tacit collusion by making it easier for parties in an agreement to monitor compliance, and easier to identify a focal point (a common policy). It follows therefore that in an immature (unpredictable) oligopolistic market, potential uncertainty stemming from changes in demand and supply may make it more difficult for firms to monitor compliance with an agreement, and may make it more difficult for firms to identify a focal point to enable tacit collusion. In short, tacit collusion is less likely in an immature oligopolistic market.

F.153 ComReg notes that one respondent regards churn and unstable market shares as a reflection of an immature market. However, there is no reason to believe why churn cannot occur in a mature market. ComReg notes that similar levels of churn exist in the fixed voice market. As the level of churn seems reasonable stable, at around 25% per year according to the responses received, it does not appear to ComReg to reflect immaturity of the market (it likely reflects a number of factors that can be predicted, as well as random fluctuations with known statistical properties).

F.154 The claim by one respondent that the plateau in the Irish mobile penetration rate is evidence pointing against a finding of collective dominance is erroneous. ComReg does not dispute economic theory which predicts that tacit collusion is more likely and easier where market demand is growing (predictably), all other things equal. The converse of this proposition is as follows: where market demand is falling (predictably), all other things equal, tacit collusion is more difficult to sustain. ComReg sees no evidence suggesting a decline in market demand for mobile services in the retail cluster, and has been presented with evidence from the respondents indicating ongoing growth in demand for these services. In its assertion, the respondent appears to have confused a slow down in the growth in demand as evidence of a decline in demand.

F.155 Although respondents are generally optimistic about the prospects for growth in the demand for data based services, ComReg does not regard these to form part of the cluster of retail services used in this review.

Maturity: technological innovation

F.156 ComReg agrees that while there is a steady flow of new products and services flowing into the Irish mobile market, these are largely incremental developments and form services that typically complement the services in the existing, mature, retail cluster. ComReg believes that the pattern of innovation affecting the Irish market is not unique, and is typical of developments occurring in most mobile telecommunications markets worldwide. ComReg see no evidence of 'drastic' innovations[51] favouring one mobile operator which might lead to the demise of tacit collusion.

F.157 Innovations tend not to favour one firm in a market for any duration because most important innovations in the mobile sector are coordinated at an industry level, as evidenced by the introduction of 3G services. This is acknowledged even by the operators in their responses, one of whom states innovations tend to be transient and usually copied within a relatively short period of time.

F.158 In this sense the Irish mobile communication market cannot be considered to be an innovation-driven market, and therefore it is unlikely that innovation would adversely affect the incentives for tacit collusion. If there were evidence of potential drastic innovations, tacit collusion might unravel over the lifetime of this review. However, ComReg believes that innovation will not provide a substantial competitive advantage to any operator in the Irish market during the lifetime of this review.

Conclusion

F.159 ComReg believes that the cluster of retail services in this review exhibits maturity, and that the Irish mobile communications market also exhibits technological maturity (in the sense of predictability). Although there may well be growth in advanced data services, these services are not included in the cluster of retail services in this review. Equally, while there will also be a flow of service led innovations, these will not be 'drastic' in that they will not favour one operator above another. ComReg therefore believes that these conditions, allied to structural aspects of the market, help to foster the position of collective dominance held by O_2 and Vodafone.

Consultation Question 15

51 A drastic innovation occurs when a firm produces an innovation that leads to either a significant ('drastic') reduction in its costs, thus conferring it a permanent advantage over rivals in a market, or to a significant improvement in quality (or some other strategic variable).

Q. 15. Do you believe that the high level of ARPUs in Ireland is the result of high prices, high MOUs or a combination of both? When supplying supporting information on prices or MOUs, please provide accurate and comparative data, based upon a robust method of calculation which can be benchmarked internationally both in terms of other operators and group subsidiaries.

B.2 Retail Symmetries

F.160 The ability and, consequently, the incentive, for Vodafone and O_2 to achieve and sustain tacitly coordinated behaviour over a period of time in the mobile communications sector in Ireland is greatly enhanced if they have symmetrical positions as regards key commercial indicators such as, for example, their costs, business strategies, range and quality of services, and spectrum assignments. The greater the similarities between these economic indicators relative to the relevant structural features of the market in which the oligopolistic firms operate, the more likely that their commercial behaviour will be consciously parallel. A symmetric market structure is reflected where firms have comparable market shares, comparable resources and a comparable ease of access to all relevant inputs and sales channels. In this section, retail symmetries are discussed in terms of market shares, technological innovation, cost structures, profitability and Average Revenue Per User ("ARPU").

(i) Market Shares

F.161 The greater the symmetry in market shares between oligopolists, the greater the likelihood that their commercial interests are aligned. The relative market shares of the leading Irish mobile operators, when measured by subscribers, are 54% and 40% respectively. These market shares are sufficiently proximate to one another, and sufficiently distant from the market share of the nearest rival so that, when assessed in the broader context of the other indices of collective dominance discussed herein, they are capable of producing competitive results that one would expect from symmetric market shares.

F.162 In addition, market shares have remained relatively stable since the beginning of 2001. The same high degree of stability is also revealed when looking at market shares in terms of outbound minutes or total retail revenues. The stability of market shares between the leading operators can constitute an indicator of the absence of dynamism in the competitive relations on the market in question.

(ii) Technological Innovation

F.163 Technological Innovation has been discussed in the section on incentive and ability to co-ordinate. The rollout of major new technologies is generally mirrored by other mobile operators. Analogue mobile networks were first rolled out in Ireland in December 1985, while GSM-based networks were first rolled out in July 1993. In 2002 Vodafone and O_2 enhanced their GSM networks with the deployment of General Packet Radio Service (GPRS), which introduced packet data transmission, while Meteor introduced GPRS in 2003. Vodafone and O_2, together with '3', have also launched 3G services and are in the process of rolling out their 3G radio access technology.

F.164 The above and other new technologies are generally accessible to each MNO, as they may be purchased from a variety of equipment suppliers, who have manufactured them on the basis of open industry standards. In addition, network upgrades and the introduction of innovative services are controlled by the MNOs themselves, while new independent service providers will rely, to a considerable extent, on the underlying platforms of the operators. The scope for differentiation is, therefore, significantly reduced. While '3' have recently entered the mobile marketplace, its mobile network characteristics are expected to be similar to those of Vodafone and O_2.

(iii) Cost structures

F.165 Vodafone and O_2 have similar portfolios of mobile network infrastructure and services in Ireland and have similar population and geographic coverage. They also have the ability to source inputs and support services from the United Kingdom and other markets in their respective groups, resulting in economies of scale. In addition, these operators generally mirror each other's new products. Vodafone and O_2 have also been assigned an identical number of spectrum channels, namely, 36 channels of 200 KHz in the GSM 900 frequency band and 72 channels of 200 KHz in the GSM 1800 frequency band. All of the above would tend to suggest that their quality related costs are comparable.

F.166 It is clear that successful operators with large customer bases benefit from falling average costs, and that the ability to create and exploit scale economies is, in principle, a very strong driver of competition, providing strong incentives to win customers and increase traffic volumes on the network. Thus, Vodafone and O_2 may face lower average costs, due to their larger customer bases, compared to smaller operators. In addition, the configuration and optimisation of Vodafone and O_2's networks might be different from that of a smaller operator, and they should be able to benefit from greater synergies (*e.g.*, collective purchasing) in light of their greater pan-European foothold. The size of the Irish market is not such as to suggest that the cost savings available to Vodafone are significantly different to those available to O_2.

(iv) Profitability

F.167 Persistent supernormal profits are a sign of the absence of effective competition. Although both the European Court of Justice and the European Commission have been historically reluctant to endorse high profitability as an indicator of dominance, it is a legitimate indicator of market power in economic literature, particularly in the context of network industries.[52]

F.168 In an effectively competitive market, prices should reflect efficiently incurred costs, including the cost of capital. One way of measuring this is the use of the Rate of Return on Capital Employed (ROCE). A ROCE that persistently and significantly exceeds the cost of capital might indicate that prices charged by that

52 Refer, for example, to Discussion Paper prepared by OXERA for the UK's Office of Fair Trading (OFT), entitled "Assessing Profitability in Competition Policy Analysis", OFT 657, July 2003, available at www.oft.gov.uk.

particular mobile network operator are higher than would be found in an effectively competitive market.

F.169 This ratio can be calculated in a number of different ways. In this case, most of the goodwill has been excluded because normally only the fixed assets and working capital of the company are used by regulators when assessing the level of return. The ratio is also based on the addition of long term debt and equity, since the relationship between the two is the financing decision of the individual parent company. The figures are also calculated using consolidated Irish statutory accounts based on the Historical Cost Convention, and not on Current Cost Accounting or Long Run Increment Cost numbers.

F.170 During the course of 2003, O_2's cash balances increased quite significantly. ComReg does not believe that a ROCE on cash is appropriate, because this is not a productive asset invested directly in the business and could be used in a completely non-related activity. ComReg has excluded cash from the 2003 ROCE figures for O_2.

F.171 It should be noted that the ROCE figures are calculated in relation to the business as a whole and included profits for termination, international roaming and retail services. The high figures for ROCE from the statutory accounts suggest that excess profits made by the operators are not being competed away in any segment of the overall mobile market (e.g. retail or wholesale).

F.172 The following table shows the ROCE for Vodafone and O_2 from 1999 to 2003. It illustrates the stability of Vodafone's ROCE over the past few years and the growth of O_2's ROCE to a level that is approaching that of Vodafone. The factors listed above should be taken into account in interpreting the data in the table below. It should be noted that this is an indication of overall profitability of the respective Irish groups.

Table 2: Rate of Return on Capital Employed

	Rate of Return on Capital Employed				
	1999	2000	2001	2002	2003
Vodafone	26%	35%	32%	31%	39%
O_2	-16%	-18%	8%	24%	38%

Source: ComReg

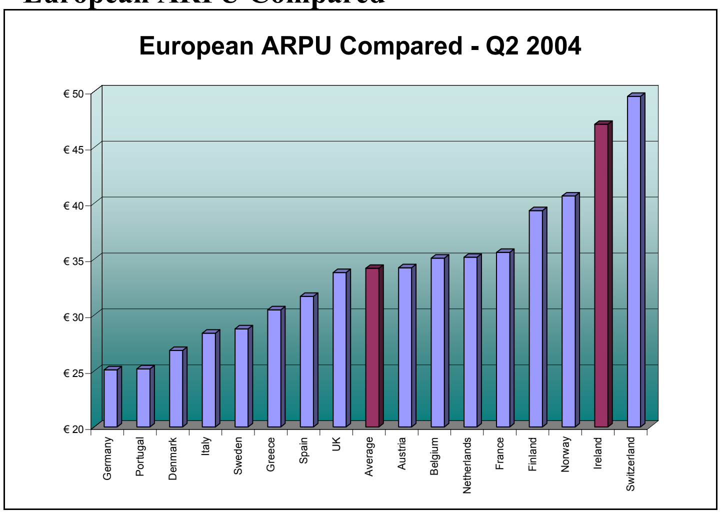
F.173 Both O_2 and Vodafone's current ROCE levels at 38% and 39% respectively appear high, as research from Cullen International indicates that the highest determined cost of capital determined by NRAs for certain MNOs in Europe, albeit only in the interconnection market, is 19.5% in Belgium, while the lowest is 12% in the UK. In their interim results for 30th September 2003, Vodafone has reported an increase in Irish operating profit before goodwill of 25% and O_2's profits before goodwill and exceptional items has increased by 71% compared to the previous year. These figures indicate that the ROCE is likely to remain at current levels. Both Vodafone and O_2 are now achieving similar and high returns, which appears to indicate that competition for the overall business at the retail level and wholesale level is not yet fully effective.

(v) ARPU

F.174 Another means of comparing the commercial situations of Vodafone and O_2 is to compare their respective ARPUs. The interim results of Vodafone and O_2 show similar ARPUs, respectively €576 and €551, for the 12 months period to 30th September 2003.[53]

F.175 The chart below shows that the Irish mobile operators' ARPU is €47 per month, the highest ARPU in the EU, while the EU average is €34 per month. High ARPU can be a result of high prices or high usage, or a combination of both.

European ARPU Compared



Source: The Yankee Group

F.176 Regarding prices, ComReg believes that despite some absolute reductions, Irish mobile retail prices on average remain high by European benchmark standards. While Teligen mobile baskets show Ireland to be the 4th lowest country in Europe in terms of pre-pay tariffs, Teligen also show that post-pay tariffs are above the European average (See Appendix B, Graphs B.13 to B17). In terms of usage, the mobile operators claim that high ARPUs in Ireland are driven by high minutes of use ("MOU").[54]

F.177 Given the above arguments, there remains the issue whether high ARPUs in Ireland are due to high minutes of use. Although ComReg accepts that there is relatively high usage of mobile services in Ireland , it will be difficult to conclude on this issue without accurate and comparative data based upon a robust method of calculation which can be benchmarked internationally both in terms of other operators and the Irish operators subsidiaries.

<u>Response to Consultation Question 15</u>

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[53] Vodafone and O_2 Group Interim Results, respectively, for the period ended 30th September 2003.

[54] Vodafone and O_2's submission to the Joint Oireachtas Committee on Communications, Marine and Natural Resources, October 14th 2003.

F.178 Three out of five respondents disagreed with ComReg's preliminary conclusion that the high level of ARPUs in Ireland reflects high prices. One respondent presented quantitative evidence showing that per capita income and full mobile number portability (FMNP) were statistically significant factors influencing ARPU level, higher per capita income levels are associated with higher ARPUs (reflecting a positive income elasticity of demand for services in the retail cluster). By contrast it was shown that FMNP has a negative impact on ARPUs, as customers find it easier to switch operators with FMNP and hence the competitive effect on prices is, on average, higher as a result.

F.179 It has also been suggested by two respondents that the high ARPU in Ireland is also due to the high proportion of young persons, and one respondent also suggests that the relatively poor status of the fixed network is a contributory factor as it promotes higher use of mobile phones.

F.180 Two respondents emphatically reject the position that high ARPUs in Ireland are due to high prices and argue that they are due, in large measure, to high minutes of use. Both respondents present quantitative data to support their claims. One respondent makes comparisons between its operation in Ireland and with members of its group operating elsewhere in Europe and shows that revenue per minute in Ireland is relatively low. The other respondent presents data that the revenue per minute in Ireland is around the average for level for a selection of European countries.

F.181 Another respondent disagrees with the above and argues that that the relatively high ARPUs for Vodafone and O_2 are the result of:

(i) the larger market shares of Vodafone and O_2; and

(ii) higher charging on the part of Vodafone and O_2, rather than higher minutes of use.

ComReg Position

F.182 ComReg recognises that ARPUs are affected by minutes of use and prices. The material submitted by some of the respondents would appear to suggest that the high ARPU in Ireland is influenced by high minutes of use, as well as due to a relatively high per capita income level and a relatively high proportion of young persons in the population, rather than high prices.

F.183 Independent analysis of tariff data undertaken by Teligen, presented in annex B to this document, suggests that Ireland has, relative to other European countries, high post-paid tariffs and relatively low pre-paid tariffs in Europe. The Teligen data suggest, for post-paid tariffs in particular, high prices in Ireland.

F.184 ComReg acknowledges that minutes of use are higher in Ireland and that this is a factor contributing towards the higher Irish ARPU figure. Independent analysis of tariff data does seem to suggest, however, that, particularly for post-paid tariffs, prices are relatively high in Ireland.

F.185 ComReg is of the opinion that prices, at least for some tariff packages in Ireland, are relatively high when compared to tariffs elsewhere in Europe. ComReg accepts that the evidence on prices in Ireland is mixed. Analysis points to a number of factors as well as price that explain high ARPUs.

Conclusions

F.186 However, ComReg believes that when the evidence on prices is examined together with other factors relevant to the market in this review, including the structural characteristics of the market and the observation of high profitability, it appears that tacit collusion, focussed more on post-paid tariffs, is supporting high prices.

Consultation Questions 16 & 17

Q. 16. Do you agree with ComReg's preliminary assessment that there are a number of characteristics of Vodafone and O_2 which are symmetrical to both undertakings? If you disagree, please elaborate in terms of (i) Market Shares, (ii) Technological Innovation, (iii) Cost Structures, (iv) Profitability, (v) ARPU and (vi) any other. Please justify your response with data, wherever possible.

Q. 17. Do you agree with ComReg's preliminary conclusions derived from economic indicators such as ROCE and ARPU? In your view, has ComReg overestimated or ignored any elements? Please elaborate your response and provide full supporting evidence and calculations for any alternative indicators that you consider should be used for the calculation of profitability and ARPU.

Responses to Question 16

F.187 A majority of the respondents agrees with ComReg's preliminary assessment that there are a number of characteristics exhibited by Vodafone and O_2 that are symmetrical to both undertakings. Two respondents disagree with ComReg's preliminary assessment and argue that there are significant asymmetries between Vodafone and O_2, including differences in terms of:

(i) market shares;

(ii) technological innovation;

(iii) cost structures;

(iv) profitability levels; and

(v) ARPUs.

ComReg Position

F.188 ComReg has already stated that tacit collusion is more likely to occur where a market is more concentrated, where there is a relatively high level of transparency, and where there is similarity between the members of a tacitly colluding group of firms.

F.189 It has been argued that there are significant cost differences between O_2 and Vodafone, due to the differences in their subscriber bases. O_2 has 1.37m subscribers versus 1.87m on Vodafone's network,[55] which it is claimed is likely to result in a material difference in marginal costs between the operators.

F.190 ComReg accepts that there are likely to be economies of scale, but has not been persuaded by the evidence submitted that there is a significant difference in marginal (or incremental) costs between O_2 and Vodafone. The arguments submitted to ComReg are qualitative rather than quantitative. While ComReg does not dispute that the marginal costs of the two operators are likely to differ, what is relevant for tacit collusion is whether they are sufficiently different to undermine the incentives for tacit collusion. It appears that two respondents' believe tacit collusion is not viable, all other factors equal, because Vodafone, being the larger operator, would have an incentive to deviate from a common policy as it can undercut O_2 due to its lower operating costs. However, as the pricing data shows in annex B, Vodafone's prices (as reflected in the monthly minimum bills) are often above those of O_2. If competition were effective, and assuming Vodafone had lower marginal costs than O_2 (and arguably could exploit scale economies in procurement to achieve lower fixed costs), ComReg would expect Vodafone's prices to be no higher than those of O_2, and possibly lower.

F.191 Two respondents argued that their profitability is not symmetrical. This is discussed further in ComReg's position presented in the discussion to Question 17 below.

Conclusion

F.192 ComReg believes that there are a number of characteristics sufficiently similar not to undermine the incentives for tacit collusion. The relative symmetry between O_2 and Vodafone, combined with the high level of concentration and high degree of transparency, all contribute towards the sustainability of tacit collusion in this market.

Responses to Question 17

F.193 A majority of the respondents agrees with ComReg's preliminary conclusions derived from ROCE and ARPU indicators. Two respondents disagree with ComReg's preliminary assessment and argue that ComReg's calculations and conclusions are flawed.

F.194 The dissenting respondents argue that ComReg should factor in a time period longer than one year when performing its ROCE and ARPU calculations. By considering a longer time period the effects of business cycles and random fluctuations in supply and demand can be taken into account appropriately. The

[55] Figures based on Q1, 2004.

respondents have also presented lower ROCE estimates.

F.195 One respondent argues that ComReg improperly used an accounting estimate of ROCE rather than an economic estimate of ROCE when performing its calculations. The respondent performed its own calculations using ComReg's methodology, combined with an economic estimate, and came up with adjusted ROCE estimate substantially lower than that obtained by ComReg (31.7% vs. 39% in 2003, 25.4% vs. 31 % in 2002, etc.).

F.196 Another respondent argues that rather than using ROCE, ComReg should base its analysis on the internal rate of return (IRR) and should also give proper consideration to productivity growth, innovation, and prospective implications of price reductions on profits.

F.197 One respondent currently not offering mobile services in Ireland agrees with ComReg, and notes that a ROCE of 40% in a world-wide industrial market is exceptional. The respondent believes that this is a *de facto* indication that there must be a significant barrier to entry, given that capital is available on the world wide money markets, at a cost of no more than 12% for this type of investment.

ComReg Position

F.198 ROCE figures, although used as an indicator for the overall business, are a useful indicator of profitability. Although, as will be discussed below, ComReg believes profitability is a factor in determining collective dominance in this market, because they indicate, together with other data that the overall business is making excess returns.

F.199 ComReg accepts that there are a number of criticisms made of its analysis, but continues to believe, that its overall conclusions are fundamentally correct i.e. that O_2 and Vodafone are making persistent excess profits.

F.200 In responses to the consultation document the following additional criticisms and comments were made, but full data on any alternative indicators e.g. projected cash flows was not provided either by O_2 or Vodafone, even in the confidential versions of those response documents. ComReg's comments are included after each item.

F.201 One respondent presented:

- Recalculated ROCE data including adjustments made for the inadequacies expressed in paragraph F.195 above.
- A review of the technical aspects of measure of profitability with which ComReg broadly agrees which broadly say that discounted cash flows analysis should be undertaken
- An assertion that ROCE can vary with the business cycle with which ComReg broadly agrees.
- The impact of economic depreciation, leased assets and network links. There is insufficient data in this presentation for ComReg to fully understand the figures

presented, but broadly ComReg accepts that these items could have some effect. However this effect is likely to be limited because, for example, the rental payment related to leased assets normally includes profit, which if the assets were to be included in the balance sheet should be added to their profits. Notwithstanding these disagreements, ComReg notes that if ComReg accepted the figures as presented by this respondent they would still be well above the cost of capital.

- Assertions that it has assessed the profitability data over an appropriate time horizon and has not earned excessive profits over the lifetime of the investments ComReg does not agree with this since this respondent has not included future cash flow forecasts in this calculation which would be normal practice.

F.202 One respondent presented

- Further calculations which showed one MNO had a deficit since launch of €60 million based on a normalised ROCE of 14.5 %. These calculations may be appropriate, but are deficient because future profits are not included. This is discussed by ComReg below.
- A list of firms with a similar ROCE profile which it asserts are not in an SMP position. ComReg considers this data to be of little use since it is not directly related to the market which ComReg is addressing and in addition no formal market reviews have been carried out for the markets in which these firms operate to indicate whether these firms are dominant or not.
- Arguments that cash should not be excluded from the ROCE calculation, ComReg considers that in multi national/ multi product companies cash is a corporate resource and is managed at the centre of the organisation and is not required to be reinvested in the current business, (possibly going, for example, to pay 3G licence fees). Thus a return on capital employed in terms of an individual market would only be earned once usage of that cash has taken place and the cash has been invested in assets in that market. Further, cash earns its own return, if efficiently managed, on deposit at the bank, and therefore ComReg sees no reason why operators should be rewarded in excess of current deposit rates for holding cash. There is no need for cash balances since overdraft facilities or offsetting group balances normally provide for any immediate needs (assuming that the group banking arrangements are not used) and the important feature in terms of running and managing the business is having access to cash to maintain liquidity.
- Arguments that Goodwill should be included in the ROCE calculation. Goodwill represents excess of the purchase price over the fair value of assets purchased. ComReg sees no reason why customers purchased from outside should have a higher cost than those created internally. This could lead to highly inflated assets values as a result of poor management decisions for which consumers should not pay. Additionally, these customers have been paid for twice, once by the acquisition and once by the advertising cost of the respondent which has been incurred previously.
- That one respondent has earned negative IRR of 12 to 16% per annum since start up. This may be correct, but, ComReg contends that this is irrelevant since future cash flows from the current business cycle should be taken into account in the calculation of the IRR. ComReg has attempted to take into

account (see below) future cash flows to indicate the Real IRR over a longer time frame to reflect more appropriately the life of the assets involved.

F.203 ComReg has conducted a number of calculations on foot of the arguments presented by this respondent which show, on the basis of the information available to it, that an IRR calculation would in both cases lead to results (around 28%) which do not differ significantly from the ROCE calculation presented. These calculations have been based on information in the statutory accounts of both operators, supplemented by information from brokers reports containing forecasts.

F.204 ComReg notes, on the basis of the above paragraphs, that both operators, on the basis of cash flows, are making excess profits on their total business returns in Ireland. For reasons already stated above, ComReg does not believe innovation is sufficiently drastic in this market to result in excess profits over any extended period of time.

F.205 ComReg notes the following from the Competition Commission in the UK market "in our view the circumstance in which persistently high profits become an indicator of ineffective competition is a matter of judgement about which contrary views may legitimately be held. Our view is that the profitably of each MNO over the past few years is not critical as an indicator of competition in any particular part or parts of the wholesale or retail market"

F.206 ComReg notes that while profitability is not symmetric between O_2 and Vodafone, the profitability of both firms is relatively close. This limited asymmetry, therefore, is not necessarily detrimental for tacit collusion.

Conclusion

F.207 ComReg believes it has provided sufficient evidence to back its contention that O_2 and Vodafone are enjoying excess profits. ComReg also believes that the asymmetry in profits is not sufficient to undermine the incentives for tacit collusion.

Consultation Questions 18 - 23

Q. 18. Do you agree with ComReg's preliminary assessment of the pricing practices of Vodafone and O_2 at the retail level in Ireland?

Q. 19. Do you agree with ComReg's price index information as presented in Appendix B?

Q. 20. Do you consider that there are any material non-price dimensions of competition which have not been taken into account in the market analysis?

Q. 21. Do you agree with ComReg's preliminary conclusion that there is little countervailing buyer power either at the wholesale or retail level?

Q. 22. Do you believe that ComReg has correctly appraised the relative importance of churn between MNOs?

Q. 23. What economic and commercial criteria could ComReg rely upon to accurately monitor increased competitiveness at the retail level? Could such criteria be accurately monitored, and how?

Please elaborate your responses to the above questions and support it with economic data wherever possible.

F.208 An indication of whether the retail mobile communications market is effectively competitive is found by examining the historical retail prices of Vodafone and O_2, customer churn, and the possibility of countervailing buyer power being possessed and exercised by larger customers.

(i) Pricing

F.209 Over the past three years, the Irish marketplace has been characterised by relatively stable mobile pricing behaviour at the retail level by Vodafone and O_2 particularly in the post-paid segment (as shown in Appendix B). This is most apparent when one compares the significantly lower prices offered by Meteor in the post paid segment, which have not resulted in its acquisition of a significant customer base, suggesting that its prices do not significantly impact on Vodafone and O_2 and that these operators are able to set prices independently of their nearest competitor.

F.210 In order to trace the price developments from January 2000 to date, ComReg has constructed price indices and since consultation has received further pricing information from the operators.

(ii) Customer Churn

F.211 Annual churn for both Vodafone and O_2 is estimated at approximately 25%. Switching has been made easier for consumers following the introduction of Full Mobile Number Portability ("FMNP") in July 2003. The number of customers switching to competitors is lower than the overall churn figure, as this churn figure includes subscribers that stay with an MNO but only change packages, for example, moving from post-pay to pre-pay or vice versa. In one operator's response to the qualitative questionnaire, it estimated that the number of its subscribers that switched to another network during the year was 10%. However, given that Vodafone and O_2 have a 94% share of the market; it would appear that the majority of this churn is flowing back and forth between these MNOs, thus not impacting upon their combined high level of market share.

(iii) Countervailing buyer power

F.212 Countervailing buyer power exists where large customers have the ability within a reasonable timeframe to resort to credible alternatives (*e.g.*, not to purchase or to retaliate) if the supplier decides to increase prices or to deteriorate the conditions of delivery. ComReg's preliminary view is that there exists insufficient countervailing buyer power, either at the wholesale or at the retail level, as regards outbound mobile calls made in Ireland. There is no evidence to suggest that business customers have been able to exert pressure on either Vodafone or O_2 that has had an impact on price levels charged by the two main operators (and would be reflected in changes to the ROCE and ARPU figures). Furthermore, the pricing graphs in Appendix B show that O_2 and Vodafone have consistently maintained higher prices than Meteor, for high end users.

F.213 If those demanding mobile call origination and access services at the wholesale level held a certain degree of countervailing purchasing power, it might be more difficult for mobile operators to sustain any coordinated approach. On the contrary, collective dominance is expected to be more likely to occur on a concentrated market when the demand side of the market is dispersed. To date, there is no wholesale service-based competition in the mobile market, and therefore no wholesale purchasers in the market who could aggregate demand from retail consumers.

Preliminary Conclusion

F.214 A preliminary review of retail pricing behaviour in the consultation suggested that price competition in the post-paid segment in particular between Vodafone and O_2 has been relatively weak since the period immediately following the entry of Meteor into the marketplace. Lack of effective price competition at the retail level, sustained over a period of years in the face of a highly concentrated market, suggests that the Irish mobile retail sector might be particularly susceptible to a position of joint dominance being enjoyed by Vodafone and O_2. This tendency does not appear to be capable of being offset by countervailing purchasing power or customer churn over the period of this review.

Response to Consultation Question 18

F.215 A majority of the respondents agree with ComReg's preliminary assessment of the pricing practices of Vodafone and O_2 at the retail level in Ireland. Two respondents disagree with ComReg's preliminary conclusion, but each presents a different rationale for its position.

F.216 One dissenting respondent argues that ComReg's pricing methodology is flawed because it uses incorrect market shares, fails to consider a number of Vodafone's permanent price reductions, and ended prematurely at December 2002.

The other dissenting respondent, on the other hand, argues that the apparent similarity of pricing by Vodafone and O_2 is not evidence of parallel behaviour but, rather, of competition. They argue that it is inevitable that there will be broad similarities in the general structure of tariffs offered by Vodafone and O_2, since the two companies operate with similar underlying technologies (suggesting symmetry) and compete for a common pool of customers.

F.217 One respondent suggests that had firms agreed on prices, we would expect to see a pattern in tariff package development with either constant prices or co-ordinated and symmetric tariff structures. The respondent argues that price-related promotions would not be observed, and we would expect to see retaliatory price reductions at any point one of the operators deviated from the agreement.

ComReg Position

F.218 ComReg's pricing data and analysis have been updated to incorporate more recent periods. ComReg has also modified its methodology, as explained more fully in Annex B,[56] following comments received during consultation.[57] The updated and modified pricing charts are shown in Annex B. It can be seen, particularly for the post-paid tariffs, that there is little significant downward movement in the monthly minimum bills, and there appears to be a high degree of parallel behaviour on the part of O_2 and Vodafone.

F.219 ComReg believes 'yield management' to be a significant factor explaining the observed MMB changes. Yield management is where operators refine their tariff packages (via price and non-price means) with the primary aim being to direct an increase in ARPUs.[58] Another factor that probably explains the changes in MMBs are cost changes. Where costs do change, and where these costs are observable, the equilibrium prices in the market also change.

F.220 It is noticeable that in the more profitable segments of the market used by High Users and Very High Users, there has been less downwards price activity. ComReg believes that high prices particularly in the post-paid segments used by medium to high users are maintained as this segment of the market is less vulnerable to competition from the fringe operator Meteor.

F.221 One respondent claims that the MMB data show that "bills have reduced significantly over time and the rate and magnitude of reductions have increased since mid 2001". ComReg disagrees with this position, as the charts in Annex B suggest, if anything, that implied tariff reductions have been less significant in

[56] One respondent criticised ComReg for assuming the same on-net/off-net proportion of calls for each network in its minimum yearly bill analysis. A number of other criticisms were presented and ComReg has answered each of these in its updated analysis described more fully in Annex B.

[57] ComReg identified some flaws in the respondents' methodology and workings for MMBs.

[58] Economic analysis has looked at the pricing behaviour of oligopolists in the cellular industry, and it seems that firms do adjust tariff packages with a view to increasing profits from their existing customers, as well as possibly attracting customers from rivals. See for example, Miravette and Röller (2004) "Competitive nonlinear pricing in competitive duopoly equilibrium: the early U.S. cellular telephone industry", mimeo University of Pennsylvania.

more recent periods. There also appears to be little evidence of leapfrogging, particularly for High and Very High Users.

F.222 One respondent claimed that stable MMBs can be found in markets which are generally considered to be competitive, such as the UK. ComReg does not disagree that stable MMBs may also feature in a competitive market. However, ComReg notes that stable prices are only one factor relevant to a situation of tacit collusion. When other factors are taken into account, such as the degree of market concentration, transparency, denial (constructive or otherwise) of wholesale access, and absolute price levels, the stability of prices as reflected in MMBs are more likely to be consistent with a state of tacit collusion than effective competition.

F.223 Another respondent stated "It is inevitable that there will be broad similarities in the general structure of tariffs offered by mobile operators given that they operate with similar underlying technologies". The respondent goes on to dismiss ComReg's claims that parallel behaviour, as reflected in the MMB analysis, is indicative of tacit collusion in this market. They argue that firms' competing vigorously in the same market and having similar cost characteristics are likely to offer similar tariff packages, and that changes to exogenous variables will affect all firms, and hence all prices, in the market. There is therefore likely to be parallel behaviour in the market, but it does not follow that the market is not competitive.

F.224 As stated above, ComReg does not dispute the statements about pricing in competitive markets. However, the pricing data, when allied with other data about the market, are highly suggestive of tacit collusion.

Conclusion

F.225 ComReg has extended the pricing analysis to look at MMBs, incorporated more recent data, and addressed criticisms of methodology raised by one respondent. The data reveal a lack of downward movement in high user segments, little or no leapfrogging, and a high degree of parallel behaviour. Together with other structural factors in the market, and the observed high profitability and high prices, ComReg remains convinced that these pricing data indicate a lack of effective competition in the retail market, and that this is symptomatic of tacit collusion in the wholesale market.

Responses to Consultation Question 19

F.226 A slight majority of the respondents agrees with ComReg's price index information as presented in Appendix B of the Consultation Paper. Vodafone and O_2 disagree and argue that ComReg's price index information is flawed. Vodafone and O_2 argue that ComReg's decision to analyse pricing information up to December 2002 results in pricing information that is inaccurate and out of date. O_2 further argues that this timeframe fails to take into account significant improvements in the performance of Meteor and, more importantly, fails to take into account two significant price cuts initiated by O_2 in 2003.

ComReg Position

F.227 ComReg has extended the time horizon of the MMB analysis. The extension meets the criticisms of a number of respondents.

F.228 Two respondents argued that the omission of special offers and promotions (such as handset subsidies) in the pricing analysis results in the ComReg analysis being flawed. One respondent (VF) argues that the headline prices used by ComReg "are only one facet of competition, these big pricing changes are very difficult, very time consuming and very costly to put into place." ComReg believes that the headline prices are an important element steering the bills for most consumers. While it is true promotions do occur and are often based around handsets, and sometimes around bundled minutes and SMS messages, their temporary nature overall means that they do not result in durable price discounts.

F.229 One respondent also criticised the price data used in the Teligen OECD price basket comparisons, stating that it is misleading in the Irish context. However, it should be borne in mind that the purpose of making these price comparisons is to take a European average consumer and examine how much such a consumer would pay for services, on average, in each EU member state. This allows cross-country comparisons on a like for like basis. If usage patterns specific to individual countries were selected, then the charts would show both variations in quantity and price variables – which would not be particularly helpful for the purposes of making price comparisons. While a European average consumer may not be identical to the average Irish consumer, it is interesting to note that the respondent did not reproduce the OECD analysis using the average Irish user as the point of comparison.

Conclusion

F.230 ComReg has modified the data on prices used in the MMB analysis, by extending the time horizon and adjusting on-net/off-net pattern of use assumption. ComReg, however, does not believe that the updated charts in Annex B call into question the original conclusion. ComReg therefore believes that the pricing data, as reflected in the MMBs, are indicative of tacit collusion in this market.

Response to Consultation Question 20

F.231 Many of the respondents and two in particular argue that competition in non-price variables is important (such as network coverage, customer care, etc.) and most of this competition appears to be directed towards promoting vertical differentiation.

F.232 One respondent argues that the structure of tariffs is an important dimension to competition. However, ComReg regards the design of tariffs is inherently priced based competition that may be directed towards horizontal segmentation in the market.

F.233 One respondent argues that handset subsidies are an important competitive instrument in the retail market. ComReg has not considered handset subsidies explicitly.

F.234 A majority of respondents comment that there are additional non-price dimensions to competition that should be considered by ComReg in its market analysis. Vodafone and O_2 both argue that ComReg has failed to take into account a number of non-price dimensions of competition, including:

(i) network quality and coverage;

(ii) quality of customer care;

(iii) range of available handsets;

(iv) choice of content and services;

(v) company perception; and

(vi) handset subsidies and promotional activities (which, Vodafone notes, may or may not be considered non-price dimensions of competition).

ComReg Position

F.235 Where firms compete to differentiate their offering from that of rivals by suggesting that their offering is better, this is referred to as vertical differentiation. Should this be a feature of this market, then tacit collusion may not be sustainable because a firm perceiving itself to be of higher quality (for a given cost per unit) has a greater incentive to deviate from an agreement. By deviating the firm would obtain more consumers and the punishment that could be affected by the other firms in the agreement would not be as effective compared to the situation where all firms produce the same quality of output.

Conclusion

F.236 ComReg accepts that there are many strategic variables that firms can use in the Irish retail mobile market. Coverage is one important variable, and other important variables include customer care service provision. However, there is little to suggest that these 'vertical' differentiators have resulted in marked vertical differences between O_2 and Vodafone. Thus ComReg accepts that these strategic variables play an important role in the market, whether competitive or not, but believes that the relative vertical symmetry of O_2 and Vodafone means that the incentive for tacit collusion is not undermined by competition in non-price variables.

F.237 It is possible, however, that the presence of vertical competition with tacit collusion in the wholesale market gives rise to distorted tariff structures, which ComReg believes is not likely to maximise the benefits of end-users.

Response to Consultation Question 21

F.238 A majority of the respondents agree with ComReg's preliminary conclusion that there is little countervailing buyer power at the wholesale or retail level. Vodafone and O_2 disagree with ComReg's preliminary conclusion, but each company presents a different argument in support of its disagreement.

F.239 Vodafone argues that corporate customers are capable of exercising significant countervailing buyer power, primarily because of the particulars of the bidding process, while O_2 argues that large independent retailers such as Carphone

Warehouse are able to exert significant pressure at the retail level.

ComReg Position

F.240 ComReg agrees that in some less concentrated markets, such as the UK, large independent retailers like Carphone Warehouse may be able to exert significant bargaining power. However, in Ireland the market is much more concentrated and the position of independent retailers is considerably weaker than that in the UK. ComReg does not believe that sufficient competitive pressure can be exerted from independent retailers in Ireland, and that their position is likely to lessen in significance, over the lifetime of this review, as the network operators increasingly reach out to consumers through vertically integrated channels.

F.241 One respondent claims that corporate customers are capable of exercising significant countervailing buyer power. As almost all corporate transactions for mobile service provision involves O_2 and Vodafone, the ability to affect countervailing buyer power depends critically on the significance of competitive reactions between the two biggest players in the market. As ComReg believes that tacit collusion is occurring in the market, it is unlikely that buyers would be able to apply sufficient countervailing buyer power.

F.242 It could be argued that because corporate transactions are often bespoke, and that their prices are confidential, this could give rise to 'secret' price cuts that constitute a deviation from a tacit agreement. If it were possible for an operator to offer secret price discounts, in an attempt to deviate from an agreement, this would require non-disclosure by their customers. Such non-disclosure would militate against any pro-competitive tendencies of countervailing buyer power. However, as corporate clients are important to operators, it would be evident very quickly if one operator were offering 'secret' discounts. As total market demand would be observed not to be falling, and the corporate would be observed still to avail of mobile services, it would be readily transparent that 'secret' discounts were on offer. For this reason, ComReg does not believe that competition in this segment of the market would undermine tacit collusion.

Conclusion

F.243 ComReg does not believe that countervailing buyer power at either the retail or wholesale level is sufficient to undermine the incentive for O_2 and Vodafone to engage in tacit collusion.

Response to Consultation Question 22

F.244 A slight majority of the respondents agrees with ComReg's appraisal of the relative importance of churn rates between the MNOs. Vodafone and O_2 argue that ComReg's appraisal is flawed and underestimates the number of customers switching between Vodafone, O_2 and Meteor. O_2 also argues that ComReg has failed to consider the full impact of FMNP on the MNOs' churn rates.

ComReg Position

F.245 Economic theory suggests that where demand is highly responsive to price changes, the existence of a large group of churning customers may be the trigger for a firm, particularly one with a smaller market share, to lower price (hence deviate) from a tacit agreement. By so doing, the deviating firm would attract a large increase in new customers, and the gains in profits over the short-term would outweigh the losses associated with punishment forcing the market back to normal competitive conditions.

F.246 The strategic variables used by the operators to attract customers focuses primarily upon promotions, rather than permanent reductions in usage rates, ComReg believes it is possible for firms to react to quickly in this market by also offering new promotions and discounts. The repeated interaction of firms in the market and an emphasis on assessing movements in quarterly subscriber data, suggests that the window of opportunity for seizing a competitive advantage over a rival is rather short. As economic analysis indicates, where repeated interaction is more frequent, the prospects for sustaining tacit collusion are greater as punishment is made more effective.

F.247 The variability in net addition figures is apparently not explained well by tariff data. It is the case that post-paid tariffs have not changed much over the period 2002-04, whereas quarterly net additions vary considerable across operators. ComReg believes that the variability in net addition figures is a reflection of temporary promotions offered by service providers occurring at different times, and adds to the perception on the part of many customers that the product offerings are relatively homogeneous.

F.248 It appears that churn and the variability in net additions for both O_2 and Vodafone is explained much by changes in tariff plans and yield management initiatives by the operators. Therefore ComReg does not believe that churn and the variability of net additions is indicative of a sustainable competitive market. This view is given further credence when it is noted that the majority of churning customers remain on O_2 and Vodafone and do not switch to Meteor.

Conclusion

F.249 ComReg does not believe that the churn in the Irish market is undermining the incentives for O_2 and Vodafone to collude tacitly.

Response to Consultation Question 23

F.250 Two respondents argue that because the market is competitive, it is not possible to identify criteria that would enable ComReg to monitor increased competitiveness. Hence ComReg did not receive any useful guidance or suggestions in response regarding what economic and commercial criteria could be used to measure competitiveness at the retail level.

ComReg Position

F.251 ComReg disagrees with a number of respondents and believes that the market is not currently effectively competitive. For example, the relatively high degree of market concentration and high tariffs (on average) indicate a lack of effective competition in retail services. The absence of wholesale access in the form of service provider deals is also indicative of the lack of competition at a wholesale level.

F.252 ComReg believes that monitoring the market by looking at concentration measures and price-cost margins (or benchmarking of prices) would provide useful guidance about the state of competition in the Irish mobile market.

Conclusion

F.253 To enable ComReg to withdraw from regulation in this market, it is important that the competitive status of the market is kept under review.

Consultation Question 24

Q. 24. Do you agree that there has been pent-up demand for mobile wholesale access and call origination services in Ireland?

F.254 At the wholesale level, there currently is a lack of access and call origination products in the market. The failure of the MNOs to conclude any manner of access agreement is highly material in terms of its impact on ComReg's analysis of whether any of the MNOs are collectively dominant in the national wholesale market for access and call origination. Clearly, the foreclosure of competitors at the wholesale level through denial of access will inevitably dampen the effects of competition at the retail level in a highly concentrated market. Denial of access can occur when an operator refuses to supply a product or service, but may also occur when access is offered on unreasonable terms and conditions.

F.255 As has been made clear under EC case-law, especially in *Magill,*[59] undertakings can be found to have abused their position in a relevant market through their denial of access, where there is evidence of pent-up demand and the possibility of markets developing around that access. In *Magill*, individual broadcasters were held to have abused the position of dominance held by reason of their ownership of copyright in their respective programme listings through their refusal to license that copyright to parties who sought to provide composite listings of various broadcasters' programmes. In the circumstances, the refusal to supply prevented the development of a market for such composite listings. There was evidence of demand for the services requested, coupled with evidence that, where access to programme listings was available in other Member States, markets developed for such services.

F.256 In the mobile market in Ireland, evidence over the last few years has shown that there is demand for wholesale access to mobile services.

F.257 ComReg has also identified that the allocation of E.164 numbering resources and mobile network codes (MNC) are required by prospective MVNOs.[60] A number of prospective MVNOs have been allocated MNCs by ComReg, with a view to these organisations concluding commercial agreements with the MNOs. However, no MVNO currently exists in the Irish mobile market.

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59 Case C-241/91, RTE & ITP v Commission [1995] ECR I-743.

60 See ComReg document 00/52 http://www.comreg.ie/_fileupload/publications/odtr0052.pdf

F.258 Since consultation a national roaming agreement has been concluded between two MNOs in Ireland.

F.259 In light of the above, ComReg is of the preliminary view that there has been pent up demand for mobile access and call origination services in Ireland.

Response to Question 24

F.260 A majority of the respondents agrees with ComReg's preliminary conclusion that there is pent-up demand for mobile access and call origination services in Ireland. Vodafone and O_2 disagree with ComReg's preliminary conclusion, and each claim that they have never denied access to a third party *when such access made commercial sense*. It is not possible for a third party to assess, without evidence, whether a particular refusal to supply was or was not justified on commercial grounds. The fact remains that other than the expected access to be granted to "3" to Vodafone's network, neither Vodafone nor O_2 has ever concluded a successful MVNO access agreement with any other third party. Also important is the fact that Tele2, an access seeker, has expressed frustration with the apparent impossibility of obtaining access from Vodafone or O_2, despite having concluded MVNO deals in other markets in Europe.

ComReg Position

F.261 At the wholesale level, since the consultation, a national roaming agreement between O_2 and Meteor has been signed. Having been delayed entering the market because of legal challenges to the license competition, Meteor has faced significant difficulties rolling out their network. The roaming agreement between O_2 and Meteor is a temporary measure to allow Meteor compete while continuing to roll out their network. ComReg notes that Meteor, despite repeated efforts to conclude a roaming agreement in 2003 were unable to reach an agreement and agreement was only reached following ComReg's national consultation which recommended mandating national roaming for Meteor.

F.262 ComReg is aware that 3 Ireland and Vodafone Ireland have signed a Heads of Terms for a national roaming agreement on Vodafone Ireland's 2G (GSM) network in the Republic of Ireland, but that a national roaming agreement has yet to be concluded between Vodafone and '3'. However ComReg notes that this obligation in mandated in the 3G licences of Vodafone and O_2.

F.263 It remains the case, other than the agreements referred to above, that a service provider does not operate commercially in Ireland, and one respondent claims it has not received commercial terms from any network operator following inquiries regarding an MVNO.

F.264 One respondent argues that pent-up demand for wholesale services cannot exist because this would suggest there are barriers to entry. The respondent claims that barriers to entry are low or even non-existent, as market entry has occurred at regular periods between 1997 and 2003. ComReg understands this entry to refer to the market entry by O_2, Meteor and '3', raising the number of licensed operators to four.

F.265 The respondent argues that there is plenty of spectrum available to permit further entry, and that spectrum trading could also enable new entry. It is also argued that there was little interest shown in the 3G licences in 2002 (three bids for four licences) and that only two bidders emerged for the third 2G licence in 1998.

F.266 Given the above observations, the respondent argues that 'pent-up' demand for wholesale access would not be observed if wholesale access were on "efficient terms and conditions". The respondent also argues that the relatively poor performance of Meteor is in part a reflection of the fact that the retail market was, and is, competitive. It argues that this further reinforces the finding that there is no pent-up demand for wholesale access.

F.267 The respondent goes on to argue that if access were mandated at prices below costs, effectively providing a 'free-lunch', then of course there would exist demand for wholesale access. However, it is argued that it would be a mistaken policy to mandate access on such terms.

F.268 Another respondent suggests that the risks associated with an MVNO investment are heightened because the current legal framework provides insufficient legal certainty for MVNOs requesting access. This may be a factor explaining the absence to date of MVNOs in Ireland.

Conclusion

F.269 ComReg is aware of a number of service provider negotiations that have either failed or have not yet materialised in an offering in Ireland. One of the mobile operators is claiming that the non-appearance of service providers does not constitute entry denial, rather it is symptomatic of an effectively competitive retail market.

F.270 ComReg does not accept the position that the retail market is effectively competitive. ComReg interprets the non-existence of a service provider deal as the denial of entry to the wholesale market by O_2 and Vodafone.

F.271 The claim that in the past there were too few bidders for licences means that there cannot be 'pent-up' demand for wholesale access is also not accepted by ComReg. Economic conditions prevailing in the mobile communications market in 1998 and 2002 are different to those prevailing today. Moreover, the market has developed since then, altering the type of entry which is efficient under market conditions.

F.272 ComReg believes that competition can be made more effective in the Irish mobile market by promoting more service based competition. An important role in service led competition can be played by MVNOs, which require less infrastructure to enter the market that a mobile network operator.

Consultation Question 25

Q. 25. Do you agree with ComReg's preliminary view that the Irish mobile market is characterised by the provision of homogenous services by Vodafone and O_2? If not, please elaborate.

C. Market Monitoring

F.273 In order for Vodafone and O_2 to be able to sustain tacit co-ordination over time, it is necessary that each of these undertakings is able to observe the behaviour of the other in respect of their range of services and/or prices. Where this is not the case, these undertakings will be much more likely to deviate from any tacit understanding, since their deviations will be much more difficult to detect. In addition, diversified and heterogeneous services make it more difficult to reach a common understanding between operators.

F.274 ComReg is of the preliminary view that the mobile communications services provided by Vodafone and O_2 are sufficiently homogeneous, as these operators provide both voice and data communications services on the basis of similar 2G, 2.5G and 3G network platforms over similar geographic and demographic coverage areas.

Response to Question 25

F.275 A majority of the respondents agree with ComReg's preliminary view that the Irish mobile communications market is characterised by the provision of homogenous services by Vodafone and O_2. Vodafone and O_2 generally disagree with ComReg's preliminary view, although O_2 appears to concede that Vodafone and O_2 do in fact provide somewhat homogenous services. O_2 argues, however, that the fact that Vodafone and O_2 provide somewhat homogenous services does not mean that it is easier for the companies to enter into a tacit agreement on prices.

ComReg Position

F.276 Economic analysis suggests that product homogeneity coupled with transparency is helpful for tacit collusion in a market that is highly concentrated. However, where tariffs are complex and where services are also complex, this is not favourable to tacit collusion as it makes it difficult for parties to an agreement to monitor adherence easily.

F.277 It has been argued by one respondent that despite homogeneity in offerings between O_2 and Vodafone, the complex array of tariffs and services in the market makes it infeasible for operators to coordinate over so many dimensions.

F.278 ComReg accepts that there are many dimensions operators use when selecting tariffs (off-peak/on-peak, voice, SMS, variable/fixed elements for post-paid), and that this gives the appearance of a complex environment. However, as one respondent acknowledges, MMB analysis is used to assess rivals behaviour in the market and ComReg believes that this occurs more generally. MMB analysis enables complicated tariffs to be simplified, and therefore it eases the monitoring burden in a tacit arrangement. Furthermore, it is straightforward for O_2 and

Vodafone to monitor whether a service provider agreement has been struck.

F.279 One respondent argues that total demand is unpredictable and this confounds operators' ability to draw firm inferences in the short run about market share. ComReg has already stated that it does not believe there is considerable unexplained variation in market demand.

F.280 Another operator claims that innovation in the market gives rise to product heterogeneity. Even if there were a degree of product differentiation, which ComReg doubts at the underlying level, this does not necessarily undermine the incentive for tacit collusion. Indeed, it is possible that incentives for tacit collusion could be enhanced with product differentiation under certain conditions.[61]

Conclusion

F.281 There appears to be an acceptance on the part of the majority that O_2 and Vodafone offer similar underlying services. Given the other structural characteristics of the market, this suggests that tacit collusion is more likely rather than less likely.

Consultation Question 26

Q. 26. Do you agree that the Irish mobile communications market is characterised by a relatively high level of market transparency at the wholesale and retail level? Please elaborate on your response.

F.282 Each member of a dominant oligopoly must have the ability to know, sufficiently precisely and quickly, how the other members of the oligopoly are behaving in order to monitor whether or not they are adopting a common policy. In a relatively transparent market, it is easy for an undertaking to follow the actions of its competitors and to adapt its own decisions accordingly.

F.283 A preliminary analysis reveals that there exists a relatively high level of market transparency in the Irish mobile market. At the retail level, operators are fully aware of the various, if complex, offerings of their competitors, as retail prices are published on operators' websites and elsewhere. The prices offered to large customers who contract for mobile communications services are less transparent, particularly as regards customer discounts. However, given that only a small number of operators can bid for these contracts, it is likely that Vodafone and O_2 can obtain insights into the offerings of the other operators bidding for the contract. Moreover, at the wholesale level mobile operators are aware of the charges for voice call and SMS termination services via their respective agreements for these services.

Response to Question 26

F.284 There appears to be little to mixed support for ComReg's preliminary assessment that the Irish mobile communications market is characterised by a

61 Ross, T.W. (1992) "Cartel stability and product differentiation", International Journal of Industrial Organisation, 10: 1-13.

relatively high level of market transparency at the wholesale and retail levels, with three respondents disagreeing, one respondent agreeing, and one respondent partially agreeing.

F.285 Some of the mobile operators argue that even if there is a high level of transparency in the Irish mobile market (for example, as a result of heavy marketing and advertising by Vodafone and O_2), this is not a form of transparency that would necessarily encourage tacit collusion between Vodafone and O_2. It is unclear, however, whether any relevant form of "transparency" would be conceded by these respondents as facilitating tacit collusion.

F.286 One respondent notes that "operators offer a range of tariff packages and services and hence there is no single price that can be used to make price comparisons. Minimum monthly bills are therefore generally used for this purpose." The same respondent noted "Analysis of these bills allows us to identify how prices have evolved…and how prices of the different operators compare…"

ComReg Position

F.287 Transparency is an essential requirement for tacit collusion. It is necessary to enable a focal point to be identified, and it is also necessary to enable compliance with the terms of a tacit agreement.

F.288 If the products in a market provided by firms are not closely similar, and the demand-side exhibits a lot of variation, firms in the market may not be able to identify easily a collusive equilibrium. Furthermore, where a collusive equilibrium varies in response to changes in factors beyond the control of firms, but firms cannot identify easily changes in these external factors, it makes both the identification and the sustainability of a collusive agreement more difficult. In short, the less transparency in a market, the less likely is tacit collusion.

F.289 ComReg notes that the identification of a focal point would certainly be easier where outputs are simple, demand varies little, and cost structures are known and relatively stable. Indeed, one respondent stated that the focal point "must be as simple as possible". The respondents have argued that because of the complexity of tariffs in the retail mobile market, these cannot be the basis of a focal point.

F.290 ComReg believes that in the retail mobile market prices are highly transparent for most customers. Even for corporate customers there is probably a high degree of transparency, as these customers would likely attempt to exercise bargaining power by disclosing offers/prices across operators. It is also the case for most corporate customers that bespoke deals will only be offered by Vodafone and O_2 so it will be transparent to the losing bidder if they have lost the contract. This transparency favours tacit collusion; however, there is a multitude of tariffs serving different customer segments. Furthermore, tariffs are not identical in detail across the operators.

F.291 The number of tariff schemes, their complexity and different forms would suggest that prices are not especially transparent. However, ComReg does not believe that tariff schemes and individual prices constitute the focal point for coordination. ComReg believes that operators focus on MMBs, which are a proxy for the more complex tariff schemes. One respondent has indicated that MMBs for the basis for analysing rivals' behaviour.

F.292 ComReg believes that the focal point are prices proxied by MMBs at a retail level. However, the market may still lack transparency due to the presence of extraneous noise (which may be reflected in either demand and/or supply side fluctuations). Where there is extraneous noise, it makes it more difficult for a firm to identify why its demand varies. For example, firm level demand could vary due to external factors changing (e.g. changes in the growth of GDP), or due to competitive conditions changing (e.g. price cuts by rivals).

Conclusion

F.293 ComReg believes that focussing on prices via MMBs is relatively transparent and a practice common to the industry. The high degree of transparency, coupled with high concentration is more likely to give rise to tacit collusion.

Consultation Question 27

Q. 27. Do you agree with ComReg's preliminary assessment of the effectiveness and operation of 'deterrence' mechanisms in the relevant markets? Please elaborate your response, supporting it with relevant economic evidence.

F.294 The European Court of First Instance has taken the position that the situation of collective dominance must be sustainable over time, namely, there must be some form of credible incentive not to depart from a common policy on the market. This means, for example, that each member of the dominant oligopoly must be aware that highly competitive action on its part designed to increase its market share would provoke identical action by the others, so that it would derive no benefit from its initiative. It is also an established economic principle that co-ordination between undertakings will be easier to uphold if deviations from a co-ordinated strategy – either explicit or otherwise - are more likely to be detected by other undertakings which have the means to punish deviation in an efficient and timely manner.

F.295 The issue of deterrence in the context of the mobile communications sector, which is characterised by connectivity and common inputs received from competitors, is best assessed by reference to whether the members of the collectively dominant position are able to revert to the normal conditions of competitive behaviour that would otherwise prevail in the absence of their parallel conduct. In other words, at least at the retail level, the only deterrent or disciplinary mechanism required by Vodafone or O_2 to compel parallel behaviour is the implicit threat of their reversion to the normal conditions of competition.

F.296 This implicit threat might also be capable of being exercised more broadly in the retail market practises of Vodafone and O_2 in other jurisdictions due to their pan-European presence.[62]

F.297 At present, ComReg is of the preliminary view that Vodafone and O_2 are denying access to third parties at the wholesale level. If either did so, the other could retaliate in two ways – either by supplying similar services itself, or by cutting its retail prices. One or other, or both, responses could be rational, if the other firm undertook a course of action which reduced the retail price of services provided over its network.[63] Overall it would appear that the potential reversion to the normal conditions of competition at the retail level constitutes a sufficiently serious disciplinary mechanism to perpetuate the consciously parallel market behaviour being witnessed at present.

Response to Question 27

F.298 A majority of the respondents agrees with ComReg's preliminary assessment of the relative effectiveness of deterrence mechanisms in the market. Vodafone and O_2 both disagree and argue that the discussion of deterrence mechanisms is unnecessary because the market characteristics are such that Vodafone and O_2 would never enter into a tacit agreement in the first place. More specifically, Vodafone and O_2 argue that because of the asymmetry between Vodafone and O_2's market shares it would be difficult for Vodafone and O_2 to maintain any form of tacit agreement, due to the incentives for deviation. Vodafone and O_2 further argue that O_2 would have a particularly strong incentive to deviate from any tacit agreement because of its lower market share, such that O_2 would have more to gain (and less to lose) by reducing prices and deviating from the agreement.

ComReg Position

F.299 ComReg regards an element of deviation would be a reduction in prices (either directly or via the granting of wholesale access to an independent third party, enabling the third party to operate profitably in the market). The granting of access to third parties (other than indirect access to NTCs and national roaming) has not occurred to date. ComReg argues above that the price reductions that have occurred do not constitute deviations from the tacit agreement. Punishment would take the form of a reversion to normal competition, and this would involve retail prices falling to competitive levels. The most effective form of punishment is a direct reduction in retail prices, as this expedites punishment. This punishment can be affected relatively quickly (within weeks), and may be preceded by punishment in the form of promotions.

F.300 ComReg believes that the punishment mechanism is credible, for otherwise failure to punish would result in profits falling in favour of the firm deviating. The most effective response to the granting of MVNO access would be the setting of lower retail rates.[64] An alternative punishment would be to grant an alternative

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62 See Belgian Brewers – Bilateral Cartel and Private Label cases, EC O.J. L222/1, at para. 53; cf. Dutch Industrial and Mineral Gases, EC O.J. L84/1, at para. 372.

63 Retaliation could also occur in direct interaction between Vodafone and O_2 (e.g., in relation to the setting of termination rates, if that were unregulated).

64 It may be argued that punishment in the form of lower retail tariffs would be ineffective, as it would take time for consumers to learn about new tariffs.

service provider access, but this would be time consuming and less effective.

Conclusion

F.301 ComReg does not accept the view that there is a low probability of detecting deviation from an agreement and that there is a time lag negating the effectiveness of punishment. As stated above, ComReg believes deviation is identifiable quickly, particularly where it takes the form of granting service provider access. Such an event is highly visible and involves no uncertainty. Punishment can be affected speedily, as retail tariffs can be adjusted within weeks and special promotions can precede these.

Consultation Question 28

Q. 28. Do you agree with ComReg's preliminary analysis and conclusions regarding the competitive positions of Vodafone and O_2, as compared to Meteor? Please elaborate your response.

E. Actual and/or Potential Market Constraints

F.302 Even a collectively dominant group of undertakings might be subject to significant competitive pressure, either from existing smaller 'fringe' competitors or potential new entrants. In the context of mobile communications, practical possibilities for entry need to be assessed both with respect to 2G and 3G platforms, and judgements made as to the relative height of barriers to entry, expansion and exit. In examining potential competitive pressures ComReg discusses fringe competitors and potential competition and barriers to entry / exit.

Preliminary Conclusion

F.303 ComReg reached the preliminary conclusion that Meteor does not constitute, at least in the timeframe of this review, a significant competitive threat to the market positions of O_2 and Vodafone in Ireland. ComReg's investigation appears to demonstrate that Meteor has not had a particularly disruptive effect on its competitors since it commercially launched its services in February 2001. This may in part be attributed to Meteor's late entry into the market (relative to other third entrants in other EU Member States), and in part to its relative functional deficiencies in terms of coverage or the absence until recently of 2.5G data services. The cost of making off-net calls may also have had a negative impact on Meteor's growth. It would also appear to be the case that given the relative level of maturity of the mobile market, particularly the 2G environment, there is not great scope for rapid growth, as there are barriers to expansion faced by firms on the competitive fringe.

Response to Question 28

F.304 A majority of the respondents agrees with ComReg's preliminary analysis and conclusions regarding the competitive position of Vodafone and O_2, as compared to Meteor. Vodafone and O_2 both disagree and argue that Meteor is

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However, the same can be said about the tariffs offered by a MVNO. Hence, punishment will likely be effective over time.

currently in a position to be an effective competitor against both Vodafone and O_2. Vodafone and O_2 both argue that Meteor's past failures were the result of poor strategic decisions made by Meteor when it entered the market, and are not indicative of collective dominance on the part of Vodafone or O_2. In addition, Vodafone and O_2 both argue that Meteor is now in a position to be an effective competitor as a result of the recent and continued expansion of Meteor's network and current 90% population coverage.

F.305 Meteor argues that the lack of national coverage, before signing its national roaming agreement, has been a major impediment to business success to date.

F.306 Two respondents refer to comments made by Meteor, reported in the press on 7 March 2004 (Sunday Independent), that it will attain 20% of the subscriber base by 2005 as an indication that it will become over time an effective maverick competitor. Furthermore, since the publication of the consultation document, Meteor has signed a national roaming agreement with O_2 which has the potential to strengthen its competitive position in the market.

F.307 One respondent argued that the biggest threat to Meteor was regulation, and in particular the prospect of mandated MVNOs.

ComReg Position

F.308 Over the period 2001 – Q2 2004 Meteor managed to attract 6% of subscribers in the market, of which almost all are pre-paid subscribers. As the price charts in Annex B reveal, this level of market share is low given the aggressive pricing practiced by Meteor. This suggests that Meteor is not a significant constraining influence on O_2 and Vodafone. Indeed, as the price charts in Annex B also reveal, O_2 and Vodafone have not apparently adjusted prices in response to changes and reductions by Meteor, in post-paid.

F.309 ComReg was presented with evidence in the submissions that Meteor's more recent performance, post end-2003, has been improving and that according to one respondent it will have a market share of 10% of subscribers during 2005.

F.310 Two respondents argue that the main reason for Meteor's disappointing performance to date is more to do with commercial decisions taken by Meteor (e.g. network rollout, lack of commercial approach to market entry, etc.), rather than because of collective dominance on the part of O_2 and Vodafone.

F.311 ComReg did not claim that Meteor's performance in the market is a result of tacit collusion on the part of O_2 and Vodafone. ComReg believes that structural conditions in the market have not favoured Meteor (e.g. late entrant, lack of FMNP until July 2003, etc.), and as a result it is not an effective competitor against O_2 and Vodafone.

Conclusion

F.312 ComReg believes that national roaming between Meteor and O_2 will pave the way for potentially more effective competition in the market, but believes that over the lifetime of this review it will not provide a sufficient constraining effect on

O_2 and Vodafone in the wholesale market, and in particular on access for service provider access.

Consultation Question 29

Q. 29.	Do you agree with ComReg's preliminary conclusions regarding the likely competitive impact of '3' on the Irish marketplace for the purposes of this review? Please elaborate your response.

F.313 '3' has just entered the Irish market, and its impact has yet to be measured. However, ComReg is of the preliminary view that the arrival of '3' is unlikely to have an immediate and effectively disruptive effect on the behaviour of Vodafone and O_2.

F.314 Equal amounts of core 3G spectrum were offered to each 3G mobile licensee. It should be noted that 3G spectrum may be used for voice services, the provision of which may be supported by a national roaming agreement. The rollout of '3's mobile network, as well as the provision of its mobile communications services, is facilitated by the obligation on Vodafone and O_2 to negotiate an agreement with '3' to provide national roaming facilities on their 2G networks once '3's 3G network is capable of serving at least 20% of the Irish population.

F.315 Given the potential for entities with both 2G and 3G networks to use services delivered over 2G networks to supplement 3G services, there exists the potential for such entities to exploit the transitional phase of 3G roll-out, as 3G operators without the ability to mirror such behaviour will be at a competitive disadvantage.

F.316 The uncertainty surrounding the potential revenue streams and demand for 3G services may also be a significant factor in shaping the future mobile industry structure. At this stage, it is too early to predict how the Irish mobile sector will react to '3's entry. However, 3G has the potential to strengthen the dominant position of Vodafone and O_2 relative to '3', a 3G greenfield entrant, as these operators may be able to migrate their existing 2G customers onto 3G. Given that Vodafone and O_2 have existing customer bases, '3's subscriber acquisition costs are likely to be high considering its "late mover" disadvantage.

F.317 On balance, ComReg is of the preliminary view that '3' will not be able to act as an effective competitive constraint on Vodafone and O_2 within the timescale of this market review.

Response to Question 29

F.318 A majority of the respondents agrees with ComReg's preliminary conclusion that '3's entry will have little immediate competitive impact on the market. , Vodafone and O_2 both disagree and argue that ComReg has underestimated '3's potential to be a strong and effective competitor in the near future. Specifically, Vodafone and O_2 argue that '3' has a number of competitive advantages, including:

(i) the high market capitalization of '3's parent company;

(ii) '3's substantial experience in other countries and history of engaging in strong competition;

(iii) the fact that '3' will launch with 100% coverage, with 20% population coverage on its own network and national roaming on Vodafone's network; and

(iv) the ability of '3' to launch full 3G services in Ireland using the infrastructure (switching, IT, service platforms, billing systems, *etc*.), personnel, and content partnerships from its UK operation.

F.319 '3' also disagrees with ComReg, and states that ComReg is wrong to equate '3's likely evolution with the development of Meteor over the last few years. '3' point to a number of differences they regard as key to distinguishing between '3' and Meteor, including the different type of spectrum held.

F.320 One respondent argues that late entrants are not necessarily disadvantaged, and with regard to '3' it is claimed that by using a new technology it will be able to disrupt the current market structure. It is also argued that Hutchison Whampoa, the parent company of '3', has deep pockets and will be an effective competitor against both O_2 and Vodafone.

ComReg Position

F.321 ComReg accepts that there are characteristics favourable to '3's performance in the Irish mobile market. However, ComReg remains sceptical that '3' will be able to exert sufficient competitive pressure over the lifetime of this review.

Conclusion

F.322 ComReg welcomes the entry of '3' into the Irish mobile market and expects over time for it to become an effective competitor against the operators currently in the market. However, ComReg does not believe that '3' will exert sufficient competitive restraints over O_2 and Vodafone during the lifetime of this review. Unlike the UK where '3' had first mover advantage over the incumbent operators, in Ireland it is likely '3' will launch after Vodafone and O_2 for 3G services. '3's aggressive pricing and first mover advantage in the UK has resulted after two years in a 2% market share.

Consultation Question 30

Q. 30. Do you agree with ComReg's preliminary analysis that potential 2G/3G network operators and/or other potential entrants are unlikely to significantly constrain the competitive behaviour of Vodafone and O_2 over the period of this review? Please elaborate your response.

F.323 In addition to '3', it is in theory possible that a fifth network operator could enter the mobile sector by taking up the remaining 3G licence which currently remains unassigned. Such a new entrant would, however, face similar hurdles to '3' as outlined above, including high set-up costs in terms of network infrastructure and the development of a subscriber base from a "late mover" position.

F.324 As well as making spectrum available for 3G services, unassigned spectrum in the 900 MHz and 1800 MHz bands could potentially be made available for further expansion of 2G (GSM) services. Currently, a total of 2 x 26 MHz of spectrum in the 1800 MHz band and 2 x 13 MHz of spectrum in the 900 MHz band remain unassigned.

F.325 While there continues to be 2G/3G spectrum available in Ireland, the assignment of this spectrum is subject to a licensing process. Experience across the EU points to a number of 3G licences which either have not been taken up or have been handed back *i.e.*, even where spare spectrum was available it was not used. Furthermore, high costs may deter entrants from building new networks. Overall, ComReg is of the preliminary view that these entry barriers may deter potential 2G/3G network operators from effectively constraining Vodafone and O_2's dominance in this market over the timeframe of this review.

F.326 It is possible that other players may also enter the market via more-service-based competition, e.g. MVNOs or independent service providers, providing that appropriate wholesale services are available.

F.327 As part of the 3G competition, all applicants for the "A" licence were invited to offer a voluntary binding commitment relating to the provision of access ('MVNO access') [65] to the radio access part of their 3G mobile network and, where applicable, any 2G mobile radio access network in which the applicants had, or may in the future, have an ownership interest. '3's subsequent success in winning the "A" licence means that they are now obliged to offer MVNO access on a "retail minus X" basis. It is envisaged that the entry of MVNOs has the potential to enhance competition at the retail level however it is not expected that any MVNO entering the market with '3' will impact this market in the timeframe of this review.

F.328 A possible revenue stream for network operators is that of wholesale service provision, via indirect access, wholesale airtime, MVNOs, etc. Evidence to date has shown that the Irish MNOs are reluctant to commercially conclude such deals, as currently there are no such wholesale services provided in Ireland.

F.329 In all the cases cited above, potential new entrants to the Irish mobile sector face a number of challenges upon entry. These range from the ability to attract mobile customers from the established MNOs, to the high capital expenditure costs required to finance a new operation. Only three out of four 3G licences were issued in the 3G licensing process run in 2002, thus illustrating that new entrants must have a viable business case to enter the market. The business case for new entrants may be moving towards more service-based operations, *e.g.* MVNOs, where the

[65] MVNO operators are generally defined as organisations operating a physical network infrastructure comprising as a minimum a mobile switching centre, home location register and authentication centre (or 3G equivalent), having its own unique mobile network code with distinct IMSI and E.164 number series (where applicable), but without a mobile radio access network.

initial financial requirements should be lower. Overall, ComReg is of the preliminary view that other potential entrants will not be able to act as an effective competitive constraint on Vodafone and O_2 within the timescales of this market review.

Response to Question 30

F.330 A majority of the respondents agrees with ComReg's preliminary conclusion that potential entrants are unlikely to be able to significantly constrain the competitive behaviour of Vodafone and O_2 over the short term. Vodafone and O_2 both disagree and argue that there are numerous opportunities for new entrants to enter the market, perhaps by acquiring available spectrum, negotiating access agreements with the MNOs or by acquiring Meteor. However, most of these arguments do not respond directly to ComReg's question regarding the competitive impact of potential new entrants. .

ComReg Position

F.331 In its original consultation, ComReg stated a belief that other potential entrants, by which was meant *de novo* network operators availing of spare radio spectrum and the MVNO attached to the licence of '3', will not be able to act as an effective competitive constraint on O_2 or Vodafone over the lifetime of this review. This is because such entry requires considerable up-front capital expenditure, in the case of new network operators, or would involve delay if it is the MVNO attached to '3' (such delay stemming in part from '3' not yet having launched a commercial service nor having concluded a national roaming agreement with Vodafone).

F.332 ComReg has not been presented with any evidence to suggest it should depart from this belief. One respondent argued that there was a contradiction in the ComReg position. The respondent notes that ComReg claims there is tacit collusion in the wholesale access and origination market and as a result a lack of effective competition in the retail market. The excess profits in the retail market ought therefore to spur entry, and the respondent claims that ComReg accepts should entry should occur. The respondent then claim ComReg rules out entry on the grounds that entry costs are too high. ComReg does not rule out entry per se, ComReg highlights how high entry barriers would militate against the effectiveness of such competition against O_2 and Vodafone over the lifetime of this review. ComReg does not regard this to be a contradiction.

F.333 One respondent claims that "it is not clear that there are high legal or economic barriers to entry in this market". The respondent argues that there exists sufficient spare spectrum to enable further entry into the market to take place. ComReg accepts that radio spectrum is available to enable further network entry, but it does not accept that this 'remedy' is proportionate to the problem identified. Issuing new spectrum would lead to further duplication of network infrastructure, the costs of which can be avoided by applying other remedies (such as mandating MVNO access). This issue is discussed further in the section on remedies.

F.334 The same respondent also argues that MVNO access to the market could involve up front capital expenditure as low as €10million.[66] However, no such

[66] This would cover basic switching, IN, billing and customer care equipment.

MVNO currently exists in the market, and ComReg believes this is due to O_2 and Vodafone denying access, constructive or otherwise, to potential MVNOs.

Conclusion

F.335 Because of high entry costs associated with infrastructure, ComReg believes that other potential 2G or 3G network operators would not be able to constrain O_2 and Vodafone in the retail market over the lifetime of this review. Further, ComReg believes that the MVNO, as specified in the terms of '3's licence would also not be able to constrain O_2 and Vodafone in the retail market over the lifetime of this review.

Consultation Questions 31 & 32

Q. 31. Do you agree that the mobile communications sector in Ireland is characterised by high and non-transitory entry barriers?

Q. 32. Do you agree that potential competitive pressures are unlikely to effectively constrain Vodafone and O_2's dominant position in this market over the timeframe of this review?

Please elaborate your response.

F.336 ComReg is of the preliminary view that, on balance, the mobile communications sector in Ireland is characterised by high and non-transitory entry barriers. Furthermore, ComReg believes that potential competitive pressures provided by fringe competitors or potential competition are unlikely to effectively constrain Vodafone and O_2's dominant position in this market over the timeframe of this review.

Response to Question 31

F.337 A majority of the respondents agrees with ComReg's preliminary conclusion that there are high and non-transitory barriers to entry in the Irish mobile communication sector. , Vodafone and O_2 both disagree and argue that there are numerous opportunities for new entrants to enter the market and that the history of entry in the market (*e.g.*, O_2, Meteor and '3') shows that there are no significant barriers to entry.

ComReg Position

F.338 ComReg has already stated that it believes entry costs (primarily infrastructure costs) are a feature that gives rise to high and non-transitory entry barriers in this market. Entry could occur through acquisition, but an ownership change would not give rise to an additional firm in the market and is therefore less likely to precipitate a rapid move to effective competition. However this form of entry could, depending on the firm undertaking the acquisition, stimulate further competition. To date this has not happened and there appears to be little indication to suggest it is likely to happen over the near future.

Conclusion

F.339 ComReg believes that there are high and non-transitory entry barriers which would act to prevent the establishment of effective and sustainable competition over the lifetime of this review.

Response to Question 32

F.340 A majority of the respondents agrees with ComReg's conclusion that potential competitive pressures are unlikely to constrain effectively Vodafone and O_2's joint dominant position, at least in the short term. Vodafone and O_2 both disagree and argue that Meteor, '3' and other potential market entrants are very well placed to capture significant market share over the next three years. Vodafone notes that Meteor expects to take over 20% of market share with the next two years, and both Vodafone and O_2 note that '3's national roaming access will enable it to capture significant market share in the short term.

ComReg Position

F.341 Most of the issues related to this question and the responses received have already been addressed in the discussion of responses to questions 28-31.

F.342 One respondent believes that with four operators in the market, low barriers to expansion, and number portability, competition will remain intense. ComReg, however, disagrees with the proposition that competition will remain intense, as there is insufficient evidence to date to suggest that the retail market is effectively competitive, and ample evidence to indicate that the wholesale market is not competitive.

F.343 The respondent claims that the high percentage of churning customers (around 25% annually) provides the catalyst for competition. If churning customers and continued growth in the market were to enable more effective competition to occur on the part of the fringe players in particular, then this ought to have occurred to some extent over the period 2001-03 when Meteor first entered the market.

Consultation Question 33

Q. 33. Do you agree with the above preliminary conclusions regarding market analysis? Please provide a reasoned response.

Preliminary conclusions on Market Analysis and Joint Dominance

F.344 ComReg's preliminary view is that the essential conditions warranting a finding of collective dominance, as set out in the judgment of the Court of First Instance in *AirTours* and as set out in the Commission's SMP Guidelines, appear to be met in relation to the relevant market for wholesale mobile access and call origination.

F.345 The Irish market is characterised by a high level of concentration, relatively high levels of penetration, stable pricing patterns at the retail level, stable market shares at the retail level, a lack of wholesale access and call origination transactions other than self-supply and indirect access via NTCs (and national roaming O_2/Meteor), similar cost structures and high profitability ratios for both Vodafone and O_2. The combination of these factors makes the Irish market particularly susceptible to collective dominance, and this will continue in the absence of regulatory action. The implicit threat of a reversion to the normal conditions of competition at the retail level appears to provide the type of retaliatory mechanism, which can sustain the prevailing market conditions.

F.346 Moreover, the market power of Vodafone and O_2 is reinforced by:

- their size relative to each other, and to other market actors in Ireland;
- their control of infrastructure which is unlikely to be economically duplicated over the period of this review;
- the absence of countervailing buyer power in the related downstream retail product market or at a wholesale level;
- their sustained high levels of ROCE;
- the economies of scale and scope resulting from membership of large European groups, including easier or privileged access to capital markets / financial resources; and
- highly developed distribution and sales networks.

F.347 More importantly, there are strong indications that the aligned or consciously parallel behaviour identified by ComReg has resulted in a lack of effective competition at the retail level. For example, there appears to be little effective price competition between Vodafone and O_2 in the provision of their retail services. Further, despite the existence of the potential to secure a wholesale revenue stream from the provision of wholesale access and call origination services, particularly in the context of the spare 2G capacity of both undertakings, these operators have yet to conclude any indirect access, wholesale minutes/ capacity, MVNO agreements or service providers.

F.348 ComReg is therefore of the preliminary view that the Irish mobile wholesale access and origination market and the retail mobile communications market is not effectively competitive.

F.349 Furthermore, alternative sources of market entry appear to be also unlikely to be able to exert sufficient competitive pressure on Vodafone and O_2 over the timeframe of this review.

Response to Question 33

F.350 A majority of the respondents agrees with ComReg's preliminary conclusions regarding market analysis. , Vodafone and O_2 both disagree and argue that ComReg has failed to follow the standards set forth in EC law (primarily *Airtours*) for a finding of collective dominance and that ComReg has based its conclusion on a number of factual errors. 3 argues that ComReg is not taking a sufficient forward looking assessment and the remedies intended to correct the problems identified in its market analysis are likely to make matter worse by weakening the position of the fringe network operators.

ComReg Position

F.351 One respondent alleges that there are "serious errors and omissions in the conceptual framework adopted, the factual findings used in the analysis and the conclusions drawn". The respondent seems to argue that ComReg has over emphasised legal precedent set in the *Airtours* judgment of the CFI. ComReg believes that the *Airtours* case is an important legal precedent on tacit collusion and that the judgment of the CFI provides very useful guidance for assessing tacit collusion in this market.

F.352 The same respondent further states that even if one accepts the 'essential conditions' set out in the CFI *Airtours* judgment, "ComReg's preliminary conclusions rely on very considerable errors of fact".

F.353 It is claimed that "Ireland does not have uniquely high levels of concentration". ComReg accepts that there are other markets in Europe with relatively high concentration levels as measured by the HHI. In this regard Ireland may not be unique. However, ComReg notes nevertheless that concentration is high in Europe, and that the decline of the HHI relative to the theoretical minimum is less impressive when compared against countries such as France, Germany and the UK.

F.354 The respondent has argued that ComReg's claim that maturity of the market facilitates collusion is not consistent with economic theory. ComReg accepts that tacit collusion, all other things equal (and importantly the number of firms in the market is assumed to be one of the factors that does not change), is more likely to occur in a growing market. ComReg regards maturity to refer primarily to stability in demand and supply side conditions (e.g. as reflected in technological innovation). ComReg also noted that while a growing market enhances the prospect for tacit collusion, presumably in a market that has grown, such as this market, the implied high future profitability remains an incentive to sustain tacit collusion that is established during the growth phase. ComReg notes that tacit collusion is likely to be undermined, all other things equal, when total demand falls. There is no evidence to suggest that demand is falling in this market. Indeed, at the present time demand continues to increase, albeit at a slower rate than compared to the period 2000-2003.

F.355 The respondent claims that similar tariffs and head-to-head competition is occurring in the market. ComReg does not dispute the observation of parallel behaviour, but has already argued that there is little variation in tariffs over time, as reflected in the MMBs. Noting high concentration, high transparency, and high profitability, the lack of downwards price behaviour suggests to ComReg an absence of effective competition in the retail mobile market.

F.356 ComReg has been criticised for claiming that market shares are stable. ComReg accepts that there continues to be some variation in market shares. ComReg notes that while O_2's market share has been hovering around 40% (in subscribers) over the last two years, there has been a slight and gradual decline in Vodafone's share in favour of Meteor. This movement in market shares has narrowed the asymmetry between O_2 and Vodafone. The movement in Vodafone's market share over the last two years, and the stability of O_2's market share, indicate to ComReg an absence of effective competition.

F.357 ComReg accepts that the share of subscribers held by O_2 and Vodafone are not necessarily "similar". As already stated above, economic analysis suggests tacit collusion is possible where shares differ among firms. In the retail market Vodafone currently has a share of 54% and O_2 of 40%. There may be other mitigating factors, enabling sustainability of tacit collusion in this case. Furthermore, even where firms are identical in all respects other than market share, it is still possible, though less likely, for tacit collusion to occur. ComReg also noted above that while the share of the total subscriber base is relatively asymmetric, the share of net additions is more symmetric.

F.358 The respondent argues that profits are not persistent or excessive. However, ComReg's analysis of accounting data suggests otherwise and ComReg maintains its belief that excess profits are being enjoyed by both O_2 and Vodafone.

F.359 Finally, it is claimed that prices are not high in Ireland, as the ARPU measure suggests. ComReg accepts that ARPU is an imperfect indicator of prices. However, post-paid price in Ireland remain above the European average and a there are other countries that have higher MOU than Ireland but have lower ARPUs.

F.360 ComReg has been accused of not taking a forward-looking perspective, and that much of its analysis is backward looking in character and therefore its conclusions are tainted more by the past rather than assessments of the future. In particular, it is claimed that ComReg understates the competitive impact that Meteor and 3 will have in the market over the next few years. However, as argued above, ComReg believes that Meteor will not be a sufficiently effective competitor, given it does not currently possess a licence to use 3G spectrum. This means that Meteor will not be able to offer the same advanced data services that complement the retail cluster to its customers. ComReg believes that this will, if anything, weaken Meteor's position in the post-paid market. As competition is least evident in this segment of the market, ComReg believes that Meteor will not be sufficiently effective as a competitor. With regard to '3', ComReg believes that its mass market launch will occur in 2005, and that it will likely grow market share slowly over the first two years or so of its operations

F.361 One respondent presents evidence from an IBEC survey of the telecommunications market in Ireland published in July 2003. The respondent cites that the survey found "The mobile service faired fairly well in satisfaction ratings in comparison with other operators". As the number of operators most respondents would likely take as a comparator would be one the opinion only serves to inform us that O_2 and Vodafone are relatively similar. Indeed, the evidence from the survey reinforces the view that the operators are viewed as offering a cluster of services that is fairly homogeneous.

F.362 Another respondent has argued that for the market to sustain tacit collusion, there must be:

- A focal point that O_2 and Vodafone agree to coordinate an outcome on.

- Sufficient transparency to enable monitoring of each other's behaviour. ComReg has stated above that it regards the market to be highly transparent. The coordination in the wholesale market is very transparent, and coordination in the retail market is made transparent by largely visible prices (as shown on websites and in other published media).

- Adequate retaliatory mechanisms to punish those who deviate from the agreed outcome. ComReg has argued that deviation, whether in the form of granting wholesale access to an MVNO or in the form of reducing retail tariffs, would precipitate punishment via lower retail tariffs. This retaliation is rational and reinforces the credibility of the punishment mechanism.

- No incentive or ability on the part of undertakings' party to an agreement to depart from an agreement. ComReg accepts that it must be shown that parties to an agreement must not have an incentive to deviate, but disagrees that there should not exist an ability to deviate. Clearly if there were no ability to deviate, by construction collusion is sustainable. ComReg believes that there do not exist incentives for either party to deviate from the agreement. This is because a reduction in the retail price (affected directly or indirectly) would result in the other firm responding sufficiently quickly and in a way that is consistent with being in its own interests. By not responding to a price deviation, and hence not punishing the other firm, sales would be lost to an appreciable extent and profits would suffer. ComReg has relied upon its overall assessment of the market and other evidence to support its findings of tacit collusion.

- The behaviour of retail prices in the market over the period 2001-mid-2004 has been such that no such deviation has yet occurred, as punishment, which would lead to prices falling to the competitive level, has not been observed. ComReg believes tacit collusion is occurring because the structural characteristics of the market are highly conducive to tacit collusion, prices appear relatively high, profitability seems high, and the behaviour of O_2's and Vodafone's prices over time, as reflected in their MMBs, show little downward movement relative to those of the fringe operator Meteor.

- Fringe competitors or potential entrants do not have the ability or incentive to challenge the coordinated outcome. ComReg has argued that it seem highly unlikely that Meteor and 3 would present a sufficient competitive constraint to Vodafone and O_2 over the lifetime of this review.

Conclusion

F.363 ComReg believes that on the basis of its market analysis, there is tacit collusion taking place in the Irish retail mobile market, and that this tacit collusion is reinforced and sustained by the refusal, constructive or otherwise, on the part of the coordinating undertakings O_2 and Vodafone to grant wholesale access to wholesale airtime or to a more sophisticated form of access, such as an MVNO.

F.364 ComReg believes that the high retail prices in the Irish mobile market reflect underlying implicit excessive wholesale charges.

F.365 ComReg concludes that O_2 and Vodafone hold a position of joint dominance in the wholesale mobile access and call origination market in Ireland.

Consultation Question 34

Q. 34. Do you agree with ComReg's preliminary view that Vodafone and O_2 occupy a position of collective SMP in the relevant product market under review? Please provide a reasoned response.

Designations of Undertakings with Significant Market Power

F.366 Having regard to the sections above, ComReg is of the view that, in accordance with the Framework Regulations, that:

F.367 Vodafone should be designated as having SMP on the wholesale mobile market for access and call origination in Ireland; and

F.368 O_2 should be designated as having SMP on the wholesale mobile market for access and call origination in Ireland.

Response to Question 34

F.369 Although ComReg has received substantial support for its conclusion that Vodafone and O_2 occupy a position of collective dominance, with all respondents other than Vodafone and O_2 expressing agreement, Vodafone and O_2 have each presented arguments that have been considered in responses to other questions particularly in section 4.

ComReg's Position

F.370 ComReg has considered at length the responses to this consultation and has following consultation, requested additional information on pricing. In reaching its conclusion ComReg has addressed the substantive issues on market definition and market analysis raised by the consultation. ComReg's conclusion, as concluded in chapter four is that in the market for wholesale access and call origination there is ineffective competition and a position of collective dominance exists between Vodafone and O_2.

F.371 ComReg is of the view that, in accordance with the *Framework Regulations*, that: Vodafone should be designated as having SMP on the wholesale mobile market for access and call origination in Ireland; and O_2 should be designated as having SMP on the wholesale mobile market for access and call

Notification - Wholesale mobile access and call origination origination in Ireland.

Consultation Question 35

Q. 35.	Do you agree with this analysis of potential competition problems? Are there any further competition problems which you believe ComReg should remedy? Please elaborate your response.

F.372 In January's consultation, ComReg's market analysis suggested that market conditions alone are not sufficient to engender effective competition in the mobile market for wholesale access and call origination. The market conditions have not generated sufficient wholesale access and call origination opportunities which would increase competition at both the wholesale and retail levels.

F.373 ComReg added that due to the nature of this market, it is probable that competition problems of both a structural and a behavioural nature exist or could potentially exist in this market. For example, an undertaking with individual and / or collective SMP on the wholesale market may attempt to leverage its market power by denying access to or refusing to deal with undertakings operating upstream or downstream and which compete with the incumbent's retail operation. Even where wholesale access to networks is made available, the upstream dominant firm(s) may have the incentive and/or the ability to distort competition on the downstream market by offering to supply only on unreasonable terms (price or non price factors).

F.374 In the consultation, ComReg indicated that the only wholesale access and call origination products offered by the SMP operators are self-supply and indirect access via NTCs. The failure by the MNOs to offer mobile access and call origination services (*e.g.* national roaming, MVNO access, indirect access) on a commercial basis to other undertakings in the Irish market, might be due in part to unreasonable pricing terms being requested by SMP operators for the provision of that access. Furthermore, where there are some mobile call origination services available to other undertakings via indirect access using NTCs (*e.g.*, 1800, 1850, 1890 access), the wholesale charges associated with these indirect access offerings may be limiting the effectiveness of these service providers at the retail level.

F.375 ComReg highlighted that failure of the MNOs to conclude any manner of access agreement has the potential, in terms of its impact, to limit competition at both the wholesale and retail level. Clearly, the foreclosure of competitors at the wholesale level through the denial of access will inevitably dampen the effects of competition at the retail level in an already highly concentrated market. Overall, such behaviour is not beneficial to the market and retards competition at the wholesale and retail levels.

Response to Question 35

F.376 A majority of respondents agrees with ComReg's analysis of potential competition problems. Vodafone and O_2 argue that they are not in a position of collective dominance and that ComReg's analysis is flawed, based on factual errors, and inconsistent with recent EC case law (primarily *Airtours*) and other

Notification - Wholesale mobile access and call origination Commission guidance.

F.377 One respondent believes that ComReg, in conjunction with consumer regulators, should also investigate the contractual terms surrounding SIM locking and the length of consumer contracts. The respondent argues that the longer it takes and the more difficult it is for a consumer to exit a contract and release a SIM lock on his or her mobile telephone, the less likely it is that the consumer will be able to take advantage of new entrants in the market. The respondent also believes that ComReg should investigate whether mobile access surcharges for Indirect Access (IDA) and call-by-call toll-free access numbers should be banned in order to enable new entrants to compete for particular customer types (*e.g.*, regular international callers) and to encourage greater diversity in market offerings.

ComReg Position

F.378 The outgoing mobile market may either be wholly competitive or it may exhibit market power exercised either by an individual operator or on a unilateral basis or in a co-ordinated way by a group of operators. That market power might attain the level of dominance, if it enables the firm or firms to behave independently of customers or competitors. Threats to competition can arise even in the absence of any single dominant firm. This is particularly the case when firms engage in tacit collusion since their behaviour may approximate that of a single dominant firm. In that context, the intensity of competition at the level of the network operation will be limited or less optimal.

F.379 Having carefully considered the issue of (joint) dominance in the relevant market taking on board responses to consultation, ComReg believes that Vodafone and O_2 are jointly dominant in the wholesale mobile access and call origination market. This is manifested in their ability to act independently on the market without having to consider competitive pressures, in particular, the ability to behave in a substantially independent manner with regard to other participants in this market. ComReg's position is further detailed in Sections 4 and 6 of the main document.

Consultation Question 36

Q. 36. Do you agree with the principles which ComReg believes should be used when selecting remedies? Do you think there are other principles that ComReg should consider when selecting appropriate remedies? Please elaborate your response.

Proposed Market Remedies - Principles to be applied

F.380 When selecting appropriate remedies to address the competition problems identified in this market, ComReg has to abide by a number of principles. ComReg has an obligation to consider the objectives of Section 12 of the Communications (Regulation) Act 2002 (to promote competition, to contribute to the development of the internal market, and to promote the interests of users). Furthermore, Regulation 9 of the Access Regulations requires that any obligations imposed by ComReg must be based on the nature of the problem identified, be proportionate and be justified in the light of the objectives laid down in Section 12 of the Communications Act 2002.

F.381 As stated previously, potential competition problems in this market appear to be primarily structural in nature, suggesting that some form of mandated access to network infrastructure may be a proportionate remedy to increase competition at both the wholesale and retail level. ComReg is aware that access remedies imposed must facilitate further competition by providing access on terms and conditions that promote efficiency and sustainable competition, while being mindful of the need to encourage efficient investment in infrastructure and promote innovation.[67]

F.382 While ComReg is obliged to impose the least burdensome and most effective remedy or remedies to address the competition problems in this market, the interplay of a number of remedies might often be necessary. Therefore, the remedies available to ComReg in the Access Regulations and Universal Service Regulations could be seen as a complementary suite of remedies that support and reinforce each other.

Response to Consultation Question 36

F.383 A majority of respondents agrees with ComReg's analysis. Vodafone and O_2 disagree and argue that ComReg's analysis is flawed and leads to an inappropriate remedy (*i.e.*, national access roaming obligation). More specifically, Vodafone and O_2 argue that ComReg has failed to examine whether it would be more efficient to require Meteor and '3' to build out their own network infrastructures rather than introducing a national roaming access obligation. Vodafone and O_2 further argue that ComReg has failed to consider the effect of a national roaming access obligation on investment incentives for Vodafone, O_2, Meteor, '3' and any future potential entrants.

ComReg's Position

F.384 In light of the market analysis and the competition problems identified in this review, ComReg believes that the principles applied when selecting remedies for market failure, in the market for wholesale access and call origination, are appropriate. As noted above, ComReg has selected remedies which should be applied where there is evidence of structural competition problems, which result in ineffective competition in the relevant market.

Proposed remedies to enhance competition

F.385 ComReg's market analysis in previous sections suggests that market forces alone have not engendered effective competition in the mobile market for wholesale access and call origination. This lack of effective competition at the wholesale level appears to have effects at the downstream retail level. ComReg believes that regulatory intervention through the imposition of appropriate remedies may be required at this time in order to restore proper incentives for mobile network operators to compete against each other.

[67] Access Regulations Regulation 13 (2), Access Directive recital 19.

Consultation Question 37

> **Q. 37. In light of the market analysis, should ComReg apply remedies at the level of the retail market (*e.g.* controls on retail prices) as well as at the wholesale level?**

F.386 While ComReg can potentially impose remedies at the retail or wholesale level to stimulate competition, the Commission recommends that even where there are competition problems at the retail level, regulatory controls at the retail level should be considered where wholesale measures fail. Given the above and the fact that competition problems in this market appear to be predominantly structural in nature, ComReg's preliminary view was that remedies at the wholesale level, rather than at the retail level, are the most appropriate to address competition problems in this market for the period of the review.

Response to Q37

F.387 The respondents unanimously agree that ComReg should not impose remedies at the retail level until and unless it is clear that ComReg's wholesale level remedies are ineffective. The parties cite various legal authorities in support of this argument, including the new EU Framework, Article 26 of the Universal Services Directive, and the Recommendation on Relevant Markets Explanatory Memorandum, each of which suggests that retail level remedies should be used only as a last resort.

F.388 These operators would argue that remedies at the retail level would be disproportionate and fail to address the core of the market failure, *i.e.*, enhanced network competition. Moreover, imposition of retail controls will not encourage technical or commercial innovation.

Conclusion

F.389 ComReg has taken on board the views of respondents and believes that direct retail price control should only be considered where the specific market characteristics mean that other measures are unlikely to overcome the market failure. ComReg's maintains its view that remedies at the wholesale level, rather than at the retail level, are the most appropriate to address competition problems in this market. Retail price controls are not a tenable option at this time but ComReg may reconsider the issue of price control in future periods if appropriate.

Consultation Question 38

> Q. 38 Do you agree that the proposed remedy is in line with the principles set out by ComReg for selecting remedies? Please elaborate your response.

F.390 ComReg, in consultation, set out why it believes the national roaming obligation outlined is consistent with Section 12 of the Communications (Regulation) Act 2002. The introduction of national roaming can promote competition at the retail and wholesale level, as this allows non-SMP MNOs to provide an equivalent mobile service in terms of mobile network coverage when

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F.391 The objective of contributing to the development of the internal market contains a number of sub-objectives, including: the obligation to ensure that in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services; and to co-operate with other NRAs and the European Commission in a transparent manner to ensure consistent regulatory practice. ComReg plans on consulting with other NRAs and the Commission in line with the process set out in the Framework Regulations, thus supporting the objectives of transparency and consistency of regulation within the internal market. Additionally, the inclusion of a non-discrimination obligation with respect to national roaming supports this particular objective.

F.392 With regard to the objective of promoting the interests of users, the national roaming obligation proposed above contributes to this objective, by increasing the level of competition in the retail and wholesale markets.

F.393 Overall, ComReg believes that the national roaming obligation proposed in this section assists in addressing the nature of the problem, is the least burdensome and most effective remedy, and is also in line with the objectives of ComReg, as set out in section 12 of the Communications Regulation Act 2002.

Response to Question 38

F.394 A majority of the respondents agrees with ComReg's proposed national roaming access obligation. Vodafone and O_2 disagree and argue that ComReg's proposed remedy is not in line with the principles set forth in its own Consultation Paper or with Article 81 of the EC Treaty or the ERG/EC document on appropriate remedies. Vodafone and O_2's primary argument is that ComReg has failed to address the feasibility of replication of infrastructure by Meteor (rather than being granted access to Vodafone or O_2's network infrastructure) and has improperly assumed, without analysing alternative remedies, that the only available remedy is a national roaming access obligation.

ComReg Position

F.395 ComReg considers that the de facto duopoly that exists between Vodafone and O_2 is particularly conducive to the types of behaviour (tacit price collusion etc) necessary to exercise market power. The SMP enjoyed by these MNOs will not be diluted in any meaningful way in the absence of appropriate and proportionate ex ante regulatory measures being taken.

F.396 The remedies most appropriate to address the market failure identified in the relevant market are remedies aimed both at increasing competition via existing mobile network operators, and remedies aimed at increasing competition via service provider access. These remedies aim to remove any distortions that are occurring in the relevant market, such as the collective ability to exclude alternative access and call origination operators, resulting in prices to end users which are above the competitive level. ComReg's position is further detailed in Sections 6 and 7 of the main document.

National Roaming Remedy

F.397 ComReg was of the view that the introduction of wholesale national roaming access can enhance competition at the wholesale and retail level. ComReg's consumer survey[68] indicated that coverage is an important factor that consumers consider when choosing their mobile service provider, with 65% of respondents rating geographic coverage as very important when choosing a mobile phone package. This suggested to ComReg that mobile subscribers value more items than just price when choosing their mobile service provider.

F.398 ComReg believed that wholesale national roaming access on 2G networks for an appropriate period had the potential to improve the non-SMP MNOs' ability to compete with Vodafone and O_2, by allowing them to offer nationwide services as they build out their networks. Additionally, ComReg believed that a national roaming obligation may also increase competition at the wholesale level, as it allows non-SMP MNOs to offer access and call origination products with equivalent levels of coverage as the SMP Operators, thus increasing their attractiveness to potential service providers.

F.399 In the consultation document, ComReg proposed a national roaming obligation and a number of the terms and conditions relating to this obligation. ComReg proposed that this obligation should only apply to "2G networks" and that a non-SMP MNO should have rolled out radio network infrastructure serving at least 20% of the population before this obligation becomes effective. With regard to the timing of the introduction of a national roaming obligation on SMP operators, ComReg was minded to introduce a national roaming remedy as soon as is practicable following the conclusion of the consultation. Question 39 of ComReg's consultation requested views on the appropriate form of national roaming access obligation.

F.400 Section 7 of ComReg's consultation set out in more detail the specific terms of ComReg's proposed national roaming obligation. The specifics discussed in that chapter included;

- General process for implementing a national roaming obligation
- Additional obligations on SMP-MNOs;
- Pricing methodology for setting a national roaming price;
- Duration

F.401 Regarding the general process for implementing a national roaming obligation, ComReg encouraged MNOs to introduce national roaming based upon commercially agreed terms. However ComReg indicated that where commercial agreements fail to lead to an agreement, ComReg believed that regulatory intervention is required. ComReg proposed an approach based upon an escalating series of requirements incorporating an interim decision stage and a final decision stage. Consultation question 55 to 57 asked for views on this general process.

[68] ComReg Consumer Survey, ComReg Document No. 03/127b

F.402 ComReg's consultation also discussed additional obligations that may be placed on SMP-MNOs. These additional obligations related to Transparency (question 58), Non-discrimination (question 59 and 60), and accounting separation and cost accounting systems (question 61). Additionally, ComReg requested views on whether there were any other alternative national roaming remedies that ComReg should consider (question 62).

F.403 Regarding the pricing methodology for national roaming, ComReg discussed the merits of a retail-minus and cost-orientation approach. Consultation question 63 and 64 asked the respondents for their views on this issue.

F.404 Finally, ComReg discussed the duration of a national roaming agreement. ComReg proposed that the duration of a national roaming agreement should be in the region of three to five years. Consultation question 65 sought views on this issue.

Consultation Questions 39 and 55 to 65

Q. 39 What form of national roaming access do you think is the most appropriate for ComReg to impose? Are there specific wholesale products or any specific technical specifications which you think are required for each form of access? Please elaborate your response

Q.55 Do you agree with the principle of an "escalation" approach when implementing the proposed national roaming remedy?

Q.56 Do you agree with each of the specific requirements of the "escalation" approach to remedies for the proposed national roaming remedy?

Q.57 What are your views on a price control for national roaming?
Please elaborate your response.

Q.58 Do you agree with the proposed transparency remedy for national roaming? Please elaborate your response.

Q.59. Do you agree with the proposed non-discrimination remedy for national roaming?

Q.60 Do you think that the non-discrimination obligation for national roaming should apply where there is no regulatory intervention required in the concluding of a national roaming agreement?
Please elaborate your response.

Q.61 Do you agree with the proposed accounting separation and cost accounting systems remedy for national roaming? Please elaborate your responses.

Q.62 Do you think that there are alternative remedies that may be appropriate to consider when implementing the proposed national roaming remedy?
Please elaborate on your response.

Q.63 Do you believe that the "retail-minus", cost oriented price or some other method is the appropriate approach to pricing national roaming?

Q.64 What problems do you foresee if any in the calculation of a "retail-minus" price and in the implementation of accounting separation and cost accounting systems, if necessary, for these calculations? Do you agree with the way in which ComReg intends to carry out its retail price calculations?
Please elaborate on your responses.

Q.65 Do you agree with ComReg's proposed duration for a national roaming agreement? Please elaborate on your views.

Responses to Consultation Questions 39 and 55 to 65

F.405 In general the majority of the respondents agree with ComReg's proposed national roaming access obligation believing that it will benefit competition in the market. Three respondents disagree with ComReg and believe that it is inappropriate for ComReg to mandate any form of national roaming access as such regulatory intervention is unjustified since ComReg has not demonstrated that there is dominance in the relevant market. These respondents believe that national roaming should be left to the industry to negotiate freely and independently on an independent basis.

ComReg Position

F.406 Section 6 of the main document details ComReg's Position in relation to the remedies proposed for this market. The responses to the above questions have been taken into account by ComReg in the formulating the remedies proposed for this market. As previously stated in Section 6, ComReg believes that it is appropriate to impose an obligation in relation to network access that includes an obligation to provide national roaming to other network operators who have built out at least 20% of their networks.

Mobile Service Provider Access Remedy

F.407 ComReg's consultation also discussed the possibility of mobile service provider access as a potential remedy for this market. This discussion was divided into a number of sections. Question 40-45 and 50 discussed general aspects of mobile service provider access, while other sections of the consultation discussed the relevant price (question 46-48) and non-price issues (question 49) that may be associated with a service provider access remedy. This document discusses each of these areas.

Consultation Question 40 & 41

Q.40 Do you believe that the proposed national roaming condition is sufficient to bring the relevant market to an effectively competitive level?

Q.41 Do you believe that the level of competition can be increased by the introduction of service provider access obligations?

Please elaborate your response

F.408 ComReg stated in its consultation, that the proposed national roaming obligation, by itself, may not be sufficient to get an effectively competitive retail market. ComReg was therefore considering a range of possible wholesale access remedies which would encourage market entry at the wholesale level, thus increasing competition at the retail level, including:

a. independent service providers, on the basis of competitive wholesale airtime possibilities;
b. indirect access operators, on the basis of wholesale call origination offered by Vodafone and O_2, including carrier selection or carrier pre-selection; and / or
c. MVNOs, on the basis of being afforded access to the radio access networks of Vodafone and O_2, which would allow them to offer mobile subscriptions.

F.409 ComReg outlined a number of advantages and disadvantages to each of the above access methods and noted that the extent of the benefits to competition depends upon a number of factors, including the form of service provider, the nature of their mobile service offering, including their marketing/branding strategy, and their tariff packages. In considering a service provider obligation ComReg has to consider whether this encourages efficient investment in infrastructure, promotes innovation, efficiency and sustainable competition. Finally, ComReg stated that should ComReg impose a service provider remedy, ComReg may follow a process similar to that outlined for national roaming to implement remedies and will further consult where appropriate.

Response to Question 40 & 41

F.410 With regard to question 40, a majority of the respondents believe that the proposed national roaming access obligation is sufficient to bring the relevant market to an effectively competitive level. Two respondents disagree with ComReg and believe that it is inappropriate for ComReg to mandate any form of national roaming access as such regulatory intervention is unjustified since ComReg has not demonstrated that there is dominance in the relevant market.

F.411 With regard to question 41, four out of seven respondents agreed that the level of competition in the Irish mobile market can be increased with the introduction of service provider access obligations. These respondents argued that service provider remedies are required in addition to a national roaming access obligation in order to achieve truly effective competition in the Irish mobile market.

F.412 Similar to question 40, two respondents argued that any form of mandated obligation is not necessary as ComReg has failed demonstrate that there is dominance in the relevant market.

F.413 Furthermore, the three disagreeing respondents argued that a national roaming access obligation at the wholesale level is a sufficient remedy on its own and that the introduction of service provider remedies would be inconsistent with EC case law, particularly *Airtours* and Tetra Laval, and that service provider remedies would result in the distortion of investment incentives in the market.

F.414 Finally one of these respondents believed that any move to regulate the terms of service provider access could result in severe long term damage to the mobile industry in Ireland, and in particular to the level of infrastructure competition that exists. In this regard, the respondent list a number of factors:

- It would be wholly disproportionate to impose such a remedy at this point in time when it is not clear (a) that there is any unmet demand for access and (b) that any such demand could not be met on a commercial basis.
- The provision of wholesale access represents a significant commercial opportunity for operators, particularly late entrants, as it provides them with an additional route to market. The possibility of regulated access might undermine the possibility of such access being agreed on commercial terms.
- A mandated access remedy would almost certainly fail to meet the objective of stimulating increased competition, as the operators who would be affected the most would be Meteor and ‘3’.
- If access terms are regulated, then it is likely that the regulated price for such access will be too low, thus affecting incentive for infrastructure investment. Additionally the costs of risk are not typically included in regulated access prices.
- Mandated indirect access could have particularly pernicious effect on competition in the mobile market, as it would undermine network operator’s ability to compete effectively across the full cluster of services.

Consultation Question 42

Q.42	Do you believe that ComReg should impose service provider obligations in combination with the proposed national roaming remedy to increase the level of competition in the relevant market?
Please elaborate your response	

Responses to Question 42

F.415 Similar to the answers to question 41, a number of respondents believed that ComReg should impose a service provider obligation, while an equal number of respondents believed that this was not necessary. As outlined in earlier questions two of the respondents believed that no regulation is required in this market, while two other respondents believed that there is no evidence to suggest that wholesale arrangements will not emerge, particularly as the later entrants conclude a national roaming agreement and seek to find new revenue streams.

Consultation Question 43 – 44

Q.43	Which form or forms of service provider access do you think are the most appropriate for ComReg to impose: indirect access operators; MVNOs; independent service providers? Are there specific wholesale products or any specific technical specifications which you think are required for each form of service provider access? Are there other forms of service provider access which you believe that ComReg should also consider?
Q.44	Do you have comments on ComReg’s definition of an MVNO in the context of service provider access? Do you believe that other MVNO definitions exist that are more appropriate? Please elaborate on your views.

Please elaborate your response

Response to Question 43 & 44

F.416 As noted above a number of respondents expressed the view that any mandated form of service provider is not warranted in the market as either a) ComReg has not demonstrated that there is dominance in the relevant market or b) it is likely that such offerings will be delivered commercially by market forces. Of these respondents, one indicated that it is inappropriate for ComReg to attempt to prescribe the types of operators that should be granted access or the products or technical specifications that should be on offer.

F.417 The remaining respondents answering these questions supported ComReg's proposal for a service provider obligation.

F.418 One respondent suggested that indirect access operators would be the most appropriate form of service provider as these operators could have an immediate impact in the market. Another respondent agreed with ComReg's assessment and categories of service providers but did not comment on the appropriate form of service provider.

F.419 The remaining two respondents suggested that MVNOs are the most effective form of service provider to bring competition to the retail market. One of the reasons for this view is that MVNOs can add value to the market with investment and innovation in product development and customer service. However, overall both of these respondents did not rule out other forms of access as one of these supported the introduction of any form of commercially viable access while the other believed that ComReg should encourage "sustainable" entry that contributes to the objectives of improved price choice and quality.

F.420 With regard to question 44, the majority of the respondents did not provide a view on ComReg's MVNO definition, but re-iterated their comments in relation to previous questions. Of those who submitted specific comments two respondents supported ComReg's definition of a MVNO as this matches accepted international practice.

F.421 One respondent believed that MVNOs can be defined into two categories, namely "Pure MVNOs" and "MVNO Light." A "Pure MVNO" is one that owns switching capacity and data transmission infrastructure and may even be a full Telco with interconnect facilities. A "MVNO Light" owns minimum infrastructure and concentrates on branding, distribution, sales and marketing.

Consultation Question 45 and 50

Q.45 Do you have any comments on the process which ComReg should follow to implement a service provider access remedy, if deemed appropriate?

Please elaborate your response

Q.50 Please comment on the level of regulatory certainty required on such issues as pricing, service levels *etc.*, that service providers would require before choosing to enter the market using this access method?

Response to Question 45 and 50

F.422 Similar to the responses provided to other question, a number of respondents expressed the view that any mandated form of service provider is not warranted in the market as either a) ComReg has not demonstrated that there is dominance in the relevant market or b) it is likely that such offerings will be delivered commercially by market forces.

F.423 Of the respondents who proposed that ComReg mandate service provision one respondent suggested that ComReg introduce its proposed service provider access obligations immediately rather than waiting for the national roaming remedy to be implemented. It believed that it could take six months before national roaming can be established and then a further six months before the slightest effect on the market can be seen. A subsequent consultation on service provision could naturally take a further six months. Overall it believes that Irish consumers should not wait a further two years before experiencing the level of competition and choice of products that is present on the EU market.

F.424 One respondent commented that an investment in even a resale based operation requires a significant investment and an investment in MVNO requires substantially more. Such a model has typically a payback time of several years and some level of certainty is required. Other respondents commented that standard SLAs, a published rate sheet, payment terms and a renewable service contract would be required.

Consultation Questions 46 – 48

Q.46 Which pricing methodology do you believe is the most appropriate for the different forms of service provider access?
Q.47 Do you believe that different pricing methodologies for different classes of service provider access operators are appropriate? What alternative pricing remedy do you consider to be preferable?
Q.48 Where a differentiated pricing regime for service provider access is proposed, what approach to access pricing should be adopted in the cases of an MVNO; wholesale airtime; indirect access?
Please elaborate your response.

F.425 In this section ComReg discussed a number of pricing issues that relate to the provision of service provider access. These included a the appropriate method for setting a price and whether ComReg should consider applying different approaches to pricing alternative mobile access and call origination products. In discussing the appropriate method for setting a price, ComReg discussed a number of approaches including "retail-minus" and cost-orientation. ComReg sought views on these issues.

Response to Question 46 - 48

F.426 Similar to the response to previous questions on service provider access, a number of respondents expressed the view that it is premature to discuss pricing issues for service provider access as it is not clear that any mandated form of service provider is not warranted or appropriate for the market. These respondents believe that a free and independent commercial negotiation without regulatory constraints is appropriate. Nevertheless these respondents provide some views on these questions.

F.427 One respondent added that cost plus pricing in particular for an industry that continues to require significant levels of investment would do significant harm and jeopardise long term investment. Another respondent added that setting an access price is not about imposing a price structure, but is supposed to be a function of encouraging efficient entry and preserving the interest to invest. Another respondent stated that the imposition of cost-orientated pricing will seriously undermine their future viability, as such wholesale services are likely to represent an important revenue stream for them.

F.428 One respondent argued that ComReg should leave service providers to negotiate mutually satisfactory supply conditions with the MNOs supplying access. This respondent supports ComReg's intervention to regulate prices only when commercial negotiations fail. It believes that retail-minus is a second-best option to strict cost-oriented prices (perhaps as an interim approach driven by expediency).

F.429 One respondent recommends cost-plus pricing and believes that the need for different pricing regimes depends upon the market being served, e.g. consumer versus business offerings. Another respondent believes that the less complicated the work required by the network operator, the closer the pricing can be evaluated to cost plus. It states that the MNO resources used by a service providers depends upon the model used. For models that require less intervention from the MNO, e.g. an infrastructure based MVNO, a cost oriented pricing is more appropriate. For other models a retail-minus basis is more relevant.

Consultation Question 49

Q.49	With regard to service provider access, which form of non-price remedy, if any, do you think is appropriate for ComReg to impose? Please elaborate on your views.

F.430 In addition to access and price-related remedies, ComReg is aware that remedies aimed at addressing the non-price competition problems may also be required. Depending upon the competition problem and the specific form of mandated access, remedies according to Regulation 10 (Transparency) and 11 (Non-Discrimination) of the Access Regulations may be appropriate.

F.431 For example, a transparency obligation could include the obligation to publish technical specifications, network characteristics, terms and conditions for supply and use and prices. A non-discrimination obligation may require the SMP operator to treat equivalent undertakings in an equivalent manner. Where an SMP operator has a non-discrimination obligation, ComReg may also require the SMP operator to publish a reference offer of sufficient detail.

Response to Question 49

F.432 Similar to answers to previous questions a number of respondents believe it is premature to consider the remedies for service provider access.

F.433 One respondent believes that an obligation to negotiate, and an escalation process followed by ComReg arbitration would be sufficient to ensure the successful and timely completion of commercial agreements.

ComReg Position

F.434 Section 6 of the main document details ComReg's Position in relation to the remedies proposed for this market, including service provider access. The responses to the above questions have been taken into account by ComReg in the formulating the remedies proposed for this market. As stated in Section 6, ComReg proposes to impose an obligation to provide network access on foot of a reasonable request by an access seeker.

Proposed Market Remedies

F.435 As outlined in ComReg's consultation document 04/05, ComReg was of the preliminary view that the most appropriate remedy to address the competition problems identified is access to the networks of SMP mobile operators. With regard to this obligation, ComReg believed that there are a number of obligations which may be appropriate to introduce to ensure that access to mobile networks is on both fair and reasonable terms. These remedies are outlined below:

Transparency

F.436 ComReg believed that a transparency obligation is appropriate in order for ComReg to ascertain whether MNOs have met their obligations. MNOs would be required to submit copies of their access agreement to ComReg to ensure that they have met their obligations.

Non-Discrimination

F.437 ComReg believed that, a non-discrimination obligation is required to ensure that equivalent undertaking receive equivalent access services. In this regard, ComReg's understanding of non-discrimination for equivalent undertakings is guided by the application of that principle used under Article 82 EC.

Accounting Separation and Cost Accounting Systems

F.438 In order to collect information to implement any access remedies, ComReg believed it is appropriate in principle to require the SMP MNOs to prepare separated accounts and develop appropriate cost accounting systems. Given the need for a timely resolution to any access agreement, ComReg believed that it is appropriate to impose this obligation following the SMP notifications. The details of its implementation and nature of separated accounts will be consulted on separately. For an outline of issues concerning Accounting Separation and or Cost Accounting Systems obligations and implementation, previous ComReg and ODTR consultations, in particular, the mobile accounting separation consultation,[69] and European best practice should be consulted.

Consultation Question 51

[69] ComReg Document No 02/86

Q.51 Do you agree with the proposed introduction of Transparency, Non-Discrimination and Accounting Separation and Cost Accounting Systems remedies to ensure fair and reasonable terms for access to mobile networks? Please elaborate your response.

Response to Question 51

F.439 Similar to the replies to the other questions, a number of respondents do not believes that remedies are appropriate for this market.

F.440 One respondent believed that ComReg has not provided adequate reasoning with regard to these additional remedies particularly if it is ComReg's intention to impose obligations regardless of whether commercial negotiations are successfully concluded or not.

F.441 One respondent express support for these remedies. However this support is only for a national roaming obligation as this respondent does not believe that a service provider remedy is appropriate.

F.442 One respondent argued that it would only be appropriate for ComReg to introduce these remedies when an MNO and an access seeker have been unable to conclude commercial access agreements within a reasonable period.

F.443 The remaining respondents supported ComReg's proposed additional SMP remedies, although one of these respondents withholds its judgement on the accounting-related remedies.

ComReg Position

F.444 Section 6 of the main document details ComReg's Position in relation to the remedies proposed for this market. The responses to the above questions have been taken into account by ComReg in the formulating the remedies proposed for this market. As previously stated in Section 6, ComReg believes that it is appropriate to impose the following obligations:

- An obligation to provide network access on foot of a reasonable request by an access seeker.
- An obligation of non discrimination;
- An obligation of price control to be implemented by way of cost orientation;
- An obligation to prepare separated accounts; and
- An obligation to implement appropriate cost accounting systems.