

Final report for ECTA

Europe's digital deficit: revitalising the
market in electronic communications

3 March 2010

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I Executive summary

I.i Context

Competition has been one of the main forces behind choice, value and innovation in telecoms markets. It has led the way in the development of new services, in reducing prices, and in stimulating demand.

The creation and widespread use of high-speed networks and services are important goals for the European Digital Agenda. The role of effective competition in driving service quality, availability and take-up remains equally valid with the transition to fibre-based fixed networks and high-speed mobile networks.

There is a widespread assumption that competition is effective today, and in some service markets (notably consumer broadband) undoubtedly significant progress has been made. However, competition is often less developed than may be desirable.

Many countries show high, and stable or even increasing market shares for the incumbent. For example, in the fixed calls market, incumbents still retain 60-70% of the retail market by value, whilst broadband retail market shares remain unbalanced as seen for six EU member states in Figure I.1 below.

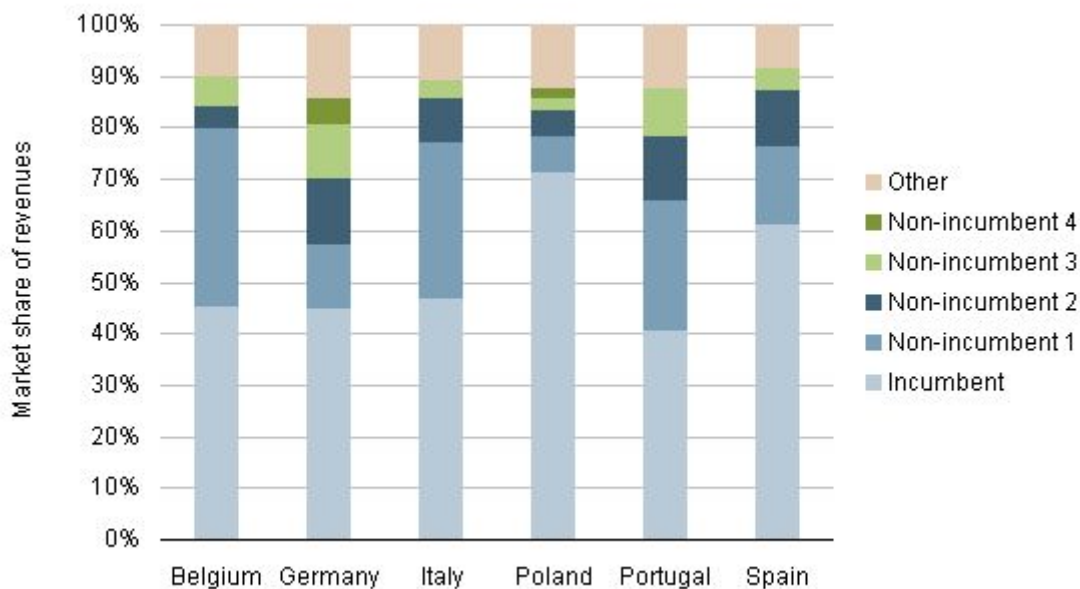


Figure I.1: Market shares in the retail broadband market in six EU countries [Source: Analysys Mason Research]

Major competitors remain significantly less financially secure than incumbents with EBIT margins significantly lower (as seen in Figure I.2) and capex equal or higher as a proportion of revenues. Incumbent EBIT margins have been maintained even whilst they are making investments in FTTx networks.

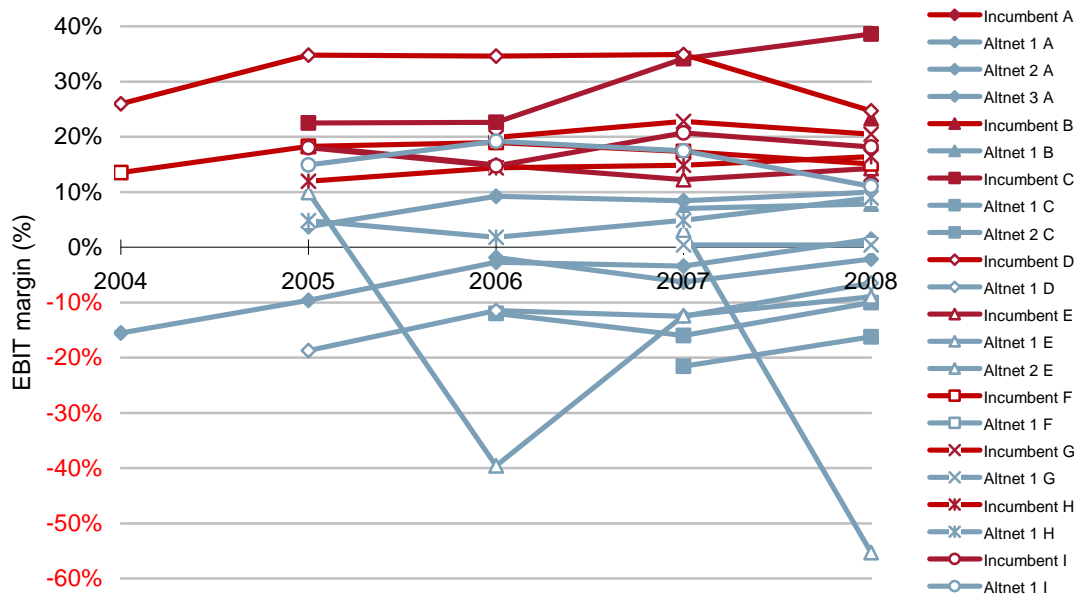


Figure I.2: Benchmark of Incumbent and competitive operator EBIT margins [Source: Operator data, Annual reports, Telegeography]

Many European consumers and businesses have a limited choice of suppliers and are paying more than they should or are receiving sub-standard speeds or services. We calculate the additional consumer surplus (from lower prices, and where relevant higher volumes) that could be generated from improved competition as EUR25 billion per annum.

Whilst ARPU for broadband Internet services are slowly varying and do not appear to be strongly influenced by the level of competition, we estimate that competition has materially improved the speeds available to most EU citizens such that they can afford to purchase 8Mbit/s or more, compared with around 2Mbit/s which has been the outcome in less competitive countries. Consumers have therefore been able to benefit from more advanced retail services and bundles. The effect of unbundling on speeds available for a standard price of around GBP20 per month in the UK can be seen in the figure below, showing strong declines in the price of 8Mbit/s broadband which correlate with the arrival of large-scale unbundling. We find similar patterns in other countries.



Figure I.3: Lowest market price for a specified speed broadband product over time in the UK [Source: Analysys Mason Research Broadband pricing study]

We have found a similar pattern of relatively high charges and/or speed restrictions for services provided over ‘next generation’ networks in countries in which effective wholesale access has not yet been created.

In Belgium, where VDSL has been deployed, ‘next generation’ speeds are not offered by the incumbent and an 18MBit/s triple play offer costs €70 per month compared with €20 for a similar offer in France provided over ADSL. We estimate that effective next generation wholesale offers could bring high speeds at lower prices to Belgian consumers and businesses and double the rate of high end broadband adoption in Germany.

Regulation is not yet sufficiently protecting the interests of consumers:

- Significant market power (SMP) remedies are lagging the market realities (e.g. as regards double- and triple-play products).
- Ex-post competition law cases have proved slow and rather ineffective in preventing abuse of dominance in the electronic communications sector. When combined with the enduring nature of remaining bottlenecks, and the persistently high market share of incumbents, the shortcomings of ex post enforcement in this context will limit the scope of national regulatory authorities (NRAs) to withdraw from ex-ante regulation of access to key facilities and services.

Evidence from a survey of competitive operators and analysis of available data particularly highlights discriminatory conduct by dominant firms which takes a number of forms, including:

- refusal to supply fit for purpose access to essential bottleneck facilities and services
- margin squeeze
- non-price discrimination including delay, inferior product quality and information asymmetries.

Examples documented in the main body of the report include:

- Refusal to supply FTTx-based access on reasonable terms¹ in Germany and Belgium, with similar issues likely to arise due to extension of fibre networks in other countries. Refusal to supply IP-based voice access in Germany.
- The lack in most countries of an IPTV-capable bitstream product, which prevents alternative operators from offering triple play services where unbundling is unviable (for example with the transition to FTTx networks or in less dense areas); refusal to sign contracts on the basis of the RIO in Poland; the lack of wholesale Ethernet access services or business-grade broadband access for businesses in many EU countries.
- Potential or proven margin squeeze relating to: broadband services or bundles in Poland, Italy and Portugal; fixed calls in Germany, Italy and Belgium; and mobile services in Belgium and Italy. The existence of aggressive and long-lived discounting regimes in Spain and Austria which may have similar effects.
- In many countries, non-price issues including: additional delays in activation for wholesale customers, poor ordering systems, rejection of valid orders, failure to comply with SLA.

There are fears that the competitive situation will significantly worsen if measures are not taken to prevent such discriminatory conduct in the delivery of next-generation services, where current evidence in a number of countries is not encouraging.

If action is however taken (by NRAs, competition authorities, and the Commission) to address discriminatory conduct, consumers would reap significant benefits. In particular, the take-up of high-speed, next-generation services could be materially increased.

I.ii Possible actions

Strong competition needs to remain a priority to complete the last 20 years' work towards a liberalised electronic communications market. For example, any amount of investment in next-generation access (NGA), however desirable, will not benefit typical subscribers if it results in monopoly or oligopoly, because high-speed services will be priced well above the typical average spend.

¹ Regarding for example date of availability, Multicast/IPTV capability, price.

Unbundling the copper loop has already led to massive benefits for EU citizens; it would be folly to ignore this strong success when building the next-generation network (NGN). Regulators and governments should therefore prefer NGA architectures and business models that can support retail service competition, ideally allowing unbundling.

We believe that in many circumstances high-speed wholesale access products (including bitstream) would also give strong benefits to consumers, either through lower prices, improved speeds, specialised entertainment or business services, or other features of the offer (e.g. contract duration). They will also increase high-speed broadband service take-up as a result.

NGA deployment models proposing 'risk sharing' need to be understood in light of the fact that even the more successful entrants have a smaller existing customer base than the incumbent and relatively poor cashflow; this may be as a result of anticompetitive behaviour by incumbents (noting that the courts have found competition law abuses by many incumbents). Most incumbents, on the other hand, have strong cashflow and a large customer base that could be transferred directly to a new network. Pricing or investment models that require large up-front investments or reward high volumes therefore risk creating barriers to entry and may result in foreclosure, undermining any potential benefits from competition.

The Commission has an opportunity to emphasise many of these points in its upcoming recommendation on NGA.

It should not be possible for a party subject to SMP remedies or general conditions to evade them simply by changing the technology over which they provide services. This may require care from NRAs in drafting market definitions or remedies during periods of technological change and additional Commission scrutiny in the Article 7 process.

The Commission and national regulators should set targets and monitor progress towards achieving competitive retail markets and closely monitor the use of key wholesale inputs which support competition under the European Digital Agenda.

Enforcement of SMP remedies under the existing ex-ante Framework needs to be strengthened.

- Non-discrimination, if properly enforced, is a powerful remedy especially if the concept of 'equivalence' (using the same inputs, at the same price and non-price conditions, and using the same systems and processes) is followed. Indeed, it offers the opportunity to ensure that networks remain open to competition as they are upgraded rather than on a case by case basis and with some delays, as well as providing guarantees on service levels. Nevertheless despite existing non-discrimination remedies there is endemic discrimination in many countries, showing how difficult it is to enforce. BEREC or Commission guidance on the use of non-discrimination might be useful.
- Functional separation, at least if effectively implemented so as to create the right structures, products, and incentives, can provide a useful means to enforce non-discrimination through creating positive incentive mechanisms and to break free of the slow and continuous battle

over availability and non-price conditions for wholesale products. There may however be a risk that less optimal functional separation measures might create additional delays, inefficiencies and costs, and could reduce regulatory certainty. There is a role for the Article 7 process in ensuring that any functional separation is well designed and meshes well with the other parts of the regulatory framework. Guidance could also be useful.

Persistent gaps between the profitability of even large scale entrants and the profitability of incumbents may warrant closer examination of access prices to ensure they are not excessive. The prices of regulated services, and their supporting cost models and accounting data, need to be coherent and transparent to market players and closely examined by NRAs. If necessary, action should be taken by BEREC or the Commission.

The Commission and national competition authorities should assess whether the competitive issues identified in this report such as denial of access to key inputs in relation to next generation networks, or margin squeeze (in broadband or triple play, fixed and mobile calls markets) may warrant ex post enforcement action or a wider review.

The Commission has an explicit role in cross-border trade in the internal market and should take greater interest in the provision of pan-European communications services to multinational businesses (large and small). A recommendation on this and related issues (regarding bitstream and point-to-point Ethernet links) might be useful; one possible outcome would be to recognise different market segments or the need for different remedies through the market analysis process.

Whilst the mobile market shows fewer difficulties than fixed, it does still have a number of worrying characteristics, including persistently imbalanced market shares in many EU member states. The dynamics of mobile competition and barriers to competition in the mobile sector could usefully be examined by the Commission.

The evolution of the retail market towards service bundles needs to be reflected by NRAs and may soon require the Commission to modify the definition of the retail markets that are examined in the context of Market 5 to take account of double- and triple-play developments. Competition will fail unless there is a suitable wholesale product for providing double- and triple-play products.

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Analysys Mason Limited
St Giles Court
24 Castle Street
Cambridge CB3 0AJ
UK
Tel: +44 (0)1223 460600
Fax: +44 (0)1223 460866
enquiries@analysysmason.com
www.analysysmason.com
Registered in England No. 5177472

1 Introduction

1.1 Purpose of report

The report was written for ECTA by Analysys Mason. It aims to:

- calculate the impact that improved competition would have on EU consumer welfare
- investigate the current status of competition in major EU communications markets through high-level financial indicators
- summarise a number of difficult issues of current interest, and provide case studies illustrating how these issues are in practice restricting competition in a number of EU states.

2 Consumers gain significant benefits in countries with more competition

2.1 Introduction

Competition in electronic communications provides important benefits for European consumers and businesses:

- It reduces prices, which in turn improves service take-up (based on price-elasticity of demand).
- It increases quality (including speed, as well as other service quality issues such as the availability of new services, e.g. TV over broadband).
- It makes sure that the industry operates efficiently.

It is therefore critically important that competition is allowed to function.

We have estimated at a high level the potential gain in consumer surplus that could be delivered to the European economy as a result of more effective competition in Telecoms markets. Rather than trying to quantify the consumer surplus impact of specific acts of discrimination or obstruction described later in the report, which would be very complex, we have sought to estimate the additional consumer surplus (e.g. lower prices, increased take-up) which could be generated if all EU countries were to achieve higher levels of competition.

To estimate the potential consumer surplus gain from achieving the levels of competition achieved in other EU countries, we have used different methodologies for the retail services and business services markets. These are described below.

2.2 Retail services

2.2.1 Methodology

For retail services, we have considered the following three markets: fixed voice calls², fixed broadband and mobile voice calls. Our methodology calculates the consumer surplus gain that could be achieved if the prices in all European markets were modified to reflect the prices that we expect would be achieved under improved competition as achieved in some European markets.

² Fixed access (line rental) has been excluded from this study as line rental prices are regulated in most countries, and are therefore relatively insensitive to the level of competition in each country.

Higher levels of competition in a country will deliver consumer surplus gains in three ways: by lowering prices, increasing take-up, and where relevant increasing the value of the service offered such as through increasing speeds. Increased competition will lower prices as operators are forced to offer better value. Increased competition will also result in increased take-up of services, either directly through the price elasticity of demand, or possibly through the increased attractiveness of higher quality or more accessible services.

The calculation of welfare gain from improved competition is shown in Figure 2.1.

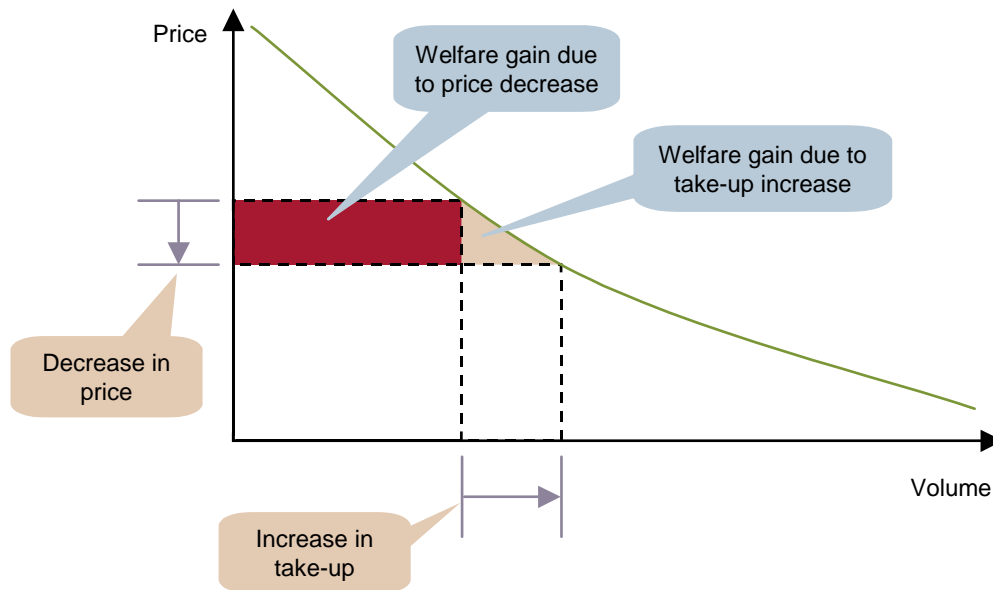


Figure 2.1: Calculation of welfare gain [Source: Analysys Mason]

The total welfare gain in each country (assuming an approximately linear demand curve) is therefore:

$$([\text{current price}] - [\text{future price}]) \times [\text{current service take-up}]$$

+

$$([\text{current price}] - [\text{future price}]) \times [\text{increase in service take-up}] \times \frac{1}{2}$$

where *[future price]* is given by the current price adjusted according to the measured linear relationship between PPP adjusted current price and metric of competitiveness, for an assumed future level of competition.

To calculate the consumer surplus gain in each of the retail services markets, we have made a number of assumptions. These included a measure of competitiveness, a pricing metric, a way to adjust prices to compare them across borders, a volume metric, a way to adjust prices to allow for the effects of increased competition, and a way to estimate the effect of lower prices on demand. These assumptions are summarised in Figure 2.2, and detailed in the following sections.

| <i>Assumption set</i> | <i>Fixed voice</i> | <i>Mobile voice</i> | <i>Fixed broadband</i> |
|---|--|---|-------------------------------------|
| Measure of competition | Incumbent share of voice call revenue | Herfindahl-Hirschman Index ³ | |
| Cross-border price adjustment | Purchasing power parity | | |
| Price metric | Price per minute | | Retail revenue per line |
| Correction to price metric | Reduced revenue per minute or retail revenue per line respectively based on relationship between measure of competition and adjusted price | | |
| Assumed improvement in competition | Reduction of incumbent market share of revenue by 50% of its current excess over 40% | HHI reduces to current lowest HHI for markets with the same number of players | HHI reduces to 80% of current value |
| Volume metric | Outgoing voice minutes | | Subscribers |
| Variation in demand due to improved competition | No variation | Price elasticity of demand = -0.4 | No variation |

Figure 2.2: Assumption set for welfare gain modelling [Source: Analysys Mason]

For each service, we have examined the effect of competition on prices, and have examined the likely average effect on prices of increasing the level of competition.

We have used a purchasing power parity (PPP) conversion to examine the effects of competition. This conversion allowed us to account for any differences in purchasing power across the markets, and so help distinguish the effects of competition from other macro-economic factors.

Our rationale for the assumptions in each market is given below.

2.2.2 Fixed voice

We have excluded line rental costs from this calculation, and focused exclusively on traffic-driven revenue. We have used Analysys Mason Research figures which include retail revenue generated by circuit-switched and retail VoIP fixed voice calls; 'free' minutes within bundles are not ascribed notional revenue in these figures⁴.

We have conservatively set the price elasticity of demand for fixed voice minutes to zero (i.e. lower call prices do not increase call volumes).

³ The Herfindahl-Hirschman Index (HHI) is a simple metric that quantifies the concentration of market power. HHI is defined as the sum of the squares of the market shares of the firms in the market, and a lower HHI typically corresponds to a more competitive market.

⁴ Wider use of VoIP could potentially lead to an even greater consumer welfare gain than estimated here, because VoIP services can have much lower prices especially for high-usage customers.

Incumbent share of fixed voice call revenue was used as the competition metric because it is a cleaner metric than market share (and HHI) due to the various fixed calling products available, including those which can allow a single user to make calls over multiple service providers (e.g. carrier select, voice-over-broadband). The relationship between incumbent share of revenue and price per minute in European countries is shown in Figure 2.3 and suggests that a lower share of revenue for the incumbent is associated with lower prices.

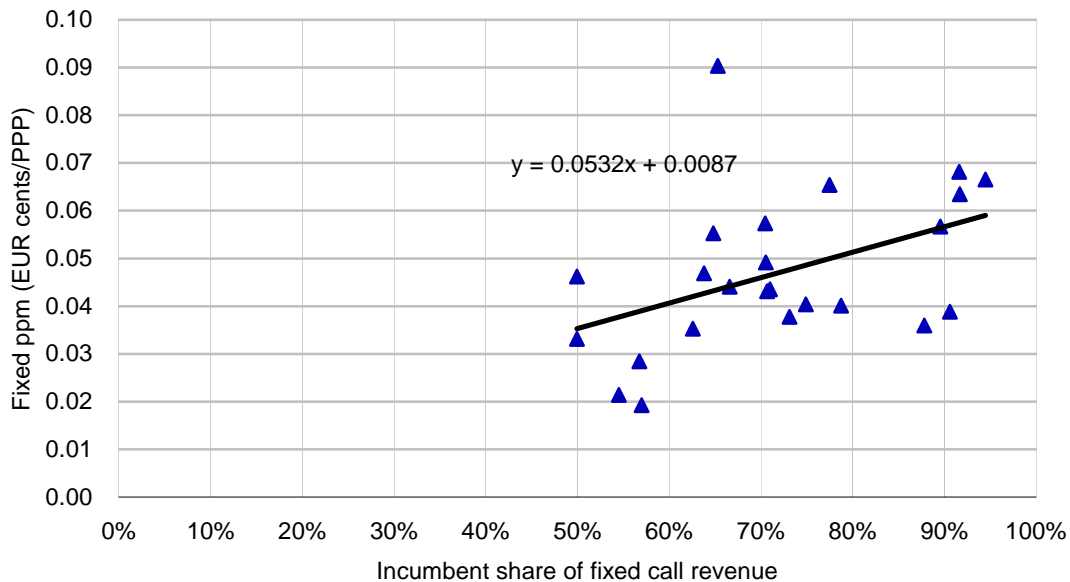


Figure 2.3: Relationship between incumbent share of revenue and fixed price per minute (ppm).
[Source: Analysys Mason]

We calculate the likely future price in a more competitive scenario by adjusting each price in accordance with the linear fit shown above, assuming that in each country the incumbent share of fixed call revenue could be reduced to a point halfway between the current level and 40% of the market⁵.

Our model suggests that decreased market concentration would result in a lowering of the fixed call price per minute which would result in consumer surplus gains of approximately EUR5 billion per annum. The gain in consumer welfare in fixed calls represents 17% of the total European revenue from fixed voice calls in 2008.

⁵ This is not a very aggressive target, given that retail fixed voice calls are thought by the Commission to be prospectively competitive and not to require a relevant market

2.2.3 Mobile voice

For mobile voice we also used a price per minute measure. In order to estimate any increase in demand due to a reduction in price, we used a price elasticity of demand of -0.4 (based on our own analysis of European benchmarks).

The relationship between HHI and mobile price per minute for European countries is shown in Figure 2.4 and again suggests that lower concentration is correlated with lower prices.

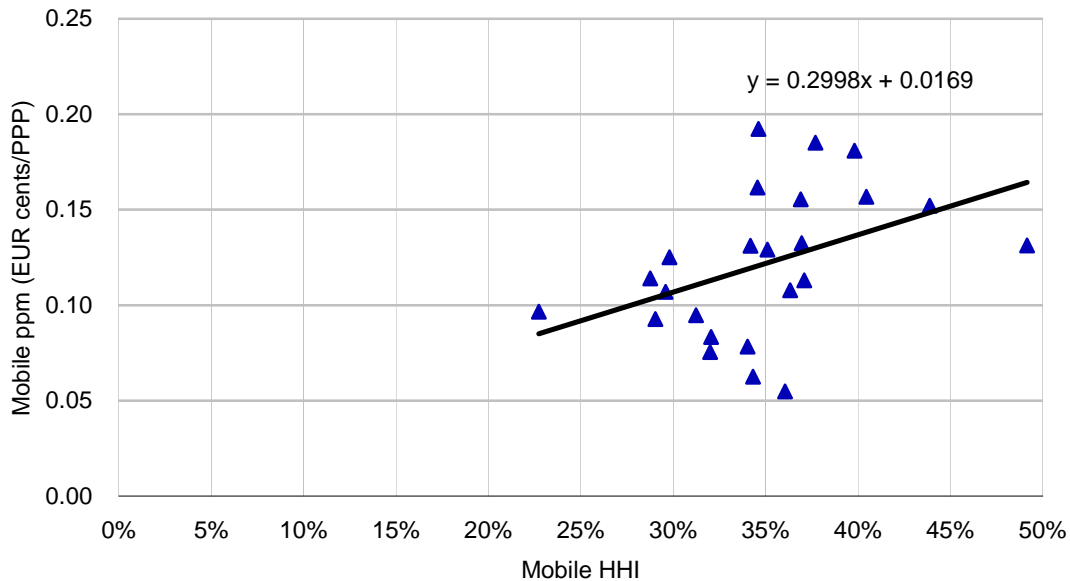


Figure 2.4: Relationship between mobile HHI⁶ and PPP-adjusted price per minute (ppm) [Source: Analysys Mason]

We calculate the likely future price in a more competitive scenario by adjusting each price in accordance with the linear fit shown above, assuming that in each country the HHI could reach the lowest (least concentrated) current level for a country with the same number of mobile operators (2,3,4, or 5 respectively)⁷.

In a similar way, improving the level of competition (reducing concentration) to the level of the least concentrated existing markets with the same number of operators results in a consumer surplus gain of approximately EUR5 billion per annum. This gain in consumer welfare from mobile voice calls represents around 5% of mobile revenues.

⁶ Note: our HHI are on a scale 0-1 rather than the 0-10000 sometimes used.

⁷ Again, this is not an aggressive assumption, because the best of existing three-player markets might not actually be as competitive as four- or five-player markets.

2.2.4 Fixed Broadband

We used average retail revenue per line for fixed broadband, to aggregate the effects of the variety of broadband packages on offer in each market. This price excludes the cost of line rental. Broadband is purchased on a subscription basis, and therefore we have used subscribers as our volume metric. We have conservatively not included any uplift in broadband penetration due to the reduced price⁸.

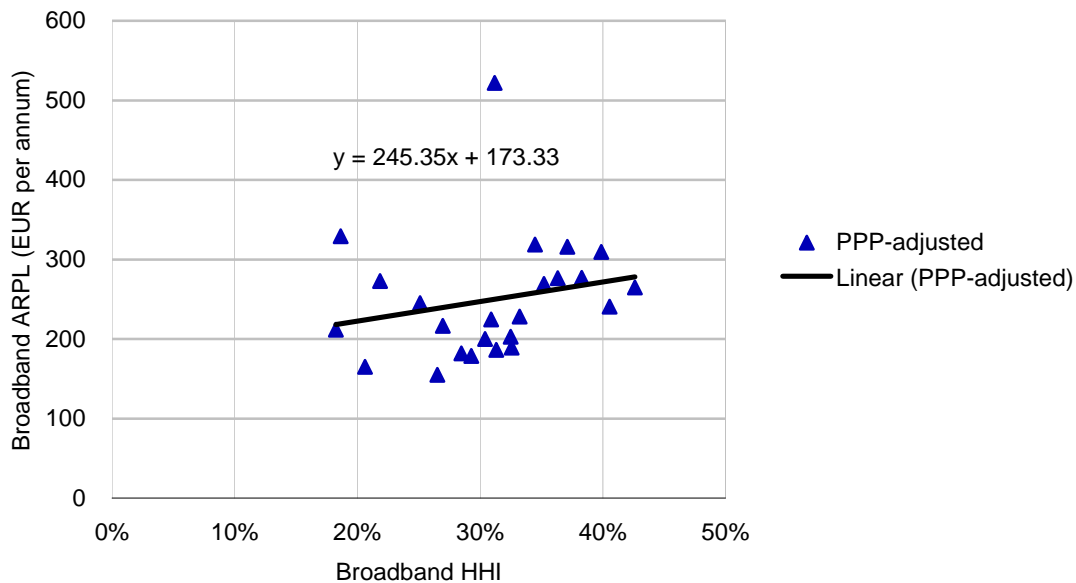


Figure 2.5: Plot of broadband revenue per line against HHI [Source: Analysys Mason]

Figure 2.5 suggests that there is a relatively weak relationship between average revenue per line (ARPL) for broadband and the HHI in each European country, i.e. if there is a strong relationship between HHI and ARPL it is being hidden by other factors.

We calculate the likely future price in a more competitive scenario by adjusting each price in accordance with the linear fit shown above, assuming that in each country the HHI could reach 80% of its current value. Our model suggests that decreased market concentration would result in a lowering of the broadband average revenue per subscriber which would result in consumer welfare gains of approximately EUR1 billion per annum, around 3% of broadband revenues.

Whilst the calculated price and volume benefit are relatively lower than those ascribed to fixed and mobile voice services, the calculation does not account for benefits from product improvements – and particularly increased speeds - that could result from competition.

⁸ As mentioned elsewhere in this report we believe that increased competition does increase penetration, especially increasing take-up of higher speeds

Benefits of competition in the broadband market

When speeds are considered, there is a clear benefit to consumers in nurturing competitive broadband provision.

The arrival of competition caused substantial changes in market price structures, making the speeds available for 'typical' residential customers much higher where competition flourishes. Figure 2.6 shows how the minimum price for a certain broadband speed evolved over time in the UK. The arrival of effective unbundling around mid-2005 transformed the speeds offered, leading to massive falls in the price of the 8Mbit/s service. Similar effects are seen in other countries.

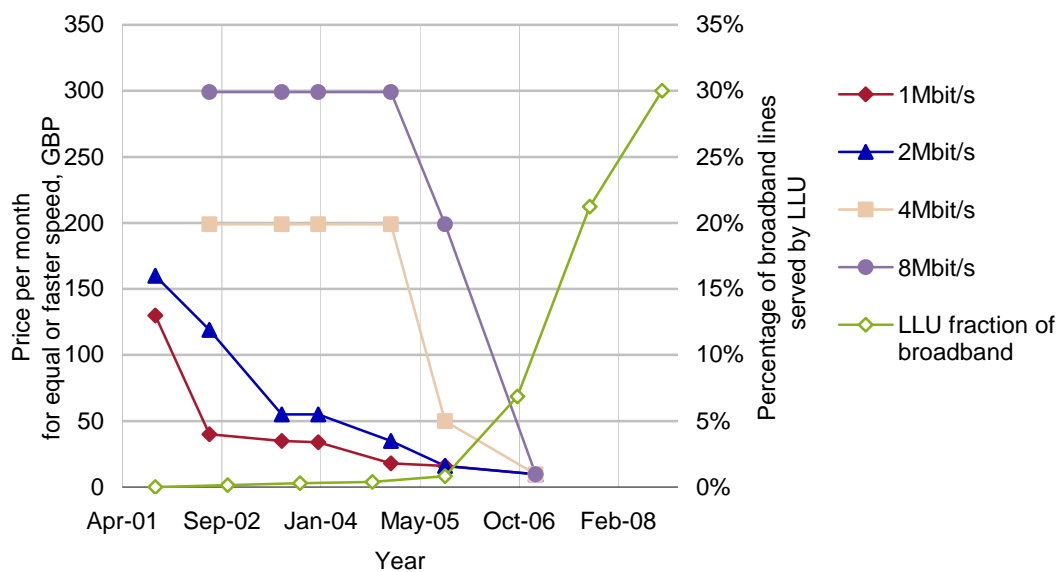


Figure 2.6: Lowest market price for a specified speed broadband product over time in the UK [Source: Analysys Mason Research Broadband pricing study]

To extend this analysis, we have used the Analysys Mason Research historical pricing database and Analysys Mason Research figures on broadband revenues and subscribers to calculate what broadband speed category would be available over time to a customer spending the monthly ARPU on a flat-rate broadband product⁹. In this case we have analysed data over a specific time window (2004-2007) for the EU15 minus Luxembourg.

Figure 2.7 below shows the speed category available in different EU countries, and the level of competition based on LLU in those countries.

⁹ No time-based offers were included, nor offers which only offered access at specific times of day. Variable price offers with per-MB charges were excluded if the basic price did not include more than 1GB per month. ISPs with very low coverage were excluded, but these prices are not available in all locations. Prices were those monthly charges applying to new subscribers and do not take account of the amortisation of up-front charges.

| <i>Unbundled lines as fraction of broadband lines</i> | | | | |
|---|---------------------|--------------|--------------|--------------|
| | 2004 | 2005 | 2006 | 2007 |
| Austria | 0.061 | 0.086 | 0.115 | 0.160 |
| Belgium | 0.005 | 0.005 | 0.017 | 0.029 |
| Denmark | 0.089 | 0.093 | 0.107 | 0.115 |
| Finland | 0.200 | 0.179 | 0.173 | 0.179 |
| France | 0.185 | 0.281 | 0.295 | 0.328 |
| Germany | 0.123 | 0.203 | 0.264 | 0.299 |
| Greece | 0.048 | 0.048 | 0.036 | 0.178 |
| Ireland | 0.019 | 0.017 | 0.046 | 0.026 |
| Italy | 0.096 ¹⁰ | 0.114 | 0.175 | 0.206 |
| Netherlands | 0.140 | 0.169 | 0.164 | 0.103 |
| Portugal | 0.008 | 0.036 | 0.116 | 0.157 |
| Spain | 0.024 | 0.066 | 0.095 | 0.149 |
| Sweden | 0.111 | 0.206 | 0.219 | 0.221 |
| United Kingdom | 0.004 | 0.008 | 0.069 | 0.212 |
| Average LLU fraction (unweighted) | 0.079 | 0.108 | 0.135 | 0.169 |

| Speed for ARPU |
|----------------|
| 8Mbit/s + |
| 4Mbit/s + |
| 2Mbit/s + |
| 1Mbit/s + |
| 500k+ |
| 250k+ |

Figure 2.7: Peak speed package available for a residential customer spending the ARPU in the period 2004-7 for EU15 minus Luxembourg [Source: Analysys Mason Research, ECTA Scorecard, ANACOM]

One way to interpret this data is to say that where material LLU-based competition exists, a residential user spending the ARPU every month (plus VAT) will get a peak speed of 8Mbit/s or more. In other countries, where LLU represents a noticeably smaller fraction of the market, the speed category available if spending the ARPU in these countries is typically around 2Mbit/s.

Competition has thus brought speeds of 8Mbit/s and the possibility of more sophisticated services (‘over-the-top’ video service such as YouTube, and catch-up TV services such as iPlayer) within reach of the mass-market user. Without it, we can expect that typical users (i.e. those spending the monthly ARPU) would be getting speeds of around 2Mbit/s. This is a material benefit for hundreds of millions of EU citizens.

This analysis is also supported by the Commission’s own broadband performance index. Figure 2.8 indicates that lower market concentration is correlated with overall better broadband performance index derived from a recent Commission report¹¹. This report defines a metric that

¹⁰ In 2004 the ARPU in Italy would not buy a flat rate package; this is because a material fraction of the market was using cheaper minimum commitment time-based, volume-based, or time of day dependent offers which are excluded by our methodology

¹¹ Europe’s Digital Competitiveness Report : main achievements of the i2010 strategy 2005-2009

uses a number of factors, including speeds, coverage, prices, social outcomes and take-up of advanced services. We have modified the composite BPI metric to remove the 'competition' element to avoid auto-correlation effects, and there remains a correlation between lower incumbent market share and a better overall score.

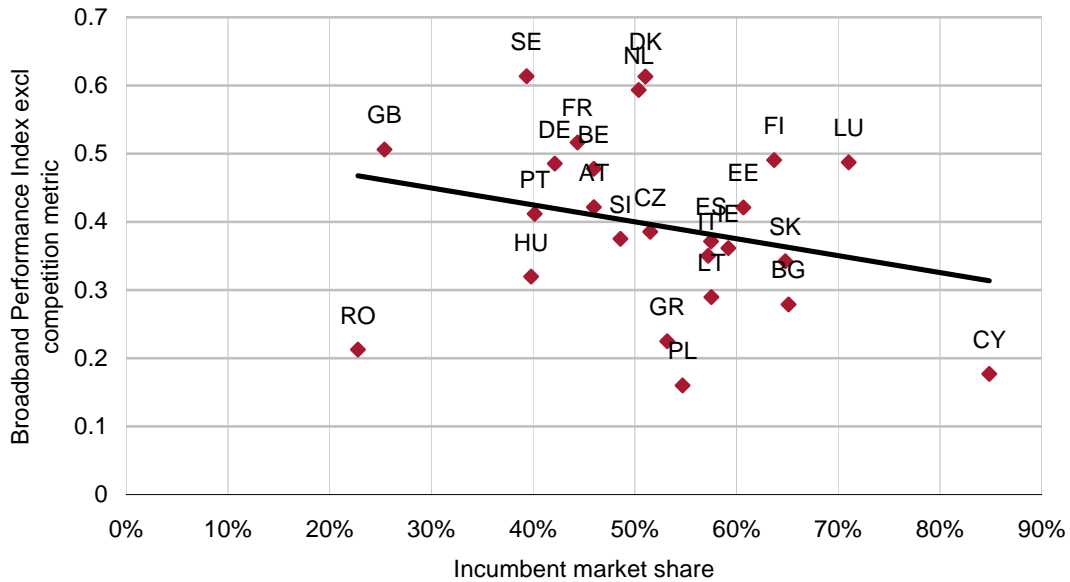


Figure 2.8: Broadband Performance Index (BPI) as calculated by the European Commission, plotted against broadband incumbent market share [Source: European Commission, Analysys Mason]

Figure 2.9 shows the EC BPI price index, which supports our findings above that prices for specific products are lower in more competitive markets.

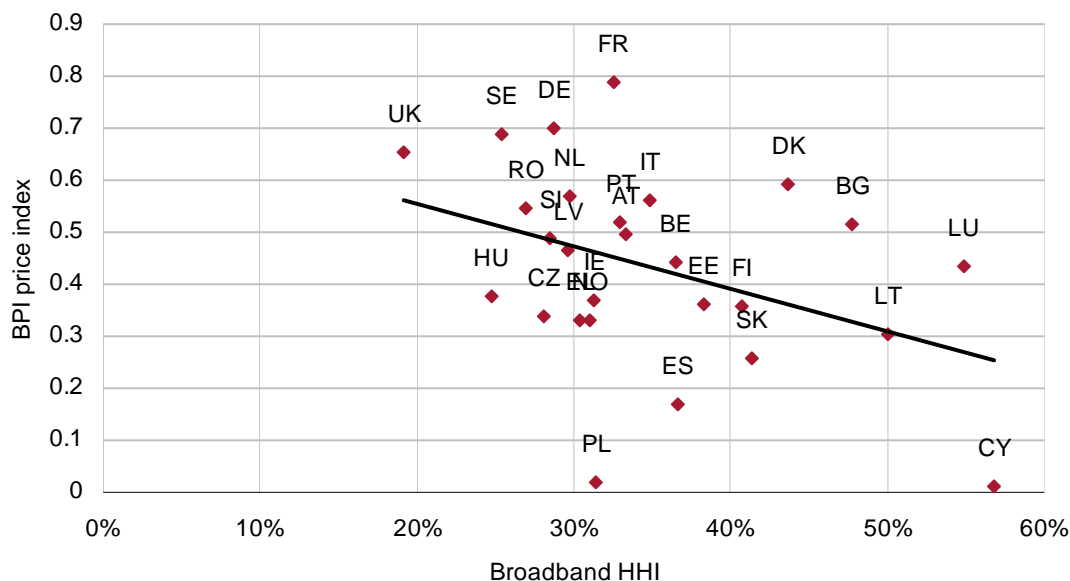


Figure 2.9: *The price component of the BPI also demonstrates a clear benefit to less-concentrated markets (a high score indicates a good price) [Source: European Commission, Analysys Mason]*

2.3 Business services methodology

In order to estimate the effect of improved regulation on business services, we have looked at the ability of business services providers to deliver services across Europe. It has been suggested that multi-national corporations (MNCs) could improve their productivity by adopting cross-border IT systems and procuring services from single suppliers¹². However, suppliers of cross-border ICT solutions are hampered by a wide variation in the quality of implementation of access regulation, and a lack of business application products that are fit for purpose.

A top-down calculation in a report by Indepen¹³ focuses on the gains that could be made if MNCs had access to ubiquitous connectivity.

It proposes that MNCs could reduce their annual expenditure on pan-European communications services by 15% if they received services from a single supplier (based on a survey of five MNCs), and that this would increase demand (elasticity -0.7). MNCs are assumed to generate EUR5850 billion in revenues per annum, and spend 1.5% of their revenues on pan-European communications services. The gain in consumer surplus is approximately EUR13.9 billion per annum.

¹² "The Economic Benefits from Providing Businesses with Competitive Electronic Communications Services", Barrault et al

¹³ "Productivity, Growth and Jobs: How Telecoms Regulation Can Support European Businesses", report for BT, EVUA, and INTUG

The same report also extends the analysis to look at the potential gains from ubiquitous ICT, which it estimates as 10% of ICT spending, a rather larger EUR23 billion per annum¹⁴.

2.3.1 Summary

Our conclusions are as follows:

- **Fixed voice:** Our model suggests that decreased market concentration would result in a lowering of the price per minute of a fixed call, which would result in consumer welfare gains of approximately EUR5 billion per annum. The gain in consumer welfare in fixed calls represents 17% of the total European revenue from fixed voice calls in 2008.
- **Mobile voice:** In a similar way, improving the level of competition (reducing concentration) to the level of the least concentrated existing markets with the same number of operators results in a consumer welfare gain of approximately EUR5 billion per annum. This gain in consumer welfare from mobile voice calls represents around 5% of mobile revenues.
- **Broadband:** Our model suggests that decreased market concentration would result in a lowering of the broadband average revenue per subscriber which would result in consumer welfare gains of approximately EUR1 billion per annum, around 3% of broadband revenues. The factors involved in broadband consumer welfare are more complex than for voice services because retail services are defined not just by the price, but also speed, service coverage, and availability of enhanced offers including TV. In addition to price benefits, citizens across Europe have gained affordable access to higher speed services with customers with average spending levels receiving 8Mbit/s rather than 2Mbit/s as a direct result of competition.
- **Pan-European business:** Improving competition in the provision of pan-European communications is expected to benefit businesses that operate in multiple countries. The consumer surplus effect is EUR13.9 billion per annum. The consequential gain to MNCs of harmonising communications infrastructure across countries has been estimated at EUR23 billion per annum.

The total potential annual welfare gain for each market is shown in Figure 2.10 and Figure 2.11 below.

The total potential welfare gain from increased competition in the four markets is EUR24.9 billion per annum. In broadband markets, the bigger gains are not in terms of reduced prices for consumers, but in terms of greatly improved offers in terms of speed (amongst other parameters); in the pan-European communications markets, in addition to the consumer surplus, competition would potentially release the greater benefits of ubiquitous ICT services (EUR23 billion per annum).

¹⁴ This annual cost reduction is forecast to be achieved within ten years.

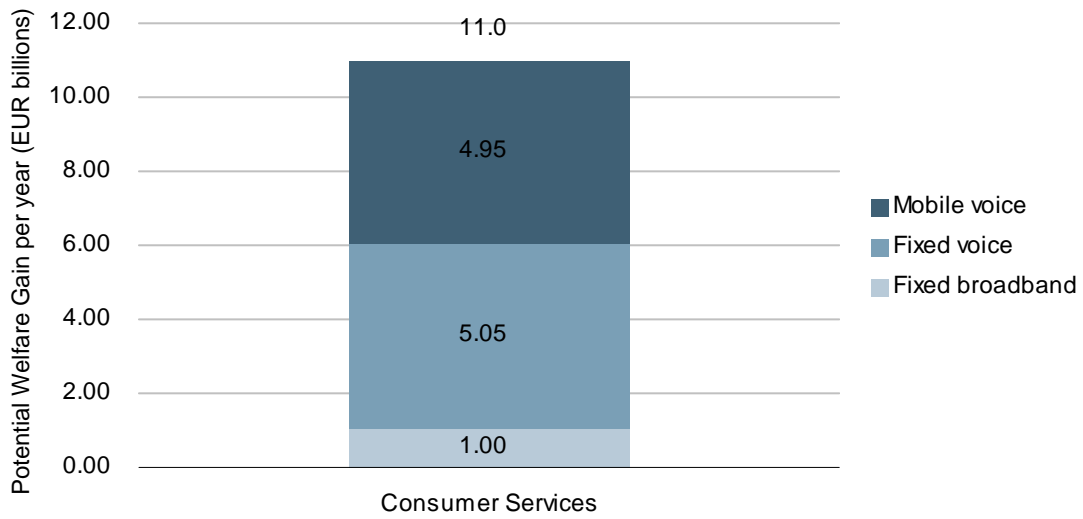


Figure 2.10: *Estimated EU consumer welfare gain in major electronic communications service markets*
 [Source: Analysys Mason]

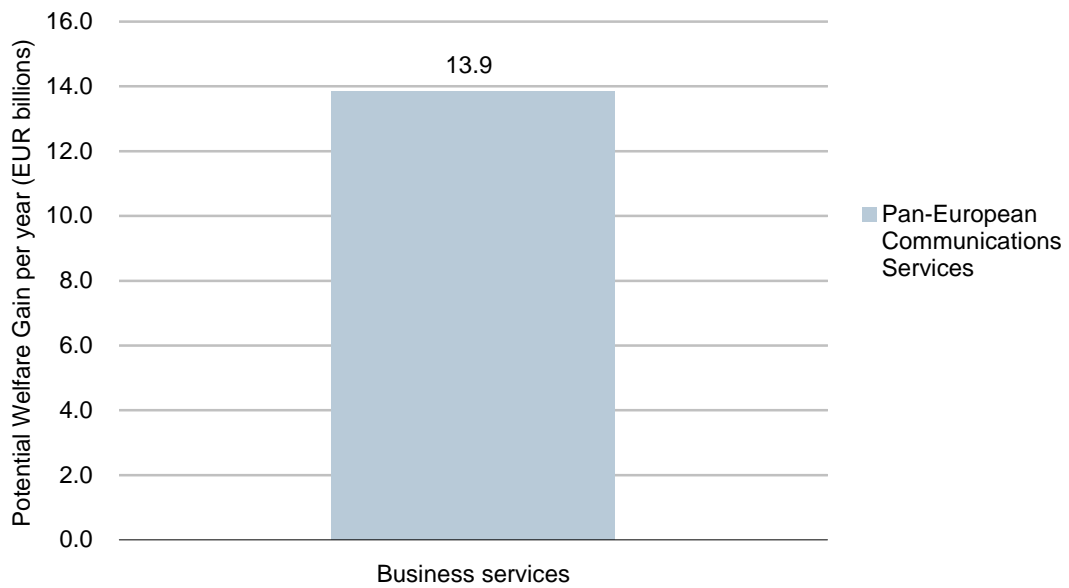


Figure 2.11: *Estimated EU business consumer welfare gain* [Source: Indepen]

3 Next generation services are being held back

3.1 Context

Access products are a vital part of competition in the fixed market. However, some incumbents are not making available the necessary inputs to enable entrants to compete and innovate effectively in the retail market. Evidence from past broadband experience as well as the limited information available on next generation access deployed in Europe today suggests that failing to provide access on reasonable terms is likely to hamper the development and take-up of high-speed services over next generation networks.

3.2 ADSL history

Whilst there were many countries in which the wholesale access products for ADSL were either not supplied, of inferior quality, or were subject to significant margin squeeze (as has been found in subsequent competition cases), consumers did benefit substantially in those countries where the ADSL wholesale product was suitable.

This can be seen from Figure 3.1 below, which shows that in the period 2001-2004 markets with widely used wholesale (bitstream) ADSL products (specifically, France, UK and Italy¹⁵) had substantially faster growth in the take-up of broadband services.

Possible reasons for this higher take-up include:

- Competition making the retail offers more attractive to end-users, both in terms of price and in terms of the value of the services offered (e.g. speed, download limits, contract terms, modems offered, etc.).
- Competition causing additional spending on advertising and marketing, increasing the level of consumer awareness.

¹⁵

Although even these products were not necessarily as flexible as would have been ideal.

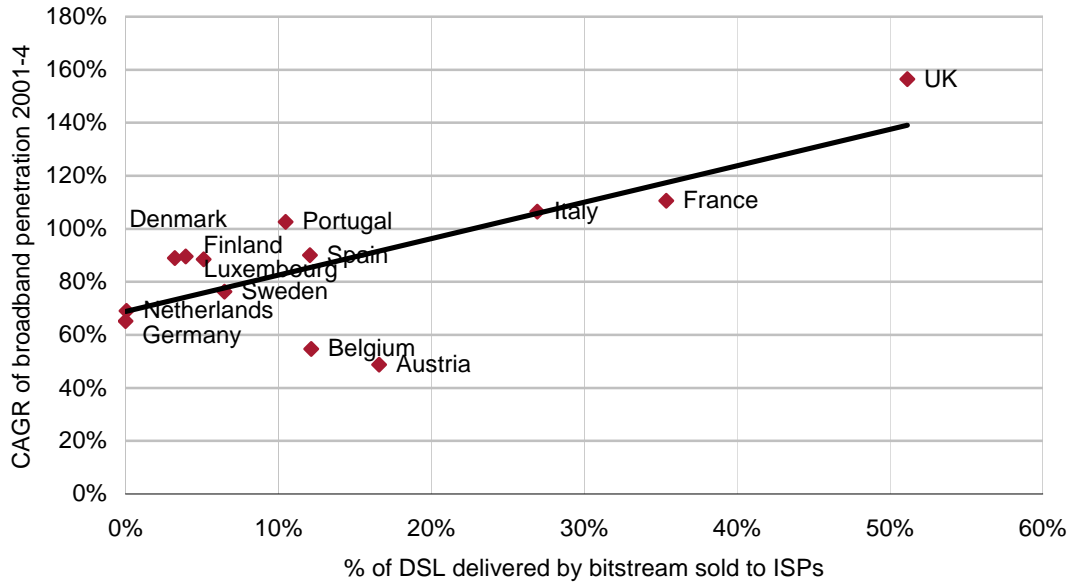


Figure 3.1: Compound annual growth rate of broadband penetration vs % of DSL using bitstream access [Source: ECTA scorecard]

Similarly, as described previously, there have been dramatic improvements in the speed of services offered as a result of mandated local loop unbundling. Figure 3.2 shows how the minimum price for a certain broadband speed evolved over time in the UK; the arrival of unbundling transformed the speeds offered, leading to massive falls in the price of the 8Mbit/s service. Similar effects are seen in other countries.

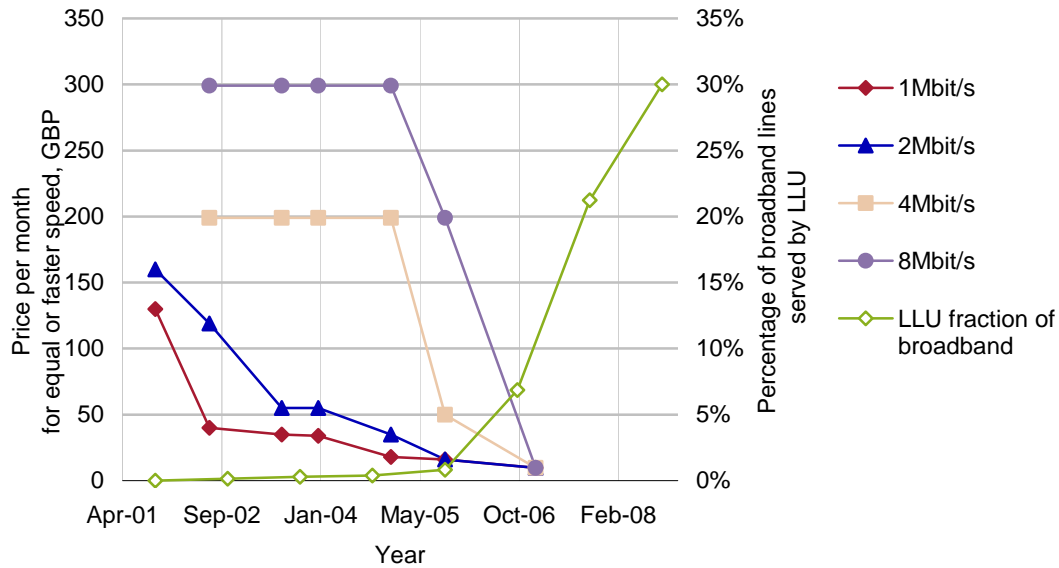


Figure 3.2: *Lowest market price for a specified speed broadband product over time in the UK [Source: Analysys Mason Research Broadband pricing study]*

3.3 FTTC/VDSL case

There are VDSL networks in both Belgium (Belgacom) and Germany (DT). However, prices are relatively high and the services are not yet highly compelling especially when compared with ADSL-based offers. In particular,

- only in Germany is there an offer at speeds beyond those which can be reached with ADSL2+
- although it is as yet very early, we can see that the German alternative operators plan to resell the VDSL service at a discount to the high price of DT
- in both Germany and Belgium the triple-play offers from the incumbent are materially more expensive than the offers of Free/Alice in France.

| Country | Technology | Operator | Peak speed downstream, Mbit/s | Double-play (Phone + fixed calls, broadband) offer retail price, EUR (incl VAT), Dec 2009 | Triple-play (Phone + fixed calls broadband, TV) offer retail price, EUR (incl VAT) |
|---------|------------------|--------------------------|-------------------------------------|--|--|
| Germany | VDSL | DT | 50 | 49.95 ¹⁶ | 59.95 ¹⁷ |
| Germany | VDSL | DT | 25 | 44.95 | 54.95 |
| Germany | ADSL | DT | 16 | 44.95 | 44.95 |
| Germany | ADSL | DT | 6 | 39.95 | N/a |
| Germany | ADSL | DT | 6 | 34.95 | N/a |
| | | | (some areas) | | |
| Germany | VDSL | 1&1 (United Internet) | 50 | 39.95 ¹⁸ (promotion, usually 49.99) | N/a |
| Germany | ADSL | 1&1 (United Internet) | 16 | 24.99 (promotion, usually 29.99) | N/a |
| Germany | VDSL | Alice | 50 | 44.90 | N/a |
| Germany | ADSL | Alice (Hansenet) | 16 | 29.90 | 29.90 |
| Germany | ADSL | Vodafone (arcor) | 16 | 29.95 | Exists, but not currently marketed |
| Belgium | ADSL | Belgacom | 4 | 42 ¹⁹ | 49.95 ²⁰ |
| Belgium | ADSL | Belgacom | 12 | 52 ²¹ | 60.15 ²² |
| Belgium | Probably VDSL | Belgacom | 18 | 70.15 ²³ | 70.15 |
| France | ADSL | Alice (Iliad) | Up to 28 | 19.99 | 19.99 |
| France | ADSL | Free (Iliad) | Up to 28 | 29.99 | 29.99 |

Figure 3.3: Prices of double-and triple-play ADSL and VDSL products in Germany Belgium and France, December 2009 [Source: Analysys Mason Research triple-play pricing study, operator websites]

¹⁶ Call and Surf Comfort.

¹⁷ Entertain. Current special offer includes HD PVR for one year free of charge, then EUR4.95 per month.

¹⁸ 1&1 DSL-HomeNet.

¹⁹ Pack Telephony + Internet Light, does not include free calls to fixed lines as do the German offers.

²⁰ Could be VDSL. Does not include free calls to fixed lines as do the German offers.

²¹ Pack Telephony+ Internet Go, does not include free calls to fixed lines as do the German offers.

²² Could be VDSL. Does not include free calls to fixed lines as do the German offers.

²³ No bundle, and as a result the offer including is cheaper unless the discounted line rental option is used.

In Belgium, the full wholesale offer is still under development: although there is a reference offer, critical details remain unresolved.

In Germany, a wholesale offer has only just been made available and retail services based on that offer have only just been launched (e.g. by resellers such as 1&1 and also by LLU players such as Alice).

There is no data released by either Belgacom or DT on the number of subscribers served by VDSL, although we expect that this represents a substantial fraction of their IPTV subscribers in both cases (this is not definitive as both Belgacom and DT now also offer most of their IPTV services to customers served with ADSL).

- In Q3 2009 Belgacom had 575 000 IPTV subscribers (around 54% of its broadband subscribers), achieved over a five-year period. To estimate the number served by VDSL will require additional assumptions.
 - If we assume that the IPTV demand is uniform across the population and that VDSL is always used for IPTV customers if it is available, then 68% of the 575 000 (approximately 390 000) would be served using VDSL²⁴. VDSL was originally launched in late 2004, though there was an upgrade to VDSL2 and an increase in coverage in 2007/8.
- In Q3 2009 DT had 675 000 IPTV subscribers (approximately 5% of its broadband subscribers), achieved since launch in September 2007.

Unfortunately the total lack of clear data on VDSL-based service take-up greatly hampers our ability to make any reliable quantitative forecasts of how much higher take-up of higher broadband speeds would have been had there been a viable wholesale offer. However the historical evidence presented above from the highly analogous ADSL case suggests that VDSL-based service take-up would be markedly higher if there was a viable wholesale offer, and that unbundling²⁵ (if economically feasible) would result in markedly higher speed offers.

Consumers would therefore gain in two principal ways from wholesale offers:

- They would gain access to better speeds and or service bundles - in a similar way as they have gained from competition in the broadband market in the past. For example, in Germany Alice (Hansenet) already offers a shorter minimum term on its retail VDSL contracts.
- Those currently buying the high-speed product will make a saving due to lower prices (a direct consumer welfare benefit).

Due to the rather different market situations in Germany and Belgium, the benefits of competition could be rather different in each country.

²⁴ This is a slightly higher estimate than that of IDATE which estimated 200k VDSL subscribers in 2008.

²⁵ In this case, sub-loop unbundling.

- In Belgium, given the rather high estimated technology penetration of VDSL amongst broadband users, the total number of VDSL subscribers overall might only grow a small amount as a result of competition, but all such customers would be likely to benefit from both substantially increased broadband speeds (as can be seen from the fact that the resellers in Germany are concentrating on the 50Mbit/s option) and from lower prices (again, see Germany, where the resellers are offering a lower price than DT). Even a EUR5 per month lower price would represent EUR30M/annum in increased consumer welfare for Belgian consumers.
- In Germany, we believe that the total number of customers served with VDSL would be substantially increased if fit-for-purpose wholesale inputs were made available. Current growth in the high-end broadband market is very slow in Germany (the DT IPTV customers place an approximate ceiling on the relevant figure, because VDSL was not available without the bundle until recently: given recent growth figures, take-up amongst DT broadband customers is growing about 4% per annum). A doubling of the rate of adoption (as delivered by wholesale ADSL in the UK compared to countries where wholesale offers were not fit for purpose) would offer significant benefits for DT (because the entire business case requires scale) as well as for the German economy as a whole.

4 Today's market presents significant competitive challenges

4.1 Current transformation

Three important forms of change are transforming the environment for electronic communications:

- technological changes
- market changes
- regulatory changes.

4.1.1 Technological changes

Access networks are moving towards next-generation access with fibre closer to the end-user (FTTC, FTTB or FTTH)

It is foreseeable that next-generation access (NGA) networks will be deployed across the EU, if we consider:

- ongoing developments in access network technologies,
- the costs of maintaining the existing copper infrastructure
- and end-user requirements for higher-speed access connections for services such as multi-room HDTV and video downloads.

These networks will require fibre to be deployed more extensively, and specifically to a point closer to the end-user. This leads to a classification of network architectures based on whether fibre is deployed to street cabinets (FTTC/'remotisation', usually but not always using VDSL technology), to basements (FTTB, using VDSL or Ethernet technology), or direct to the end-user (FTTH). Various studies (e.g. Analysys Mason for OPTA, ComReg, WIK for ECTA) have agreed that moving to FTTC is substantially cheaper than the large-scale civil works required for FTTH, and therefore may be used either as a precursor to or in parallel with any transition to FTTH.

If not adequately addressed by regulators, NGA deployments may damage competition:

- Existing competitors' DSL networks based on LLU extend to a significant proportion of the main distribution frames (MDF) in the incumbent network. However, FTTC and FTTH PON deployments no longer require significant assets at MDF locations and incumbent roll-out of these technologies is expected to be accompanied by a phased closure of MDF sites. Even where MDFs continue to exist, the VDSL or other electronics at the cabinet may directly affect the quality that can be offered via local loop unbundling from the MDF; services supplied via the incumbent NGA network are likely to be incrementally superior to those provided over LLU from the MDF leading to a gradual migration of customers to the cabinet-based services.

- As has been widely reported in the studies mentioned above, only the largest alternative operators with high market shares could justify the investments to the level of FTTC and as a result the degree of competition achieved in this case is likely to be significantly reduced and more localised than the current situation (see for example the ERG paper²⁶).
- A best-case scenario for competition in the residential market would be the installation of point-to-point fibre architectures readily enabling fibre unbundling accessible from aggregation points serving as many lines as current large MDFs (e.g. 10 000 lines). However, where not achievable, wholesale or 'bitstream' access (which has been largely superseded in the dense areas of countries with vibrant LLU-based competition) may become much more important.
- Each generational access transition in the Internet market (e.g. from dial-up to flat-rate dial-up, and from flat-rate dial-up to broadband) has often been accompanied by a marked rise in the market share of the incumbent fixed operator. Similar gains for incumbents in a future transition to next-generation access and core networks would materially harm competition and consumer interests and could become increasingly difficult to reverse.
- The economies of density (or local scale) which make it difficult to envisage a large number of competing FTTC operators also make it much more difficult for business-focussed operators to achieve sufficient scale to justify their own access network deployment. Such operators rely on wholesale transmission capacity to reach widely spread corporate sites and home workers, across multiple EU countries. These products include wholesale high-speed circuits (like leased lines) and lower speed contended services (for which bitstream access is important).

Core networks are moving towards converged multi-service IP networks

At the same time, the PSTN is currently undergoing a transition towards a so-called next-generation network (NGN), with a converged core network based on IP. The core networks of many entrants and some incumbents have already been converted to IP-based technology. The nature of the interconnection regime that should apply to such networks is currently being debated (for example through the October 2009 ERG draft common position on next-generation charging mechanisms and 'bill and keep'); in the transition we can predict that there will be disputes about the migration of existing wholesale access products including call termination, WLR, indirect access such as carrier pre-select, and wholesale broadband bitstream access.

²⁶

ERG (09) 17 Report on Next Generation Access - Economic Analysis and Regulatory Principles June 2009 "... the ERG concluded that ... [NGA] rollouts were likely to reinforce the importance of economies of scale and scope, reducing replicability and reinforcing enduring economic bottlenecks. Since the publication of the ERG CP NGA, a number of further studies have been undertaken examining the business case for different types of NGA rollout in a number of Member States... [which]...have confirmed the ERG's previously identified conclusions."

4.1.2 Market changes

The major electronic communications markets are getting to be mature

Growth in subscriptions and usage in major electronic communications markets (fixed voice, broadband, and mobile voice) is slow; this tends to slow down changes in market shares as customers need to be captured away from other suppliers (i.e. 'churn'), a slower process than capturing new subscribers.

Bundles are becoming an important factor in the retail market

Consumers are starting to buy bundles of products more and more, such as Voice+Internet or Voice+Internet+TV. Bundles involving packages or complementary 'homezone' fixed and mobile offers are also becoming more prevalent (which may include both fixed and mobile voice and fixed and mobile broadband).

Bundles are therefore becoming increasingly important to effective competition in telecoms. If an operator is unable to create such services, it will be at a significant disadvantage. Bundles offer the following advantages to the multi-play operator:

- **Increased customer retention:** customers have more reason to stay with their existing supplier.
- **Increased ARPU:** operators can access a greater portion of the value chain.
- **Reduced opex:** operators can leverage economies of scope and scale across services.
- **Improved product leadership:** bundles facilitate creation of new products and services.

Bundles can be used as part of a long-term strategy that will initially defend against churning customers, before allowing an operator to expand its customer base and construct new sources of revenue.

Bundles are hard to compete against, as there are significant barriers to getting a customer to give up their current bundle, particularly if individual components cannot be purchased separately at a reasonable price. One example of such a bundle is the triple-play Pack of Belgacom, which offers a perpetual bundle discount of EUR18.50 per month: in effect a free IPTV offer.

Bundling was identified in the 13th Implementation report as a specific issue: *“With the growing number of bundled offers in which fixed voice is offered as a service additional to broadband, mobile and/or TV services, regulators are facing a challenge as in many instances offers combine regulated and unregulated services, with the risk that SMP operators may leverage their dominance into other markets. For example in Belgium and the Czech Republic alternative operators stressed the difficulties in replicating the incumbent's bundled product and problems with bundled offers have also been reported in Estonia.”*

An illustration of this effect can be seen in Italy, where the mix of products bought by the entrants is reported and allows us to see whether they are offering bundles: for example, naked bitstream offers are only used to provide double-play services. Figure 4.1 below shows that the customers of entrants using Telecom Italia's (TI's) infrastructure have largely moved over to double- or triple-play offers in the last two years (75% of these competitors customers are using a multiplay offer).

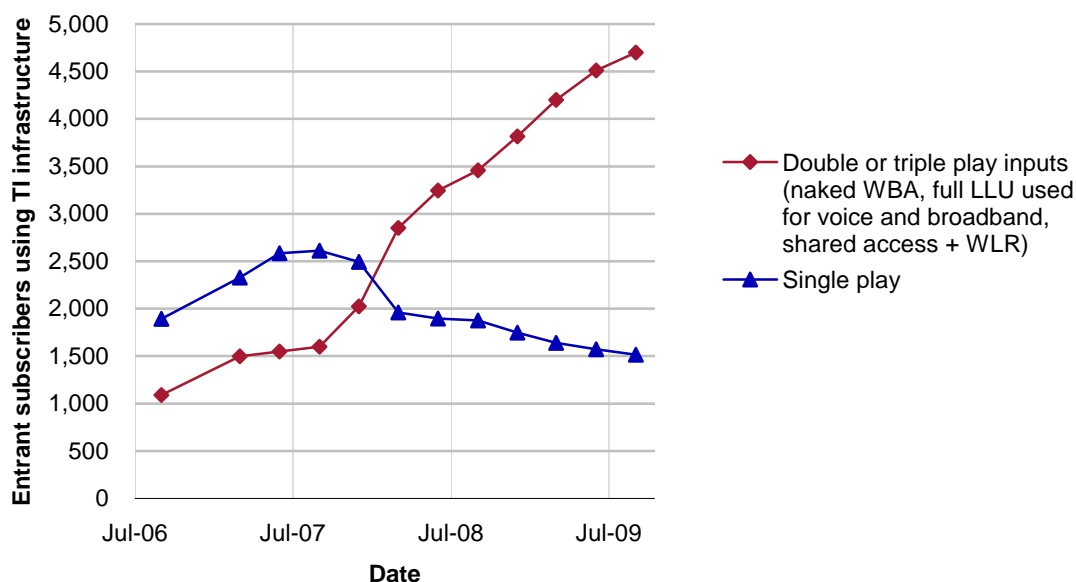


Figure 4.1: Customers of DSL entrants divided between single- and multi-play offers [Source: AGCOM, COCOM, ECTA, Analysys Mason]

Similar effects can be noted in other EU countries.

Making sure that bundled offers do not restrict competition is a difficult task for regulators, bringing in additional complexity and additional issues such as content exclusivity and the design of wholesale products so as to allow (as a minimum) replicability.

Existing LLU operators can offer double- and triple-play services on their DSL networks. However, as yet bitstream offers have not been suitable to replicate television products²⁷. This is of particular concern given the evolution towards NGA networks with their higher economies of density, as competitors might need to use bitstream (if for example FTTC is used²⁸). Moreover, bundled offers over LLU from the MDF may not be able to compete effectively with some of the

²⁷ In the UK there is a VoD overlay (IP Stream advanced services) available for the BT bitstream product, IP Stream. It is only suitable for relatively high-value (e.g. sports or movies) video on demand, and would allow a competitor to replicate the video on demand element of BT's Vision product (which uses digital terrestrial TV for the channelised TV content). As we understand it, it has not yet been bought by a competitor.

²⁸ FTTB/H is more complex, with unbundling in point-to-point fibre, multiple parallel PON deployment and WDM PON all potentially feasible.

added-value services made possible through NGA upgrades such as simultaneous multiple streams and multi-room HDTV.

Further migration towards quadruple-play offers may cause additional difficulties, especially in countries where certain players (usually incumbents) have high market shares for both fixed and mobile services, as these can enhance 'club effects'.

Large and long-lasting discounts are becoming a feature in some markets

A number of incumbents are making significant gains in market share as a result of offers with substantial and long-lasting (e.g. perpetual, or 12 months) price discounts. Examples include the Telekom Austria KombiPaket offers which are available for limited periods, but where the low price persists for the customer lifetime (these special offers have occurred over the Christmas period since 2007 and are subject to an ongoing competition case) and Telefónica in Spain offering 12 month discounts (and 12 month minimum contracts).

Business demands are also evolving

Business communications has long been considered by regulators an issue of supplying high-bandwidth 'leased lines' However, as technology has evolved, so have the needs of major business users. Increasingly businesses are buying 'solutions' which may involving connecting different sites within one or more countries and combining communications with other aspects of ICT. Creating these pan-European networks may involve various types of access – not just leased lines but other forms of access such as bitstream – and more typically will now involve Ethernet and IP rather than traditional leased line interfaces. This applies mainly for data networks but will increasingly apply to voice networks also as these move to voice over IP (NGN) technologies. Consistent and high levels of service quality across the EU are also important for modern businesses.

Different approaches to the regulation and supply of leased lines, Ethernet, and other forms of business access in different EU countries have led to strong variations in the nature and quality of the services on offer, whether regulated or otherwise. This lack of harmonisation has real consequences because it leads to supply problems, additional costs or asymmetrical competition in the supply of services across EU states.

4.1.3 Regulatory changes

Given the importance of competition, the dynamic pace of change within the industry, and the history of margin squeeze and non-price discrimination, regulators will need to be responsive to prevent abuses in a number of difficult areas, some of which we have addressed above.

In addition, there have been changes to the remedies available to regulators.

New remedies

With the adoption of the new EU Regulatory Framework in November 2009, all regulators will have the power to mandate functional separation where other remedies prove ineffective in ensuring competition. Functional separation has been in place in the UK since 2005 with results that have been generally perceived as positive, especially in broadband markets. However, the understanding and implementation of 'separation' provisions has been different in other countries such as Italy and Poland. There are significant differences: for example, in the UK Openreach supplies the same products (such as LLU and WLR) to all parties (other operators and BT internal divisions) on equivalent terms and with the same systems and processes, but in Italy Open Access (the equivalent of Openreach) sells some different products to TI internal divisions, and via a different interface and channel (other operators purchase these via TI Wholesale).

In this context the Commission has recently sought to bring the TI commitments within the scope of Article 7 consultation (i.e. made the subject of formal consultation at EU and national level as are other remedies), and highlighted the importance of ensuring that the commitments do result in benefits in the market²⁹.

Changes to existing remedies

There are a number of areas in which the existing remedies are undergoing changes. For example as regards NGA and LLU:

- The Commission has consulted on recommendation on regulated access to NGA.
- The European Regulators Group is currently working on guidelines to elaborate how remedies should work in an NGA environment.
- The 2007 revisions to the recommendation on relevant markets include a change of the definition of the market previously for local loops (which was specific to metallic pairs) and now enables it to cover fibre unbundling.
- The European Commission Article 7 taskforce has recently, in a letter concerning the Italian local access market (Cases IT/2009/0987 - 0988 – 0989), highlighted that fibre unbundling should be required where significant market power (SMP) is found in local access in an NGA. ("Furthermore, the Commission recalls that in the context of NGA developments, NRAs should mandate unbundled access to the fibre loop irrespective of the network architecture and technology implemented by the SMP operator.").
- The recent revisions to the Telecoms Framework also make changes in this area (e.g. article 9(4) and annex II of the Access Directive).

²⁹ For example: "AGCOM is further invited to reassess the need to intervene when reviewing the notified markets in order to ensure that the implementation of the undertakings result in the enhancement of the regulatory environment in Italy."

The rapid evolution of the market means that regulators need to be very vigilant; the changes in the framework allow them additional means to deal with economic bottlenecks.

4.2 Competition is not as healthy as we would wish, especially in the fixed market

We believe that there is a general perception that competition has been achieved in retail telecoms markets and that the electronic communications sector has progressed further than other utilities towards a fully competitive future in which sector-specific economic regulation is not required. Whilst progress has undoubtedly been made, it is concerning to note that recently there has been a stagnation or reversal of competition in most markets, whilst difficulties amongst large-scale entrants in reaching profitability suggest that even current levels of competition may not be sustainable.

Market shares of dominant firms are stable or increasing

Incumbent market shares are still high in many markets and are starting to grow in many of the larger and more mature product markets. For example, at a European level the market share of alternative DSL providers of the DSL access market has been at a near standstill for the last three years.

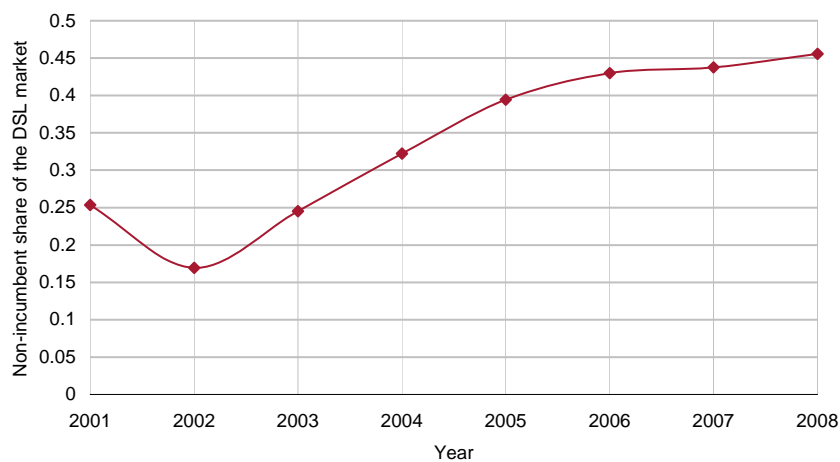


Figure 4.2: New entrant DSL/total DSL in EU27 [Source: ECTA broadband scorecard]

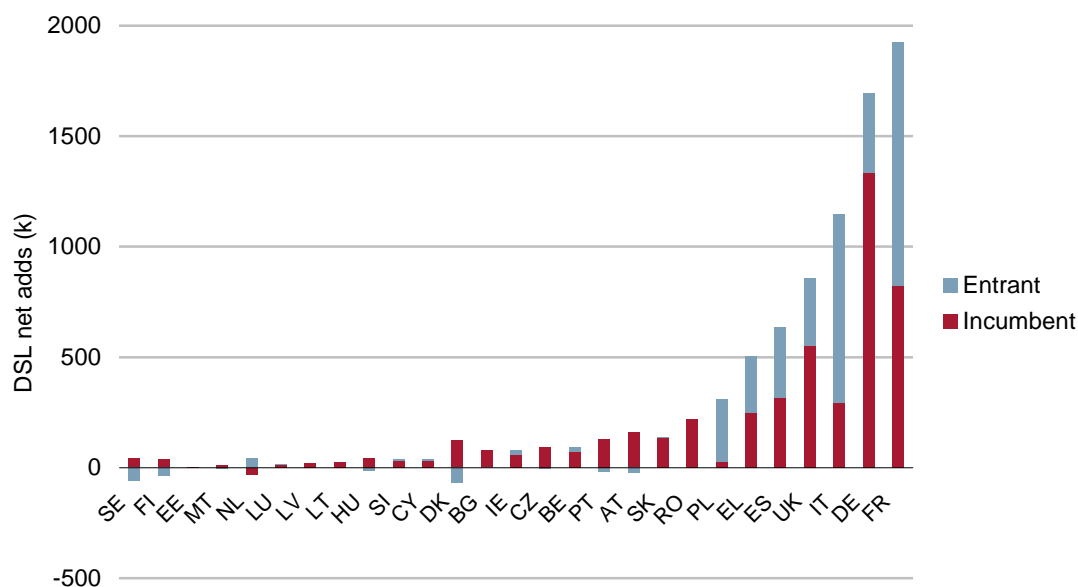


Figure 4.3: *Entrant and Incumbent share of DSL net additional subscribers Jul2008-Jul2009 [Source: COCOM 09-29 FINAL Broadband access in the EU: situation at 1 July 2009, 18 November 2009]*

It is also interesting to show the proportion of new DSL lines taken by incumbents vs entrants (see Figure 4.3 above). This gives a clear sign of the future trend in market share. In the majority of countries including key markets such as Germany most or all of the newly added lines are being sold by the incumbent; unless something changes, incumbent shares are going to increase.

Currently, two thirds of the competitive presence in European fixed markets is based on regulated access, usually to the incumbent local loop, which has been found to be an enduring bottleneck in all markets.

Trends suggesting an overall stagnation of or fall in retail competition could indicate problems in the enforcement of access regulation:

- either through delays in availability of new wholesale products (e.g. for VDSL and FTTH PON) to enable retail competition in higher speed services
- or inadequate or worsening conditions for the supply of existing products such as local loop unbundling and wholesale broadband access.

Competitors face difficulties reaching profitability

Reasonable financial returns are critical to the long-term health of the industry as a whole. They also help to indicate whether current levels of competition are sustainable. In this context, it is worrying that in the fixed market, financial returns currently show strong asymmetries towards the

incumbent operators and EBIT losses for the majority of the entrants, including many of the larger entrants (including the few alternative operators with retail broadband market share of 15% or above). Figure 4.4 shows the EBIT margins (or estimated EBIT margins) for a set of incumbent and entrants with fixed operations³⁰ in various European countries³¹ (labelled A-I).

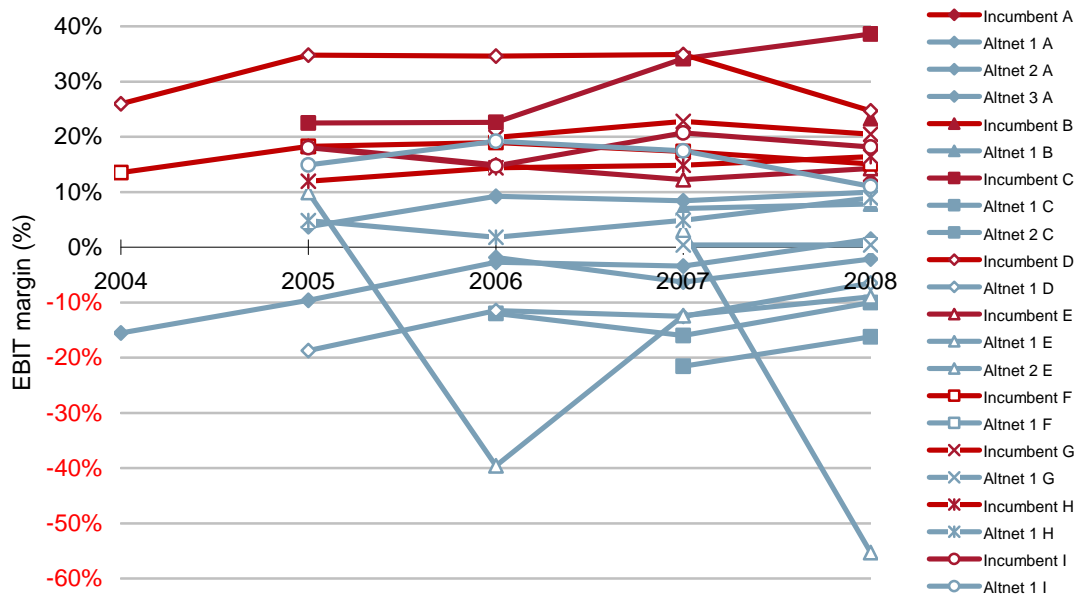


Figure 4.4: Benchmark of Incumbent and competitive operator EBIT margins [Source: Operator data, Annual reports, Telegeography]

Where the analysis is possible (for many operators do not publish full figures at a national level), a significant fraction of incumbent returns appear to be generated by the regulated wholesale businesses: for example, Openreach generated a 23% margin compared to a 15% margin overall for BT.

Where incumbents enter other European fixed markets as new entrants, the returns of their subsidiaries do not show high margins. For example, the TI German unit HanseNet had negative EBIT in 1H 2009. This shows that it is not simply a matter of superior efficiency and ‘know how’ that is enabling incumbents to generate high returns.

³⁰ Note: EBIT is from fixed and mobile operations for the following operators: Incumbent and Altnet 1 from country C, Altnet 1 from country F

³¹ Countries were selected on the basis of the availability of non-consolidated public figures allowing use to look at the national business of the incumbent and one or more entrant operators. In some cases we have had to estimate EBIT as the operator only reports EBITDA and capex for national businesses, and reports a separate consolidated depreciation figure.

Capex by entrants is also high as a fraction of revenue. In Figure 4.5 below we show results for a similar set of entrants as in the EBIT figure above (not all are included as not all operators publish figures for capex in specific markets).

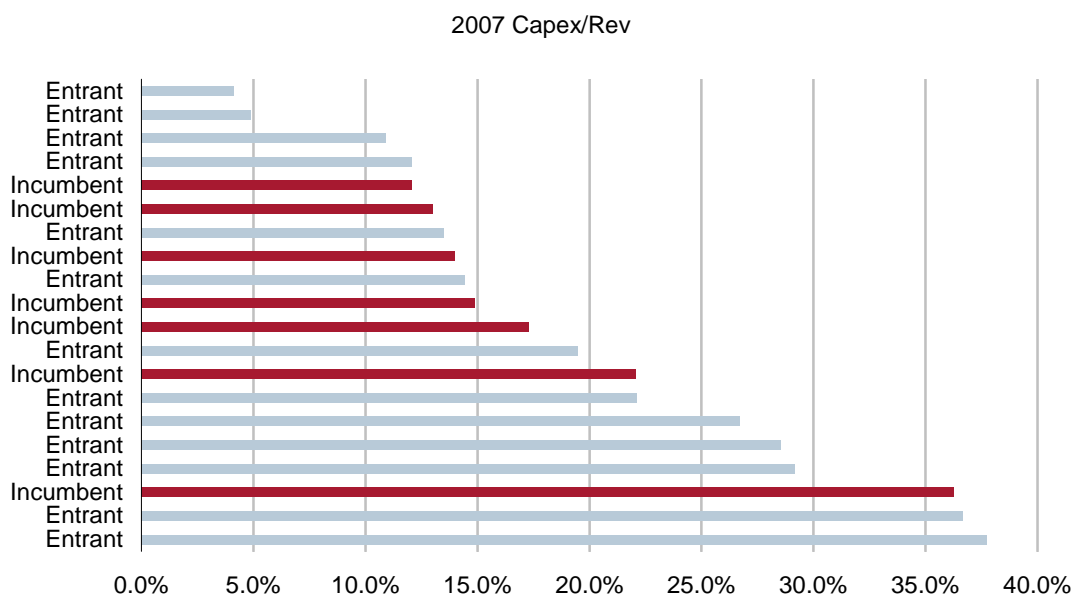


Figure 4.5: Comparison of entrant and incumbent fixed network capex/revenues [Source: Operator annual reports]

Several risks are apparent from this situation, specifically risks of margin squeeze (harming competition) and risks of excessive wholesale prices (which would affect retail prices, demand and consumer welfare). An additional possibility is that factors other than price may be affecting the ability of entrants to reach an efficient scale – these factors may include unavailability or delay in providing key input products, poor quality and/or and discriminatory operational conditions.

Risk of margin squeeze

A player with SMP in a wholesale market, if vertically integrated, can execute a margin squeeze in which it uses low retail prices and high wholesale prices to either drive competitors from the retail market or at the minimum increase its own profitability or retail market share (or both). One of the symptoms of a margin squeeze would therefore be low margins in the retail arm of the incumbent's business and higher margins in the wholesale arm.

It is a matter of record that there have been a number of competition cases in which margin squeeze has been found. Fines have been applied by competition authorities on incumbents in many countries, for example:

- Belgium as regards corporate mobile tariffs

- Portugal, France, Germany, Spain as regards broadband price squeeze (as a result of a squeeze between retail prices and either LLU pricing or wholesale broadband access pricing)
- Italy on several occasions including mobile termination services offered to its own fixed arm
- Poland regarding refusal to supply in the dial up internet access market.

Whilst the fines might form a suitable deterrent if they were large enough³², the problem with using such mechanisms in relation to a market which is changing this fast is that the extremely long timescales involved can lead to ousting of the competitor (a successful squeeze) before justice can be achieved (e.g. the Wanadoo case relating to behaviour in 2001-2 was started in 2003, and took 6 years to resolve. This is not atypical; there is a case in the UK still ongoing about behaviour in 2002/3). Such behaviour can also influence the decision of later entrants to invest in the market concerned.

It is possible that some wholesale prices may currently be excessive

The high returns earned by the wholesale arms of incumbents may have occurred for a variety of reasons:

- Certain regulatory mechanisms such as RPI-x price-caps allow super-profits if the regulated party can cut their costs faster than the assumed efficiency gains.
- There can be justified differences between prices set on the basis of long run economic costs and accounting treatment of the same issue, which can lead to apparently high prices when considered in terms of regulatory accounts in some years (e.g. accounting vs. economic asset lives, use of economic depreciation compared to accounting depreciation).
- The regulator might have set the price too high, for example
 - due to information asymmetries between operators and regulators (e.g. as regards actual equipment replacement rates / lifetimes, or in justifying certain operating costs)
 - in cases where termination rates have been set on a symmetrical basis calculated on the basis of lower scale operators costs there might be scope for over-recovery by a higher scale incumbent. Indeed if the market is a one where all players both buy and sell, lower wholesale prices might give superior results³³.
- There will also be unregulated products within these business units, though this will be a small effect.
- Finally it is possible that the prices charged are not in line with the regulation (e.g. a cost-orientation requirement, which may allow a variety of prices, might not have been met).

³² The problem is that the gains illegally achieved in some of these cases have been very large, and in cases of foreclosure are continuing.

³³ As can be seen from recent discussions of termination regulation, this is not a simple point.

High margins alone do not necessarily indicate that there is a discrimination problem. However, in a situation where there are high margins for the incumbent compared with low margins for entrants, it would be reasonable for regulators to:

- worry about potential margin squeeze issues
- worry about whether wholesale prices may be excessive
- worry about harm inflicted on consumers through excessive pricing
- place particular emphasis on transparency of costs, in order to gain the benefits of other operators being able to check the cost information and point out any issues with it.

In addition to an imbalance in profit margins, there is a corresponding imbalance in cashflow when comparing incumbents and new entrants. Limited cashflow may affect the ability of entrants to invest in new infrastructure by (for example) increasing their cost of capital, especially in the current financial environment. There is therefore a risk that current asymmetries will be perpetuated and that competition (and consumers) could be harmed.

4.3 These worries are supported by evidence of discriminatory behaviour

Specific issues include:

- ‘next-generation’ access products are needed as network technology changes
 - bitstream access to FTTC and FTTH PON and effective remedies for fibre unbundling (e.g. Belgium, Germany, Remotisation in Portugal, Spain)
 - the NGN equivalent of carrier selection (e.g. Germany)
- margin squeeze, for example looking at
 - bundling (e.g. Italy, Belgium)
 - long-running discounts (e.g. Spain)
 - call tariffs below termination rates, with high market share (e.g. Belgium, Italy)
 - alleged margin squeeze (e.g. in Poland)
- transparent and consistent setting of regulated wholesale prices (e.g. in Italy)
- non-price discrimination issues (e.g. in Poland, Italy, Portugal).

This is by no means a complete list, but it gives some idea of the scale and scope of the issues faced by competitors. In Sections 6–11 below, we examine specific cases in each of these countries. We also discuss as we encounter them potential actions which might need to be taken to protect fair competition.

4.4 Action is required at both a national and European level

Competition is under threat. Even if there were not dynamic changes to networks and markets, regulatory vigilance would be required; the effect of these significant changes means that regulators need to be even more vigilant in seeking to prevent harm to competition. Pan-European guidance or action by BEREC or the Commission may also be required.

5 Case studies

The case studies presented in this section serve to highlight problems arising from discriminatory and anti-competitive behaviour by telecoms operators across Europe. They also indicate that the problems, while occurring in differing contexts and with different impacts on the competitive environment, are not unique to each country: common themes can be identified. Common themes, however, also suggest the possibility of harmonised solutions.

These case studies are the result of interviews, targeted data requests and survey responses from a selected panel of competitive operators in the countries studied.

While each case study illustrates a handful of important issues from each country, these issues had to be carefully selected from a wide variety of topics that were discussed. As a result, there is a much longer list of current issues in reality, of varying degrees of severity.

6 Belgium

6.1 Market context

The Belgian fixed telecoms market is characterised by (in effect) two large players: the incumbent Belgacom and the non-overlapping cable operators (of which Telenet is the largest). These players have a combined market share of 96% of the fixed access line market and 93% of the broadband market.³⁴

Fixed voice services

Belgacom has a very high fraction of the fixed voice market by traffic and by revenue, as can be seen in Figure 6.1 below.

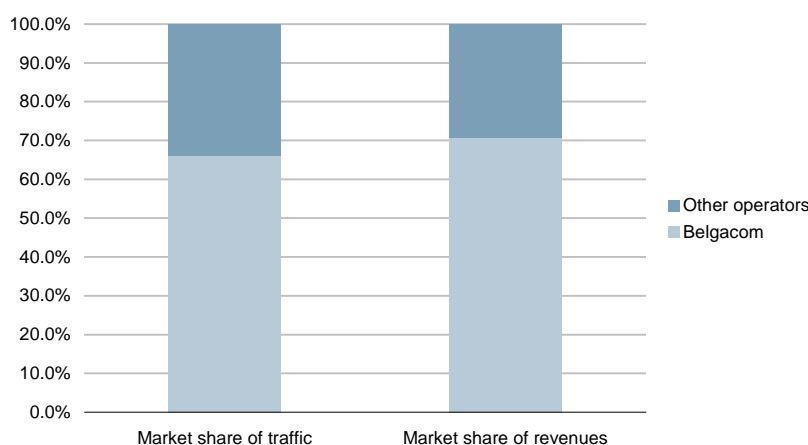


Figure 6.1: *Belgian fixed voice calls market share by revenues and traffic in 2008 [Source: Analysys Mason Research]*

To date, alternative operators have found it difficult to compete in the fixed voice market in Belgium. Carrier pre-select operators made significant gains in their subscriber base in 2003-2004; however, these gains were then eroded following the launch of low price retail offers by the incumbent (including a flat-fee offer which gave unlimited off-peak calls to fixed lines) - over which there has been a competition case running since 2005.

Very aggressive pricing and the lack of a wholesale line rental product meant that alternative operators were unable to effectively compete with these offers, and their market share declined significantly as a result. Between 2004 and 2007, Belgacom's market share for voice services

³⁴ Source: Telegeography.

increased by 9%, while the market share of voice subscribers (CPS lines/PSTN and cable lines) held by KPN Belgium (then known as Tele 2) dropped from 8.4% to 3.8%³⁵.

This dominance in the market has continued into recent times, with BIPT issuing a decision in November 2008 stating that Belgacom continued to hold SMP in retail domestic fixed telephony services³⁶. This continued need for retail regulation is unusual and indicates significant problems in the wholesale market.

The 13th Implementation Report (regarding 2007) confirmed this evolution of the Belgian market indicating that *“Traffic volumes sharply decreased (-7.6%) and so did the number of active carrier preselection lines, which may be due inter alia to increasing fixed-to-mobile substitution. However, the market share of the incumbent rose again, both in volume (from 65% to 70% in 2006) and in value (from 66.6% up to 71.10%). As an example, the incumbent’s market share for national fixed calls fell from 76% to 69% between 2004 and 2005 but rose again to 77% by the end of 2006. This might be explained by increasing offers of flat rate packages and bundles.”* Competition has decreased since this Implementation Report was written, with Belgacom’s acquisition on 2008 of the LLU operator Scarlet.

Broadband

The number of unbundled local loops is very low, with just 3% of lines being used by alternative operators to deliver broadband³⁷. Figure 6.2 below shows the market shares of broadband by subscribers and revenue.

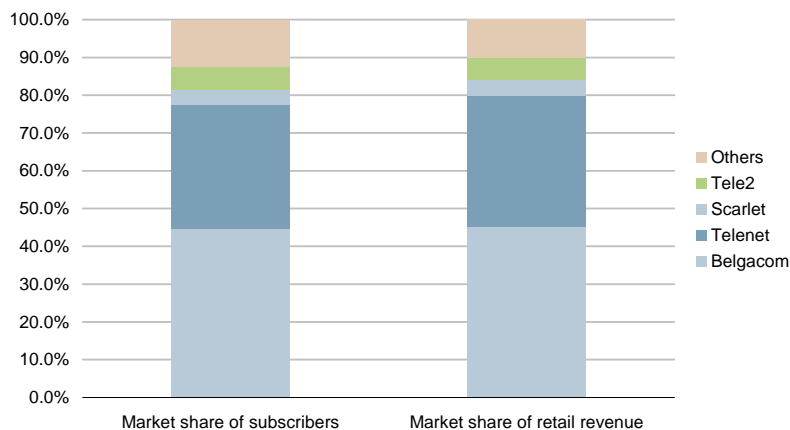


Figure 6.2: Market share of Belgian broadband market. Scarlet is owned by Belgacom. [Source: Analysys Mason Research]

³⁵ Tele 2's market share calculated as % of CPS lines versus PSTN + cable lines, sources BIPT's annual report 2007.

³⁶ "Decision of 6 November 2008 on the analysis of relevant markets 3/03 and 5/03", <http://www.bipt.be/ShowDoc.aspx?objectID=2967&lang=en>

³⁷ ECTA Broadband Scorecard Q1 2009, available at: <http://www.ectportal.com/en/basic650.html>

Mobile

Market share in the mobile sector, also shown in Figure 6.3, is more evenly spread, although the position of Belgacom's mobile arm Proximus is still very strong as they retain a very high market share in the high-value user segment (which is apparent from their higher share of revenues than subscribers).

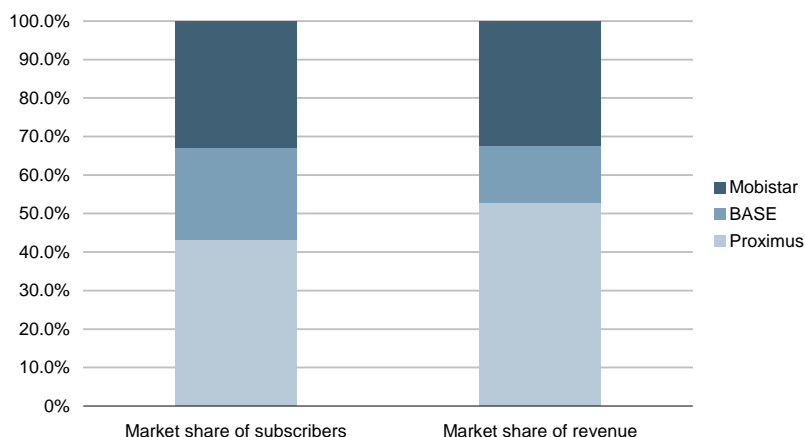


Figure 6.3: Mobile market share by revenues and subscribers of Belgian operators in 2008 [Source: Analysys Mason Research]

6.2 Specific issues

6.2.1 Wholesale offers are delayed (VDSL) or unsuitable (e.g. not multicast-capable)

The stability of Belgacom's market share and poor take-up of unbundling and bitstream suggests that breaking into the broadband market has been extremely challenging for new entrants. The number of unbundled local loops is very low, with just 3% of lines being used by alternative operators to deliver broadband³⁸.

The incumbent has rolled out ADSL2+ and VDSL to compete with the cable operators. VDSL covers approximately 65% of the population Belgium. This appears to be largely for IPTV: Belgacom has only offered moderate retail Internet speeds, with a peak speed of 20Mbit/s (which is comparable to that offered over ADSL2+ in France). The number of VDSL subscribers is not reported by Belgacom, but it has approximately 575 000 TV subscribers, the majority of whom are thought to be served using VDSL (some are served with ADSL2+).

The net result of this duopolistic market structure (cable vs. Belgacom) and the lack of success of competitive ISPs is that prices for end-users are higher in Belgium than in neighbouring countries

³⁸ ECTA Broadband Scorecard Q1 2009, available at: <http://www.ectaportal.com/en/basic650.html>

such as France. A more detailed study of this issue³⁹ concluded that lack of competition was a material cause of this.

Unfortunately, Belgacom's wholesale offers are discriminatory and have lagged a long way behind the capabilities of Belgacom's own retail offer. Despite the regulator's finding that Belgacom maintains dominance in wholesale broadband access, it took three years⁴⁰ for ADSL2+ bitstream to be offered to alternative operators⁴¹, and VDSL bitstream is only just (Nov 2009) becoming effectively available, again three years after the retail launch of VDSL⁴².

Multicast

The existing problems in the fixed market may now be made worse by an increasing prevalence of bundles. Bundles are appearing in several forms:

- **flat-fee offers** capitalising on 'club effects' of various networks of the Belgacom group
- **combined offers** of different services (double, triple-and quadruple-play, incorporating TV and mobile telephony) including incentives to subscribe to broadband services when taking TV.

This issue is especially problematic in the Belgian market, which already has two significant customer bases held by incumbents (telephony for Belgacom and cable TV for Telenet and the other cable companies). Both Belgacom and the cable operators are promoting bundles: Belgacom customers can only receive the TV service if they also take broadband, and Telenet customers are offered higher broadband speeds if they take a bundle.

The ability of alternative operators to compete against bundles depends on the ability to obtain wholesale inputs which would allow a similar offer. LLU is one such product, and is being successfully used in France, for example: but (as noted above) unbundlers have not been able to make progress in Belgium. However, one 'rung' of the ladder of investment is missing because the incumbent offers no support for the multicast functionality needed to deliver TV on its wholesale bitstream products.

³⁹ Final Report for Maatschappelijke Integratie – Intégration Sociale Lot 2: An Analytic Study of the Results of Lot 1 Showing the Factors which Explain Broadband Retail Price Differences between Countries, 14 February 2007, Analysys Consulting.

⁴⁰ BIPT mandated ADSL2+ access in 2005, and Belgacom produced a reference offer in 2008.

⁴¹ This is noted in the 13th Implementation report: *The incumbent was ordered by the NRA — back in 2006 — to include ADSL2+ in its bitstream reference offer. Its continued refusal, however, has not yet been subjected to sanctions. Such behaviour is seen as discriminatory by the alternative operators, as this technology is currently used at retail level (this dispute about ADSL2+ has been brought before the Competition Council). Operators complain about their impossibility to compete with the incumbent in terms of higher speed or new converged offers.*

⁴² As we understand it, there is an offer, but the regulator has still not finally determined the full set of wholesale charges.

The incumbent only allows the transmission of IPTV over its DSL network by its own downstream division, and possibly also by its subsidiary Scarlet⁴³; it discriminates and does not offer this functionality to any other alternative operators.

If alternative operators cannot replicate the bundles of Belgacom or the cable operators, then the market may become foreclosed to sustainable competition. Accordingly, the national regulatory authority (NRA), the ERG/BEREC or the Commission may wish to consider how to obtain a suitable wholesale product:

- either by relying on incentive properties, for example through 'equivalence' and functional separation
- or by requiring the provision of a more capable bitstream product through 'traditional' remedies (e.g. obligation to supply, price control). Such an approach requires detailed supervision and past delays, if repeated, would make this an ineffective option.

6.2.2 Mobile price squeeze problems

As noted above, Proximus, the mobile arm of Belgacom, has the largest share of the mobile market in Belgium, with 43.7% of subscribers in Q3 2009 (Mobistar has 32.3% and BASE has 24% of subscribers). Proximus has an even higher share of the postpaid market (54%).

A high market share (by subscribers and by revenues) can be leveraged to win more new customers, through the use of differential on-net and off-net prices. By having on-net tariffs much lower than the off-net tariffs, the dominance of the leading player tends to increase:

- New customers are obtained, as the 'club effect' leads to greater savings on the largest player's network.
- Existing customers face barriers to switching, as an average customer on the largest network is likely to make a higher proportion of their calls on-net. Therefore a change of network will be likely to result in a higher proportion of off-net calls (and face higher prices as a result).

ERG⁴⁴ has recognised that this effect exists *"In summary, an on-net/off-net retail price differential, combined with significantly above-cost MTRs, can, in certain circumstances, tone down competition to the benefit of larger networks... This potential competition issue is, however, compounded when MTRs (charged by large networks) are significantly above costs really due to terminate calls. The extreme situation can appear when on-net prices are lower than MTR tariffs."*

The mobile market in Belgium has seen a number of problems arising from discriminatory on-net pricing. In the year 2000, Proximus' on-net retail prices were 60-70% cheaper than its off-net

⁴³ Scarlet was formerly an LLU operator with a "no frills" offering, which Belgacom acquired in early 2008 and which continues to operate under a distinct brand.

⁴⁴ ERG's Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates.

tariffs. Indeed, in that year its on-net retail prices were lower than the mobile termination rate (MTR) it charged to other mobile operators. This situation continued, and in 2005, the competing operator BASE (later joined by Mobistar) raised a complaint with the Belgian competition council. A dawn raid at Proximus offices in January 2006 retrieved a cost model which demonstrated the material nature of the price squeeze. Proximus was fined EUR66.3 million in May 2009, for discriminatory conduct (i.e. this margin squeeze in the business market) during 2004-2005⁴⁵.

Despite the competition council fine relating to Proximus's activities prior to 2005, there is still evidence of ongoing margin squeeze in the corporate mobile market. Its typical large corporate retail tariffs are still lower than the MTR it charges other operators.

- In 2007, the tariffs offered to corporate customers were around EUR0.0428 to EUR0.0688 per minute (with small or no monthly fees beyond this), compared with Proximus' MTR at the time of EUR0.0973. This strongly suggests a margin squeeze, because although there will be other calls with lower costs (such as calls to fixed lines), and other revenues such as international roaming, at such a price a significant number of calls (to Proximus) will have a significant negative margin for either Base or Mobistar.
- The Belgian government and federal administrations currently pay Proximus a retail tariff of EUR0.0419 per minute for 'any time, any network' calls (against an MTR of EUR0.072) with no additional setup or SIM card costs or monthly fees. Again, this 'extreme situation' (as noted in the ERG quote above) strongly suggests a margin squeeze.

Proximus's corporate retail tariffs are thought to be excluding MVNOs from entering the business market, and also stopping smaller mobile operators from expanding their market share with such high-value customers.

The recent Commission recommendation on mobile termination rates (recommending a so-called 'pure LRIC' approach) may in the long run prevent this kind of margin squeeze: however in the short run it can present a serious obstacle to competition.

Within the electronic communications regulatory framework, where markets have low barriers to entry, are prospectively competitive, and ex-post regulation would be sufficient, ex-ante regulation can be removed. In such circumstances, the current competition law regime which has delivered small penalties, delayed justice, and lack of protection from repeated and continuing infringements will not be sufficient protect the interests of competitors and consumers.

6.2.3 Other allegations

We have already mentioned above the competition case regarding an alleged margin squeeze by Belgacom's 'Happy Time' offers.

⁴⁵

<http://wirelessfederation.com/news/16163-belgacom-mobile-arm-faces-eur66-million-fine-belgium/>

7 Germany

7.1 Market context

The German market is characterised by the ongoing dominance of fixed incumbent Deutsche Telekom (DT). As can be seen from the figures below, DT retains a high share of the fixed calls, broadband, and mobile markets.

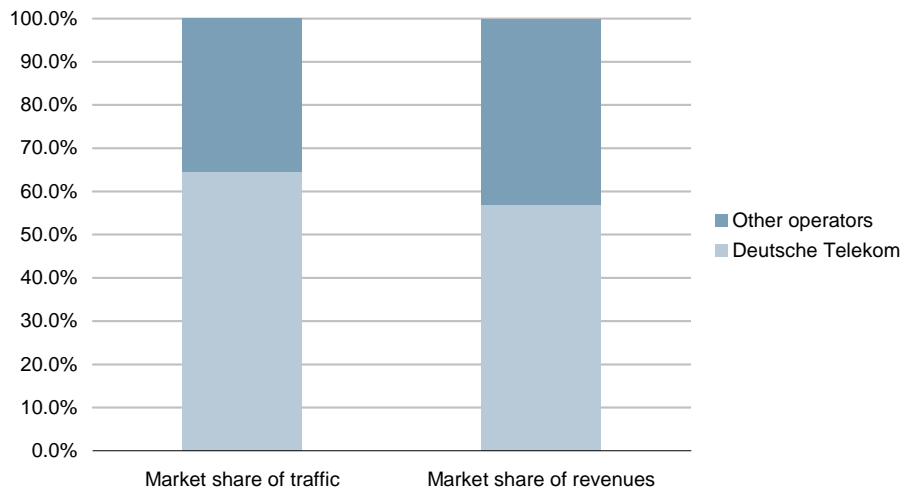


Figure 7.1: Fixed calls market share by revenues and traffic of German operators in 2008 [Source: Analysys Mason Research]

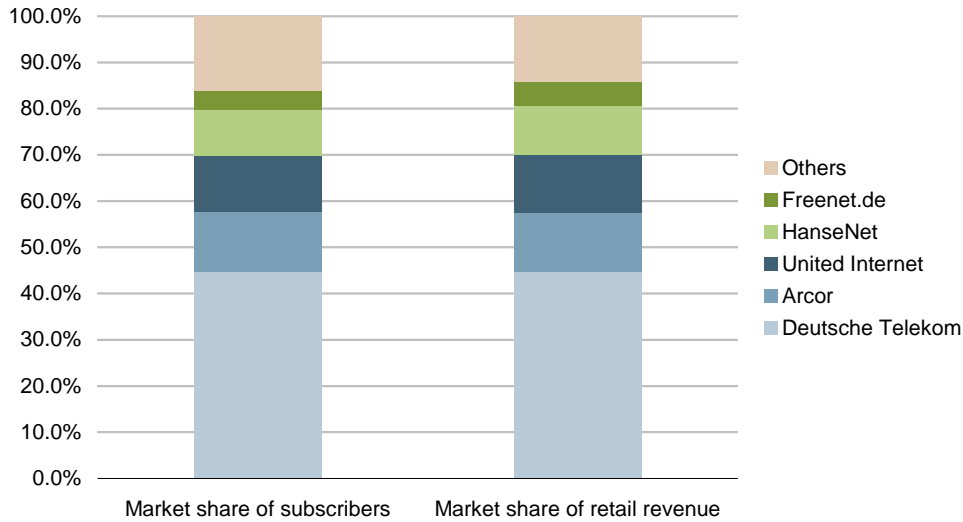


Figure 7.2: Broadband market share by revenues and subscribers of German operators in 2008 [Source: Analysys Mason Research]

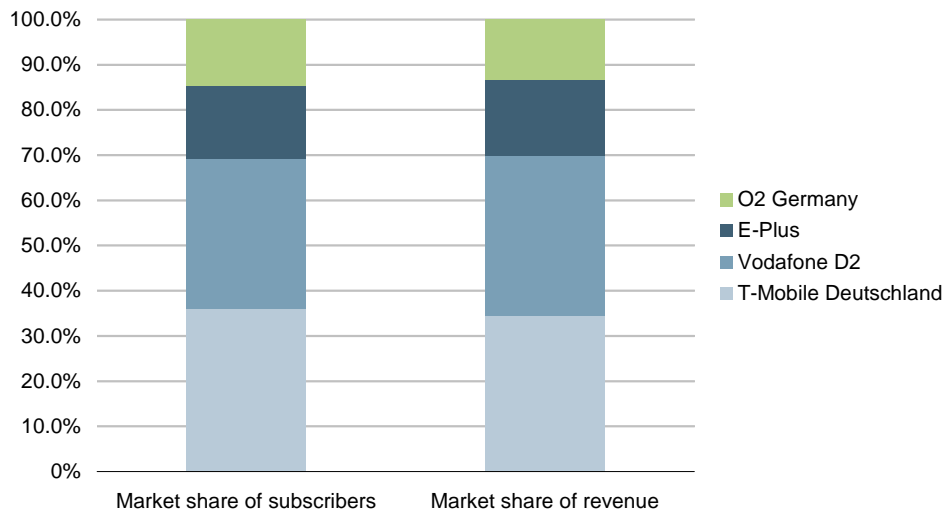


Figure 7.3: Mobile market share by revenues and subscribers of German operators in 2008 [Source: Analysys Mason Research]

7.2 Specific issues

There have been a number of reports of anti-competitive activity by DT in recent years, including a competition case where DT was fined for a margin squeeze.

This case study focuses on two issues of current interest:

- difficulties with wholesale access to its newly rolled out FTTC/VDSL infrastructure
- potential exclusion of carrier selection (CS) operators from the market.

7.2.1 Wholesale offers are denied (VDSL)

History

The history of this matter is extremely complex.

In late 2005 the German regulator notified the 'wholesale broadband access' market, excluding VDSL and was challenged by the European Commission through a 'serious doubts' letter. BNetzA changed the market definition so as not to explicitly exclude VDSL, but later concluded that VDSL was not a substitute and did not regulate access.

In parallel, DT has been deploying VDSL in the top 50 cities (estimated to cover 21% of population) and then offering (since mid-2006) retail services based on this, starting with triple-play services with 25Mbit/s and 50Mbit/s broadband speeds.

In 2006, an amendment to the German telecoms law was proposed by the government which would allow an SMP operator (such as DT) to be exempt from ex-ante regulation (including regulated access) in certain circumstances (widely seen as allowing a 'regulatory holiday' for VDSL). The proposal was finally passed into German law in February 2007, with adjusted wording focusing on non-substitutability at the service level "*A market for new services or products, which differ in a non-insignificant way with regard to their performance, reach, availability to larger user groups (capability to sell to mass market), price or quality, from the perspective of an intelligent customer and which are not a mere substitute thereof.*"⁴⁶ An immediate challenge by the European Commission was taken to the European Court of Justice, which decided on 3 December 2009 that the German law was incompatible with EU legislation.

A study on the 'Economics of next-generation access' published by German institute WIK Consult in September 2008, which included a case study of the German market, supported the Commission's assertions that VDSL deployment was not widely replicable by competitors, finding that VDSL could be only duplicated to a limited degree using sub-loop unbundling and that duct and cabinet access alone would not be sufficient to deliver competitive outcomes.

Thus far, there has been no regulated access to the network, although the draft BNetzA decision on the wholesale broadband access market (Market 5, old Market 12) proposes⁴⁷ to include VDSL.

⁴⁶ T-REGS translation, at <http://www.t-regs.com/content/view/369/1/>

⁴⁷ <http://www.bundesnetzagentur.de/media/archive/17371.pdf>

Initial negotiations for investment sharing failed

DT announced a change to its infrastructure strategy in October 2008, calling on alternative operators to help share the cost of NGA deployment. Significant interest was shown by a number of altnets and indeed, detailed negotiations took place between DT, Vodafone and other operator groups. However, these negotiations have recently broken down, with DT citing strategic reasons for pulling out of the talks. Operators have cited the following reasons for the failure of negotiations:

- DT was not offering to share its cabinets, meaning that alternative operators would need a separate cabinet adjacent to the DT cabinet to house their own VDSL electronics and would have to pay an additional fee for the link cable between the two cabinets.
- Conditions and cost of access to ducts for competitors to install their fibre could not be agreed.

Overall, the inability of alternative operators to access the DT infrastructure on reasonable terms effectively prevents alternative operators from investing at all. Without access to the DT cabinet, alternative operators will be forced to build a second cabinet, incurring significant financial and practical difficulties. Furthermore, without reasonable and effective access to DT's duct and dark fibre infrastructure, operators are heavily constrained in their options for connecting the cabinet electronics to the central office.

Recognising the merits of these arguments, BNetzA has recently (7 December 2009) ruled on the conditions of access to cabinets and ducts, allowing alternative operators access to the cabinets, although prices are yet to be set.

DT has submitted their duct, dark fibre and cabinet access price proposals during the course of the most recent VDSL unbundling price determination proceedings (January 2010). The entrants believe that DT's proposed prices are not cost oriented and that they make competitive deployment of FTTC/VDSL unviable⁴⁸.

Fit-for-purpose bitstream access remains unavailable

In addition to the breakdown in negotiations over infrastructure access, fit-for-purpose VDSL bitstream access is delayed (only just being delivered) and of limited capabilities.

DT has proposed (since March 2009) that VDSL bitstream will be made available on a voluntary basis, but it is of limited use for triple-play services (as there will be no service-specific QoS or multicast capability) until 2011. 1&1 has recently launched a retail offer reselling DT VDSL ('1&1 DSL-HomeNet') at 50Mbit/s, at approximately EUR5 per month less than DT⁴⁹. In the

⁴⁸ The WIK study already mentioned concludes that the viability of competitive VDSL deployment in Germany is low, with inputs assumed to be less costly than those proposed by DT

⁴⁹ The 1&1 50Mbit/s offer is currently discounted at EUR39.99; DT's 25Mbit/s double-play flat offer Call and Surf Comfort VDSL is currently EUR44.95.

mean time, DT's own retail division is able to and has been deploying triple-play bundles (since 2006) and now also double-play (since September 2009). DT is thus discriminating against its competitors in the timing of the offers. The draft BNetzA decision on Market 5 (wholesale bitstream access) outlaws such discrimination.

Furthermore, there are concerns that the proposed VDSL bitstream offer represents a case of margin squeeze, especially when additional charges for traffic are included, although this is a complex matter and beyond the scope of this study.

A full regulatory remedy is still lacking

Vodafone and other competitive operators have written to BNetzA requesting that it instruct DT to offer access to its cabinets, duct and dark fibre, and proposed a pricing arrangement for this access. Vodafone has argued that DT has an obligation to provide this access, arising from BNetzA's regulatory order of June 2007, which obliges DT to provide access to its network. DT has referred the issue back to BNetzA, notifying the regulator that the negotiations have failed and it is up to BNetzA to determine prices for a limited number of services. BNetzA will need to determine not only prices but also access conditions.

The net effect of this complex mix of legislation, regulation and commercial negotiation puts competitors at a significant disadvantage and makes investments by competitive operators fraught with difficulty. These operators face significantly greater investment risks than DT because they may have their investments stranded or their customer bases severely eroded by this anti-competitive behaviour.

Even if BNetzA does reach a prompt decision on matters relating to DT's VDSL deployment, there is scope for DT to challenge any decision in court, which will further delay any offers being released to the market, and operational issues may yet further delay their effectiveness. In the mean time, DT has gained a significant first-mover advantage.

Overall, the lack of access to infrastructure and the lack of VDSL-bitstream represent serious impediments to competition, and will over time be likely to result in higher prices and lower service quality for German end-users.

7.2.2 Competition based on CS is being constrained

CS-based services⁵⁰ are very popular in Germany and make up an important part of the competition to incumbent DT. CS allows customers to have their calls routed by an alternative core network operator, and can offer significant savings on call charges, especially for international calls.

⁵⁰ CS includes 'Call-by-call' functionality, where the customer dials a prefix to reach the alternative operators network, and 'Pre-Selection' where the prefix is preset.

As shown in Figure 7.4 below⁵¹, CS continues to make up a significant proportion of the competition to the incumbent, despite declining in recent years relative to ULL-based services. For customers purchasing only telephony services (approximately half the German telephony market) and in areas of Germany where unbundling is not viable or widespread (e.g. rural areas), CS represents the only option for calling via an alternative operator.

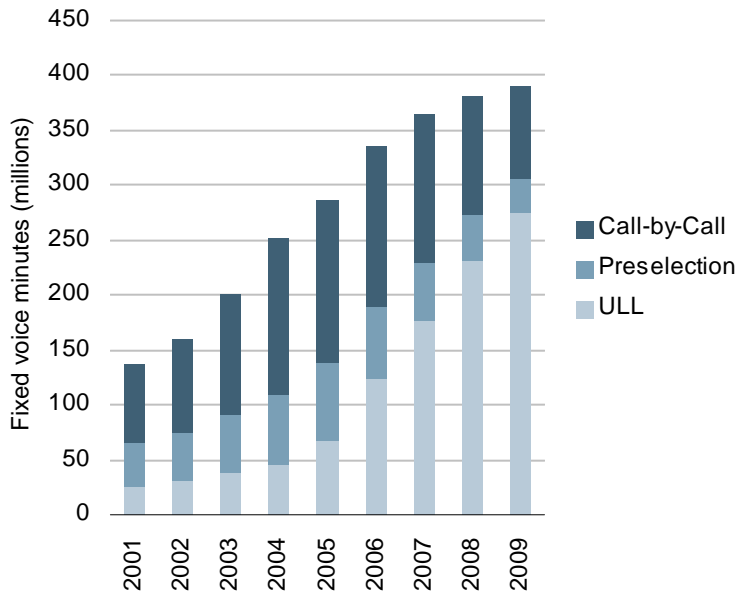


Figure 7.4: Total competitors voice minutes in Germany
[Source: VATM Market Study, November 2009]

However, this portion of the market is under threat from two discriminatory practices: the denial of access to CS on IP-only voice services, and the lack of cost-based, wholesale access to subscriber lines to allow CS operators to compete with bundles.

Threat from rollout of IP-only services

DT is actively rolling out a new Voice-over-NGN product via its fixed and mobile brand Congstar (summer 2008) and residential fixed line business T-Home (early 2009). These products are IP-based and replicate all the features of PSTN/ISDN services. However, DT has to date denied customers the ability to use CS services on these lines. This denial is not based on technical reasons because a technical solution is possible (e.g. it is offered in Switzerland by Swisscom). DT refused a request by an alternative operator in early 2008 to offer CS to its Voice-over-NGN customers.

If this had continued then it would have seriously impacted the carrier select providers and customers reliant on carrier select (e.g. in rural areas where LLU is not economic). However, BNetzA has recently ordered DT to comply immediately in offering carrier select on these lines. DT indicated during 2009 that it expects to be given a nine month implementation period before

⁵¹ Note: ULL figures includes VoIP from broadband connections.

making these services available, so BNetzA's order may in any case not prevent significant harm to these providers and customers.

The impact on the consumer is potentially large, especially for those wanting to make international calls: customers can achieve large cost savings by using CS operators when compared to more mainstream operators – even compared to DT's new Voice-over-NGN services.

Guidelines at the EC level (from the Commission or ERG/BEREC) might prevent a repetition of this potential problem (i.e. the use of a technology transition as a pretext for the denial of an existing remedy) elsewhere.

Inability to match bundle prices due to lack of wholesale line rental product

Operators are finding it difficult to compete against DT's low-priced product bundles (such as 'Call Comfort' and 'Call & Surf'). Key to this difficulty is the lack of wholesale access to subscriber lines (WLR) to allow operators to bundle their services with the subscriber line and offer it at competitive prices.

Until recently, subscriber line access was not available at all, and operators had no opportunity to bundle their services with the rental of the telephone line⁵². DT does now offer access to subscriber lines, but this is only available at retail prices (in effect forcing the wholesale customers to incur unwanted costs – 'tying' retail costs to the wholesale line rental), which leaves alternative operators little room to compete.

Due to the difficulty in matching the bundle prices from DT, operators face steep losses in their customer base. If the current situation continues, many operators may be forced to leave the market. We understand that at the same time as fixing the problem noted above, BNetzA has rejected offering wholesale line rental at a discount to retail prices. We note that the European Commission has recently explicitly called upon BNetzA to ensure that WLR be made available with pricing below the retail price⁵³.

Figure 7.5 below gives some examples of the prices of DT 'Call and Surf' bundles compared to the wholesale costs that CS operators must incur if they are to provide equivalent bundles using retail lines. These figures were produced by a German entrant operator and support its allegation of a margin squeeze resulting from the lack of a WLR product.

⁵² DT had previously not offered access to subscriber lines even at retail prices, so CS operators had no option to bundle the subscriber line and their services. DT had not implemented an anti-abuse decision for uninterrupted provision of subscriber lines on terms at least as favourable as the retail offer (proclaimed by BNetzA in Jan 2009, reaffirmed by Administrative Court in June 2009).

⁵³ http://circa.europa.eu/Public/irc/infso/ecctf/library?!=/germany/registerednotifications/de20091006/de-2009-1006_acte4/_EN_1.0_&a=d

| <i>DT bundle</i> | <i>DT monthly retail price (EUR)</i> | <i>CS carrier equivalent monthly cost (EUR)</i> | <i>Available margin</i> |
|-------------------------------|--|---|-------------------------|
| Standard phone + 2Mbit/s DSL | 25.16 | 26.29 | -4.26% |
| ISDN phone + 2Mbit/s DSL | 28.51 | 33.01 | -13.60% |
| Standard phone + 6Mbit/s DSL | 33.57 | 32.21 | 4.22% |
| ISDN phone + 6Mbit/s DSL | 36.93 | 44.85 | -17.68% |
| Standard phone + 16Mbit/s DSL | 41.97 | 32.21 | 30.30% |
| ISDN phone + 16Mbit/s DSL | 45.33 | 44.85 | 1.05% |

Figure 7.5: Comparison of DT and CS-equivalent bundles [Source: Operator data]

7.2.3 Other allegations

Other reported anti-competitive and discriminatory behaviour by DT includes:

- **Discriminatory timeframes:** DT gives longer timeframes for line activation to customers of alternative operators than it does for its own customers.
- **Migration issues.** If migrating an existing LLU customer to a wholesale (resale) VDSL service, the customer is required to be without service for several days.
- **Poor wholesale ordering system.** A new wholesale ordering interface (WITA), launched at the same time as the VDSL bitstream offers, is reported to perform very poorly.
- **Ambiguous error messages:** required manual processing to rectify faults, delaying line activation for the customer.
- **Lack of automated interface for outages on wholesale bitstream:** a technical outage can only be reported to DT via fax.

8 Italy

8.1 Market context

Fixed

TI reaches about 18.8 million homes through its copper network. With no cable operators, TI is the only access network operator in Italy, with limited exceptions in restricted areas of the country (e.g. the Milan metropolitan area) which are covered by the fibre network of TI's competitor Fastweb.

Having been threatened in 2006 with functional separation (similar to that undergone by BT in the UK), TI voluntarily adopted a number of Commitments in 2008 which are aimed at ensuring internal-external parity of treatment (but falling short of functional separation). These Commitments can be seen as a further tool aimed at the implementation of the 2002 parity of treatment obligation imposed by AGCOM decision no 152/02/CONS.

At the same time, TI adopted a new organisational structure in January 2008 creating a new division 'Open Access', which is in charge of providing wholesale inputs to TI Wholesale division and to TI's retail divisions.

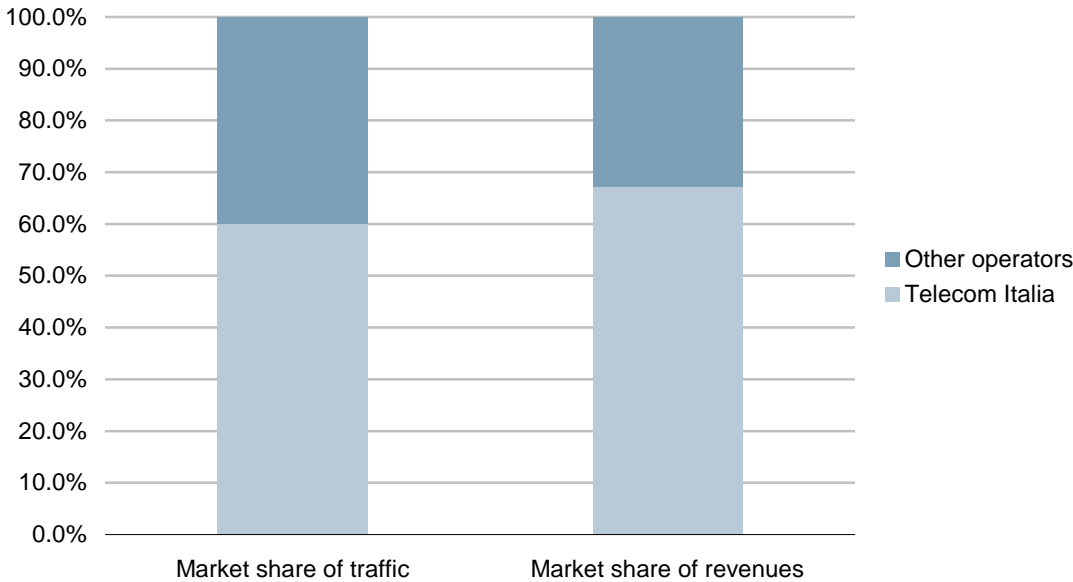


Figure 8.1: Fixed calls market share by revenues and traffic of Italian operators in 2008 [Source: Analysys Mason Research]

Broadband

TI's market share in retail broadband of just below 60% is – together with Telefónica in Spain – the highest amongst major European markets.

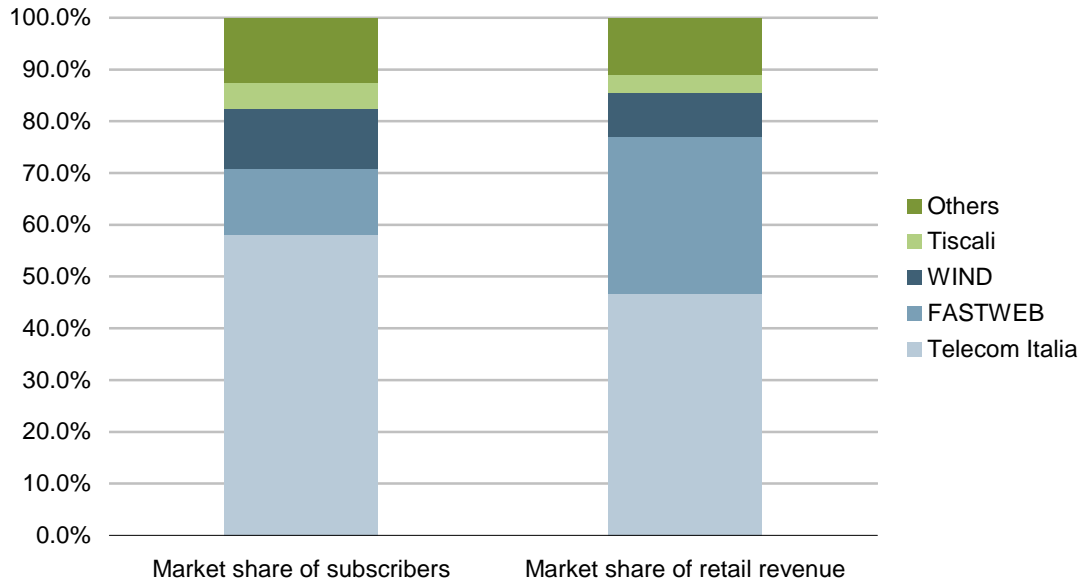


Figure 8.2: *Broadband market share by revenues and subscribers of Italian operators in 2008*
 [Source: Analysys Mason Research]

Mobile

TI also operates the largest mobile network by subscribers in Italy as shown in Figure 8.3.

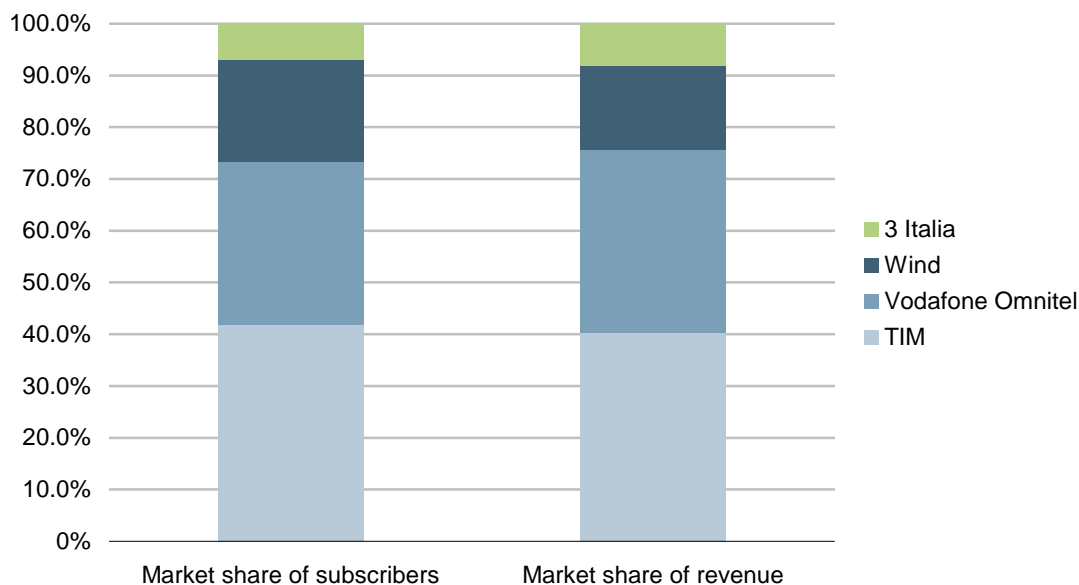


Figure 8.3: Mobile market share by revenues and subscribers of Italian operators in 2008 [Source: Analysys Mason Research]

8.2 Specific issues

8.2.1 Issues with Alice Casa, including alleged margin squeeze

TI's flagship home connectivity product is Alice Casa. The basic product includes broadband Internet along with Voice-over-broadband; IPTV is also available as an add-on. Alice Casa is very successful, reinforcing our previous point about the importance of bundles: in Q3 2009, 140 000 subscribers signed up for Alice Casa, 125 % of the TI net adds⁵⁴, implying a very large fraction of the new broadband customers took Alice Casa. It uses 'naked DSL' connectivity (i.e. without a conventional PSTN line in addition) to provide a fully IP-based service.

However there are several competitive problems with this product:

- Operators have indicated that the price of Alice Casa exposes them to a margin squeeze. Rising wholesale prices will make this alleged squeeze worse.
- Operators report that TI is refusing to allow the telephone numbers used on Alice Casa (IP native numbers) to be ported away from the service.

⁵⁴ More than 100% is possible because customers can change supplier, and also because TI customers can change TI product.

- IPTV is available on Alice Casa Voce&Internet 20 Mega for an additional fee of EUR2.95⁵⁵, while one operator has estimated it would cost over EUR64 in bandwidth costs to offer the same product itself using TI's wholesale broadband products.
- We have been informed that there are more than 100 local exchanges (around 10% of total local exchanges of interest to competitors) at which alternative operators have not been able to use LLU for more than two years (2008 – 2009), due to the exchanges being declared 'congested sites' or 'black sites' by TI, and for the latter no further expansion is possible. At these sites, competitors may have no alternative except to use bitstream or WLR to access customers, while TI is able to operate in these sites freely. If Alice Casa cannot be replicated using bitstream then competition will be harmed on those exchanges.

The currently applicable regulation includes a price squeeze model, relevant only for bitstream services, for assessment of the replicability of TI's broadband offers (Decision 249/07/CONS). An updated mechanism for addressing replicability and margin squeeze issues on broadband markets was proposed in December 2009⁵⁶, but is still under consultation and not yet applicable.

8.2.2 Risks of inappropriate wholesale prices

TI's proposal to raise the fees it charges for LLU by 11% was accepted by AGCOM in March 2009. Regulatory approval has recently been given for TI's latest bitstream offer, which sees prices rise for wholesale products by up to 5.29%. The increases in TI's wholesale product prices are arguably surprising considering that TI's EBITDA is already high⁵⁷.

Competitors have little insight into what goes into the calculation of TI's wholesale prices, such as lifetimes of critical assets, assumptions about renewal of plant, and the cost drivers used within cost allocation calculations. Indeed, despite an EC Recommendation⁵⁸ requiring that relevant accounting be made available to interested parties as soon as possible, the last published regulatory accounts from TI date back to 2007⁵⁹.

This is a wider issue which merits action at EU level: published accounting data and cost models justifying wholesale prices are a critical part of allowing the operators buying wholesale services to check that the prices are correctly set (e.g. that a cost-orientation obligation has been met) and that the assumptions within the models are reasonable. It is therefore highly desirable for such material to be published (or as a minimum, shared under NDA with the relevant parties in each

⁵⁵ It was free in the bundle at launch in 2007.

⁵⁶ See AGCOM decision at: <http://www.agcom.it/default.aspx?message=viewdocument&DocID=3548>.

⁵⁷ TI's EBITDA margin rose from 39.8% in 2007 to an expected 40.8% in 2009, compared with an average EBITDA margin which remains consistently around 32.3% (Source: Bank of America Securities, Merrill Lynch).

⁵⁸ Commission Recommendation on accounting separation and cost accounting systems (2005).

⁵⁹ Before January 2010, the last published regulatory accounts from TI dated back to 2004.

country, including wholesale customers). In countries where it has been published, there have been challenges to prices based on this data (e.g. the recent PPC pricing dispute in the UK).

8.2.3 The Commitments do not yet appear to have significantly improved matters

TI offered 223 commitments as part of its negotiated undertaking with AGCOM in December 2008, intended to:

- ensure equal treatment of operators (including TI Retail)
- guarantee transparency on technical plans
- support the development of a NGA network.

The implementation process is still at a very early stage. However some of TI's competitors fear that the commitments might make matters worse as they may give increased discretion to TI, and rely on an as-yet unproven enforcement mechanism.

TI's organisational structure explicitly⁶⁰ excludes the functional separation adopted by BT in the UK. On the contrary, some aspects which are strictly forbidden in the UK are still present :

- Two separate systems are still used for delivering service: one for TI Retail, and one (administered by TI Wholesale) for competitors.
- Technical and commercial information can still be shared between the separated units of TI (TI refers to this as a continuation of its 'vertical integration').
- Cost savings from TI's investment in NGA can be shared across the whole company. The key issue is whether they will also be shared with wholesale customers.

Despite the aim of trying to be more transparent, the other operators feel that little has changed in TI's interactions with them:

- Performance against wholesale KPIs does not appear to have changed between the start of 2008 and the end of 2009.
- There has been little or no transparency on TI's plans for a NGN, despite this being stated as one⁶¹ of the four goals of TI's commitments. TI has already defined the main technical issues without any input from or shared activities with other operators. October 2009 was the first time that competitive operators were invited to a monitoring working group meeting, despite TI being required by its Commitments⁶² to involve operators in designing the delivery process.

⁶⁰ G. B. Amendola, "Telecom Italia's undertakings: building up an operational separation model", March 2009.

⁶¹ TI's commitments, page 2: "to make the evolution of Telecom's fixed access network more transparent for the Operators".

⁶² TI commitments, paragraph 1.6: "Telecom shall set up an advisory working group with the interested Operators in order to jointly analyze the procedures and implementation criteria of the New Delivery Process".

- The Supervisory Board has taken limited⁶³ actions to police the implementation of the Commitments, despite operators having filed complaints.

This organisational structure for wholesale and retail divisions of TI may therefore not give the claimed benefits, and might have to be renegotiated in future (as was the operational separation of Telstra in Australia, to which TI's separation can be compared).

In this context it is welcome that the European Commission has asked for the Commitments to be subject to the Article 7 process, even before the amended EU Framework allowing functional separation as a remedy has been transposed.

8.2.4 Other issues

Mobile margin squeeze

Alternative operators allege that TI continues to market mobile bundles that are not replicable given the termination rates set in Italy. Specifically 'Impresa semplice TIM Flex' is marketed for EUR50 and includes

- 1 handset
- USB dongle and 20 hours data traffic
- 900 minutes national voice traffic.

This pricing is not consistent with a mobile termination cost of EUR0.077 if the bundle is fully used, which would imply a unit cost of EUR0.055 per minute (which includes the costs of origination and termination) even if the handset and USB dongle were costless (which they are not).

Retail price discrimination in fixed business market

Competitive operators have indicated that TI has applied different prices for voice and narrowband services in LLU and non-LLU areas. This behaviour is alleged to have been put in place for specific categories of users (mainly business customers and public administrations) since 2006.

Delays

Competitive operators have faced uncertainty over the prices that they pay to TI for wholesale services, often due to delays within AGCOM:

⁶³ Such as requiring TI to revise its behavioural code of practice in a way to prohibit information flows between all divisions (inc. TI Wholesale, TI Retail, Open Access and Regulatory)

- The 2008 bitstream reference offer was approved in May 2009; the 2009 bitstream reference offer was published in June 2009 and was approved with some changes by AGCOM only in December 2009.
- The WLR reference offer for 2009 was approved only in August 2009.
- The local loop unbundling reference offer was published in October 2008 and approved in March 2009, with the increased prices applying retroactively from January 2009.

9 Poland

9.1 Market context

Fixed

Fixed penetration in Poland stood at 64% of households as of the third quarter of 2008, which is relatively low in comparison with penetration rates in Western European countries but is fairly high among Central and Eastern European (CEE) countries.

The Polish fixed line incumbent, Telekomunikacja Polska S.A. (TP S.A.), operates a national network which currently connects approximately⁶⁴ 8.5 million customers. It faces infrastructure-based competition from (amongst others) regional cable operators Multimedia Polska (which passes about one million homes), UPC Poland (passing about 2 million homes) and regional telco Telefonía Dialog. TP continues to dominate the fixed-line market; it accounts for 80% of the country's PSTN lines and around 70% of fixed call traffic and revenues, as can be seen below.

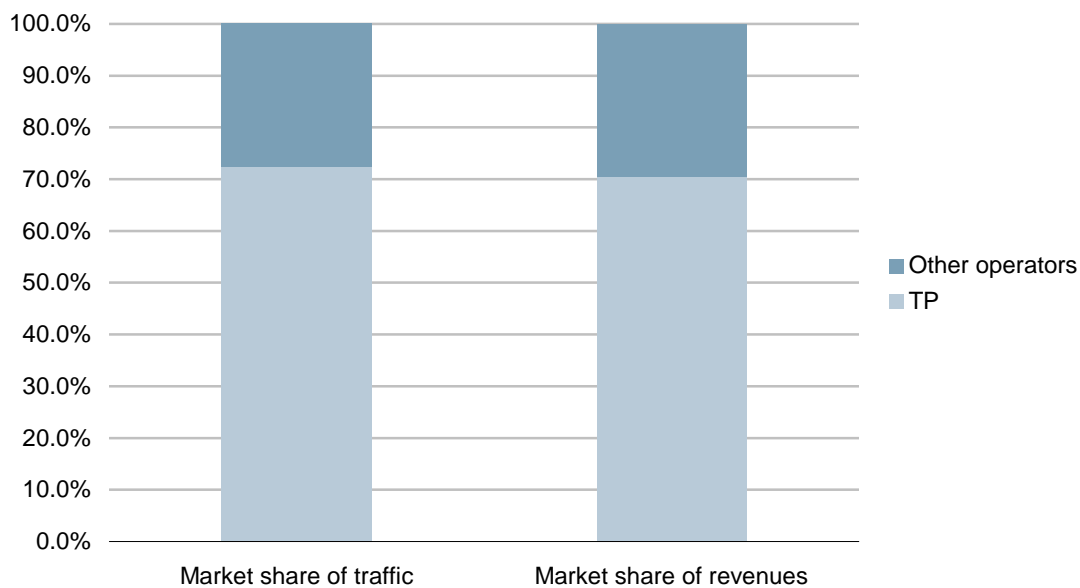


Figure 9.1: Fixed calls market share by revenues and traffic of Polish operators in 2008 [Source: Analysys Mason Research]

Poland transposed the EU New Regulatory Framework into law with the Telecoms Law of 16 July 2004, which resulted in obligations being placed on TP S.A. Most notably TP S.A. is required to

⁶⁴ TP Group Results for the nine months to 30 September 2009.

publish reference offers for access to elements of its infrastructure, specifying the standard terms, conditions and prices under which such access is available; and moreover, TP S.A. is required to offer terms and conditions at least as good as offered to its own retail business units.

Broadband

Despite the cable competition, TP is extremely strong in the broadband retail market, with more than a 70% share by retail revenue.

Fixed broadband household penetration stood at 27.7% in Poland by the third quarter of 2008, which is low in comparison with other CEE countries (for example, penetration stood at 52.3% in the Czech Republic and 43.8% in Hungary at the end of the same period).

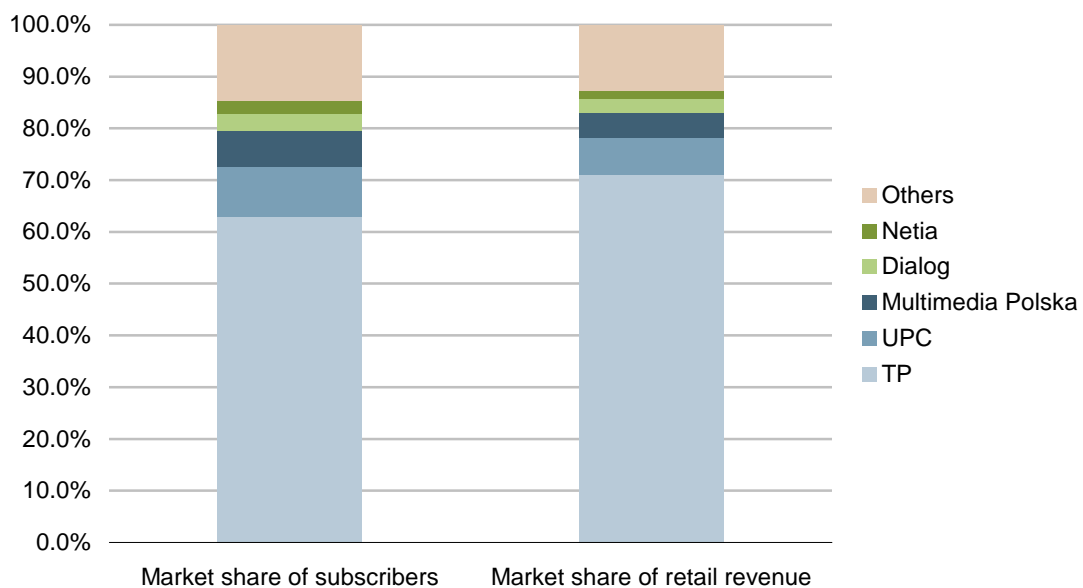


Figure 9.2: *Broadband market share by revenues and subscribers of Polish operators in 2008*
[Source: Analysys Mason Research]

Mobile

TP S.A. wholly-owned subsidiary PTK Centertel (Orange) is the second largest mobile operator by subscribers, and competes with Polkomtel, PTC and recent entrant P4. The state of mobile competition in the Polish market in June 2009 is shown in Figure 9.3.

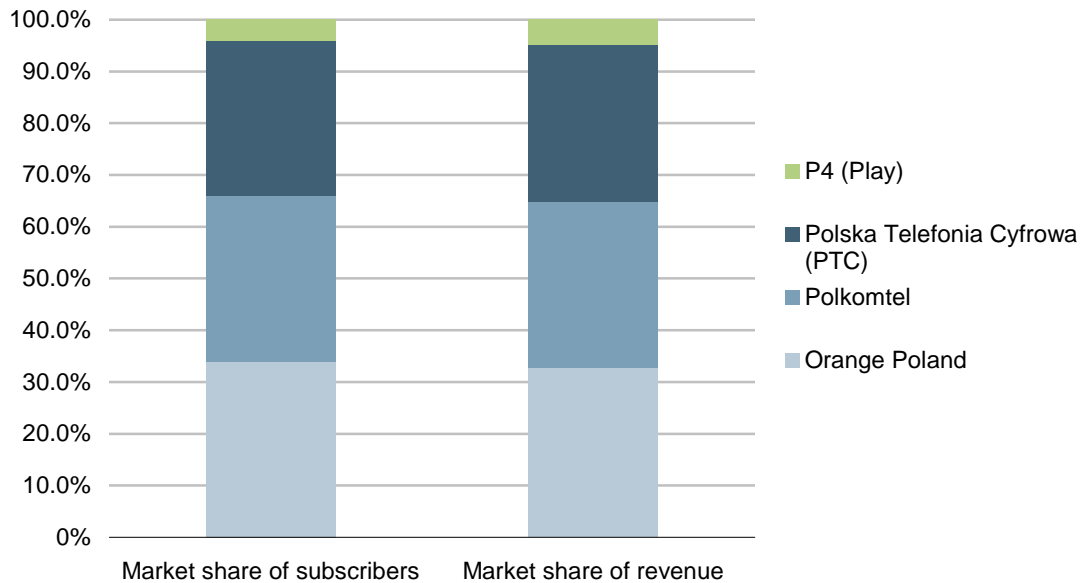


Figure 9.3: Mobile market share by revenues and subscribers of Polish operators in 2008 [Source: Analysys Mason Research]

9.2 Specific issues

Despite the promising start to the implementation of EU directives after accession on 1 May 2004, in practice competitive telecommunications have suffered from poor implementation of wholesale offers. The principal issues have been non-price discrimination, margin squeeze, and other issues including delays to the introduction of effective wholesale access (described below). As a result of these issues, the regulator UKE suggested in 2008 that functional separation of TP S.A. might be necessary. TP S.A. threatened that separation would result in reduced network investment, and in October 2009 managed to negotiate a less dramatic remedy: a set of legally-binding commitments to provide better access to competitors.

It is too early as yet to comment on the effects of these commitments.

9.2.1 Non-price discrimination by TP S.A.

Frustrated by the catalogue of obstructive behaviour from TP S.A., the Polish Chamber of Commerce for Electronics and Telecommunications (KIGEiT) commissioned a report⁶⁵ on non-price abusive behaviour in 2008. Among the clearly documented, specific issues raised in that report were:

⁶⁵ Audytel, 'Barriers to the development of competition in the telecommunications market in Poland - Discrimination practices against alternative operators by Telekomunikacja Polska S.A.', December 2008.

- **Refusal by TP S.A. to sign agreements based on its reference offers** particularly for WLR and WBA. TP S.A. regularly imposed additional conditions on the contracts (for example, exempting itself from penalties) or demanded higher prices than were contained in the reference offers. The only company that quickly and effortlessly signed a contract for WLR was PTK Centertel (Orange), TP S.A.'s wholly owned subsidiary. Even after agreement has been reached, TP S.A. may delay signing the agreed contract by months.
- **Rejection of valid orders for wholesale customer activation.** Transferring a customer who only takes DSL (no voice service) from TP S.A. to a competitor requires the customer to supply a phone number, which they don't have. Any small discrepancy in data provided may be used to reject an application, even if the discrepancy is due to incorrect data held by TP S.A. As an illustration, in many cases TP S.A. agreed and fulfilled a WLR order for a given customer, while an order for the WBA service was rejected later because the address data was wrong – despite precisely the same address data having been previously verified for the WLR order.
- **Refusal to provide necessary network information.** TP S.A. is obliged to supply general information about its network to access seekers (e.g. for LLU), but has in the past supplied this data in paper format even though such information was available in digital format within TP S.A. – and the quality of the data is frequently such that it can't be used by competitive operators.
- **Discrimination in favour of its own retail operation.** Activations typically happen much more quickly for TP S.A.'s own retail customers. In one sample of 184 people whose orders for DSL through a competitive operator were rejected by TP S.A. for technical reasons, 49 of them had subsequently ordered broadband from the incumbent's retail arm – and 27 of those received service within a week of requesting it.

This is just a small selection of nearly 80 examples catalogued in 2008; and indeed, UKE has stated that it agrees that TP S.A. has been guilty of abusive conduct:

Thanks to the exchange of [confidential information between divisions within TP Group], for instance on the services provided by alternative operators based on TP's infrastructure, the retail part of TP and its dependent entities (PTK Centertel) used to gain a considerable information advantage over alternative operators, thus enabling them to create offers which were more attractive to end-users... Alternative telecommunications entities are still being discriminated against, which translates itself directly into lower competitiveness of the retail market. This is why Poland ranks last as far as accessibility to and quality of the telecommunications services are concerned.⁶⁶

⁶⁶

UKE, 'The agreement between TP SA and the President of UKE' , 22 October 2009.

9.2.2 Alleged margin squeeze by PTK Centertel (Orange Poland)

On 22 October 2009, TP S.A. and UKE agreed a set of ground rules⁶⁷ which TP S.A. hopes will avoid the imposition of a functional separation remedy. This followed the regulator's moves to impose such separation, beginning with the commissioning of a report⁶⁸ on functional separation at the end of 2008.

Annex 9 of the rules agreed between TP S.A. and UKE concerns margin squeeze and price squeeze. While the introduction of a margin squeeze test is welcome, it suffers from a critical flaw: the test only refers to retail prices set by TP S.A.'s retail division and not to the retail prices of fixed broadband offered by PTK Centertel (Orange), its wholly-owned subsidiary⁶⁹. This is not merely academic: as Figure 9.4 shows, Orange Freedom in 2008 offered lower prices than TP retail which competitors believe resulted in a margin squeeze between TP's wholesale prices and Orange's retail price.

| Speed (Mbit/s) | 1 | 2 | 4 | 6 |
|--------------------------------------|-------|-------|-------|-------|
| Average revenue per subscriber | 19.67 | 28.69 | 31.97 | 52.46 |
| Total monthly cost per subscriber | 24.2 | 28.3 | 32.3 | 44.6 |
| Monthly margin | -4.5 | 0.4 | -0.4 | 7.9 |
| Total one-off cost per subscriber | 343.6 | 343.6 | 343.6 | 343.6 |
| Free cashflow within contract length | -506 | -330 | -357 | -61 |

Figure 9.4: Cost and revenue per subscriber (in PLN, excl VAT) for 'Orange Freedom' 3-year contract in December 2008
[Source: Operator data]

To illustrate the point, in December 2009 PTK Centertel (Orange) was still offering substantial discounts to the TP price, as seen below.

⁶⁷ UKE, 'The agreement between TP SA and the President of UKE', 22 October 2009.

⁶⁸ UKE, 'Functional separation of TP', 21 January 2009.

⁶⁹ The omission of a wholly-owned subsidiary is reported to be as a result of the Polish legal system.

| | Contract duration | Monthly revenue per subscriber (PLN, ex VAT) | | | |
|--|-------------------|--|---------|---------|---------|
| | | 512kbit/s | 1Mbit/s | 2Mbit/s | 6Mbit/s |
| Orange freedom (3 years) | 3Y | 31.97 | 40.16 | 60.66 | 89.34 |
| Orange freedom (2 years) | 2Y | 36.07 | 44.26 | 68.85 | 97.54 |
| Orange freedom (1 year) | 1Y | 40.16 | 52.46 | 77.05 | 105.74 |
| Neostrada TP - promo 'Internet for everyone' (3 years) | 3Y | x | x | x | 89.34 |
| Neostrada TP - promo 'Internet for everyone' (2 years) | 2Y | 49.10 | 57.30 | 73.69 | 106.48 |
| Neostrada TP - promo 'Internet for everyone' (1 year) | 1Y | 49.10 | 57.30 | 73.69 | 106.48 |

Figure 9.5: Comparison of TP and PTK Centertel (Orange) prices for broadband products [Source: Operator prices]

If the Polish legal system does not permit a margin squeeze test regarding a subsidiary, then it needs to be strengthened in this regard (or this will create a clear mechanism for anticompetitive behaviour by dominant operators in many markets). It is also difficult to understand how this issue could not have been addressed in the agreement between UKE and TP S.A.: for example, functional separation undertakings in the UK include a wide range of measures.

In addition, TP S.A. is abusing a low-priced social telephony tariff (Socjalny). Although this tariff⁷⁰ was intended for low-income or vulnerable people, it appears that checks were not applied to ensure it was only available to those individuals. As a result, there were around 2 million subscribers to this tariff in 2008, and it was still being used in October 2009. Selling Socjalny to subscribers who are not on low incomes or otherwise vulnerable constitutes anti-competitive (predatory) behaviour. TP S.A. is also claiming a total of PLN567.5 million (EUR134 million) in subsidy from UKE's universal service fund for the provision of such lines over the period 2006-2008, which could be seen as seeking a subsidy for the anti-competitive behaviour.

9.2.3 Other allegations

Delay through legal process

Regulation under the new framework has been severely impeded by legal obstruction from the incumbent. Regulatory decisions are frequently appealed through the courts, which leads to delays in implementation of anywhere from two to five years. As an illustration, TP S.A.'s quarterly report released on 28 October 2009 lists:

⁷⁰ Socjalny costs PLN23 per month (EUR5.4), compared with a typical starting tariff of PLN50 (EUR11.8). Socjalny does not accept new subscribers; another, better policed social tariff called 'plan tp przyjazny' is now available for PLN18.30 (EUR4.3).

- six ongoing legal or competition processes relating to WLR, including four appeals lodged against decisions by the competition courts
- five ongoing legal or competition processes relating to WBA
- five ongoing legal or competition processes relating to reference interconnect offers, three of which TP S.A. is considering appealing
- four fines imposed by UKE totalling PLN529 million (EUR125 million), some of which are suspended pending hearings at the European Court of Justice (ECJ).

In April 2009 the European Commission announced that it would initiate proceedings on alleged refusal to provide services and alleged non-price discrimination on the Polish wholesale broadband access market. The outcome of these proceedings, and of each of the cases listed above, should of course be based on the merits of each case, but it is clearly detrimental to a vibrant, competitive telecommunications market to have such delays in implementing decisions. While the EC's intervention is a promising indication of its commitment to stamping out anti-competitive behaviour, these proceedings are only being initiated five years after the passage of the Telecoms Law, and may only lead to change in the market after another several years. TP S.A.'s recent agreement with the UKE to fulfil its obligations is also promising – but another five year delay to obtain results would result in a lost decade of competition for Polish consumers and businesses.

Other

Another area of concern is the alleged misuse of privileged information from wholesale for 'winback' purposes.

10 Portugal

10.1 Market context

Fixed

Portugal is an isolated case in Europe, because despite declining fixed-voice usage the number of fixed-narrowband lines has increased in the recent past after a steady prior fall. This has been mainly due to the successful VoIP-based services that ZON has been offering through its cable network and the impact of PT's triple play offer that, according to PT, is helping to stop the decline in the number of fixed-narrowband lines. There are two cable operators, ZON (formerly part of PT) and Cabovisao.

Nevertheless, PT retains a very high share of the market as can be seen in Figure 10.1.

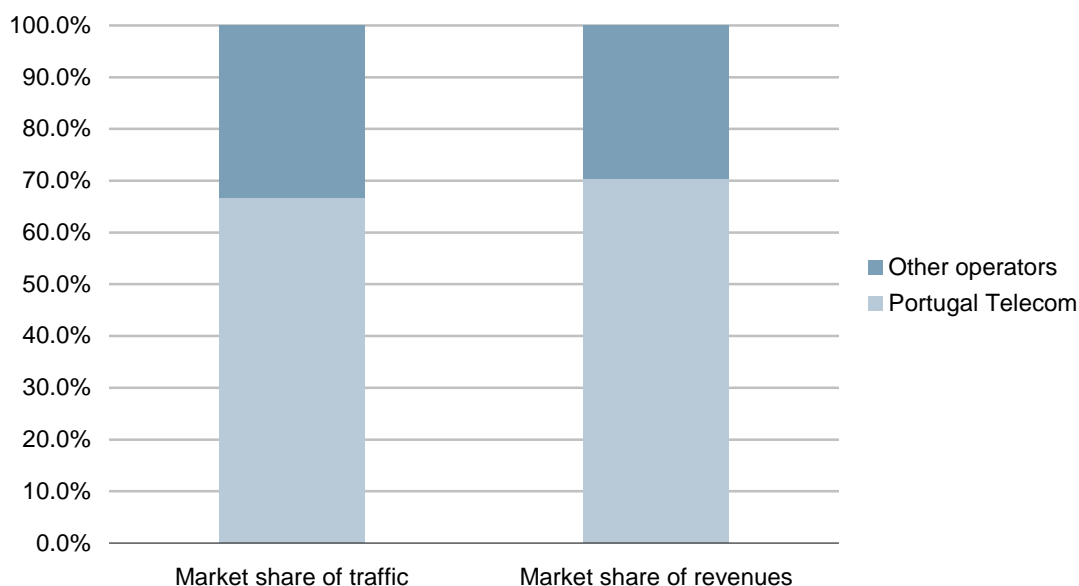


Figure 10.1: Fixed calls market share by revenues and traffic of Portuguese operators in 2008 [Source: Analysys Mason Research]

Broadband

The fixed broadband market in Portugal is one of the most underdeveloped in Europe. According to the latest EU implementation report⁷¹: "Fixed broadband penetration grew to 16.5%, which is

⁷¹ http://ec.europa.eu/information_society/policy/ecommm/doc/implementation_enforcement/annualreports/14threport/pt.pdf

still below the EU average (22.9%). The Portuguese fixed broadband market has one of the lowest growth rates in the EU...”.

PT is the dominant player in the ADSL market with 812 000 subscribers in 3Q 2009, representing 78.1% of total DSL subscriptions. The cable operators ZON and Cabovisao compete with PT as do a number of operators using LLU and bitstream, including Sonaecom (whose mobile brand is Optimus) and Vodafone.

The market share of alternative operators remains small compared to incumbent Portugal Telecom and Zon (a cable company that was spun off from PT) as can be seen from the figure below.

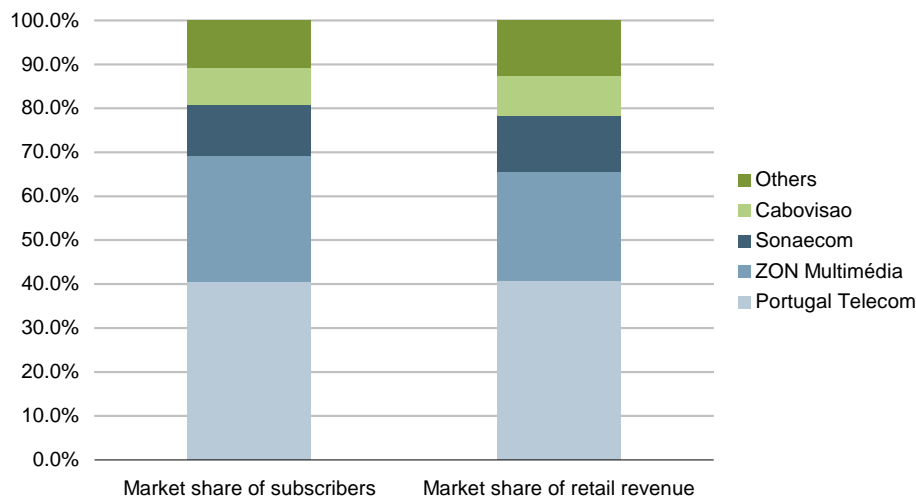


Figure 10.2: Fixed broadband market share by revenues and subscribers of Portuguese operators in 2008 [Source: Analysys Mason Research]

PT has slowly increased its market share of fixed broadband connections to 43.3% (3Q 2009), far above other competitors.

There has been considerable discriminatory behaviour by PT.

- An ADSL wholesale offer was first launched by PT in 2001. However, the offer was only available in areas of the residential market where it would have to compete with established cable services from PT's subsidiary TV Cabo (PT having both cable and PSTN networks). The initial ADSL offer was also not a self-install solution, and it took a year for self-install to be implemented. Prices were set at levels which caused margin squeeze (as confirmed by regulatory and competition authority decisions), and were discriminatory in effect (e.g. volume discounts at levels only reachable by its own subsidiaries).

- Also in 2001, PT began refusing access by alternative operators to its ducts and was found guilty by the National Courts of this in 2007, following an application by TvTel to the Lisbon Civil Court in 2004.
- A LLU reference offer was launched in 2001, but this was compromised due to high co-location costs and high setup times. Unchanged LLU conditions, and the fact that new bandwidths were launched first on the incumbent's cable infrastructure before copper, meant that alternative operators could not effectively compete against cable for at least the next two years.
- Between 2003 and 2005, PT also delayed the implementation of several regulatory decisions. Such delays effectively amounted to discriminatory behaviour against competitive operators, who were unable to establish a presence in the market during this growth phase.

In June 2007, PT launched an IPTV service (Meo), which is available separately or as part of a triple-play bundle. It now has about 505 000 pay TV customers.

Mobile

Portugal has been an early adopter of mobile technologies resulting in a very high mobile penetration rate (in the EU, only Greece and Italy have a higher mobile penetration rate). The market has not seen any evolution in market shares since 2005; churn is low. Figure 7.3 below shows current market shares. The market is relatively concentrated and PT's mobile arm TMN is the largest player.

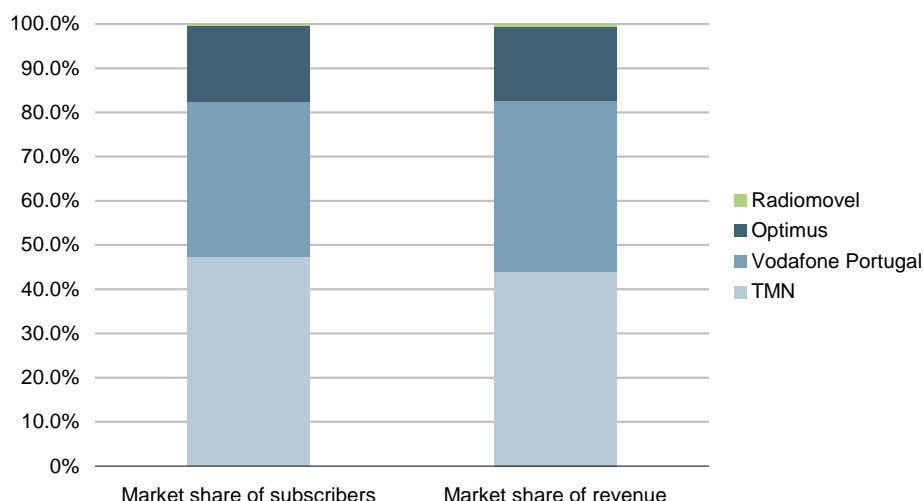


Figure 10.3: Mobile market share by revenues and subscribers of Portuguese operators in 2008
[Source: Analysys Mason Research]

10.2 Specific issues

The current situation follows a broad history of discrimination and anti-competitive behaviour by Portugal Telecom (PT). This case study outlines two major ongoing issues: remotisation of wholesale access points and margin squeeze in ADSL. Thereafter, we present additional discriminatory practices, that together are having a significant impact on the ability of operators to compete.

10.2.1 Remotisation of access points

Access to unbundled local loops is an important foundation of competition in Portugal, as it provides greater control than bitstream access. PT is entitled to upgrade its infrastructure as it wishes, but its recent activity is having a detrimental effect on competition.

PT has consistently failed to disclose details of its fixed infrastructure strategy, and has embarked on a programme of 'remotisation' whereby it moves its electronics from the central office to street cabinets or equivalent locations.

PT has not provided a comprehensive explanation for this strategy, (e.g. a business case based on IPTV) leading some operators to suspect that the remotisation is aimed at harming competition based on LLU at the MDF. Remotisation has a significant effect on the economics of unbundlers and their ability to compete, as the diseconomies of scale in FFTC are much more severe (as noted in the reports cited in section 4.1.1 above).

LLU business cases are based on achieving scale in the customer base, and remotisation undermines this strategy (after investment has been made), by effectively foreclosing competition in a portion of the market. By consistently failing to provide information on its remotisation plans, PT is undermining the planning and strategy activities of LLU players, resulting in a reduced choice for consumers for receiving services such as IPTV. The European Commission has already noted in its implementation report that the remotisation strategy creates uncertainty for an LLU operator's business plan. Furthermore, the current draft NGA recommendation suggests that SMP providers give at least five years notice to altnets of any fundamental change in network architecture⁷². Alternative operators in Portugal have sought to bring this issue to the attention of ANACOM, but to date ANACOM has not undertaken any remedial action.

When the incumbent installs remote nodes, while leaving the MDF in place, altnets are still able to serve their existing customers from the exchange (potentially impaired by crosstalk from the cabinet-based modems), but this apparently does not extend to the ability to gain new customers, given that altnets cannot match the speeds provided by the incumbent from the remote node.

⁷² Second Draft Commission Recommendation on regulated access to Next Generation Access Networks (NGA), Brussels C(2009), 12 June 2009, paragraph 43, http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/nga_2/090611_nga_recommendation_spc.pdf

10.2.2 Margin squeeze in broadband market

There have been a number of examples of margin squeeze in the broadband market in Portugal.

In 2001, Telepac (PT subsidiary) launched wholesale ADSL access at a price of EUR45, while Netcabo (also a PT subsidiary) offered a retail ADSL product at EUR35 – a prima facie squeeze.

In 2002, the PT bitstream offer had direct costs amounting to EUR29.12; this left alternative operators with no room to compete against Telepac's retail offer, which had a retail price point of EUR29.40. ANACOM's intervention in July 2003 removed a discriminatory volume discount structure, imposed a wholesale price cut, and set an explicit retail minus rule for the wholesale 512kbit/s product.

Nevertheless the available margins were still too low: alternative operators Clix and IOL abandoned the broadband market by January 2004. A competition case regarding PT's behaviour in the broadband internet market during 2003 and 2004 was resolved in September 2009, when the Portuguese Competition Authority found that there had been a margin squeeze and other anticompetitive behaviour and imposed a EUR45 million fine on PT and an EUR8 million fine on ZON, its former multimedia division. It is expected that they will appeal.

ANACOM now keeps a closer watch on the margins made by PT and its subsidiaries. However the issue of price squeeze is now complicated by the lifting of ex ante regulation on the wholesale broadband market in geographic areas deemed to be competitive⁷³ in ANACOM's January 2009 market review. Price control was lifted immediately; other obligations including non-discrimination were left in place for 1 year. PT continues to offer wholesale broadband access to competitors in these areas, but its own subsidiary, Sapo, now has a new, lower, retail price in so-called "Sapo zones".

Lack of clarity on where these "Sapo zones" are hurts consumers who may be unaware of the geographical variation in price and may potentially be misled by the advertising. Lack of clarity on whether the "Sapo zones" are identical to those areas found to be competitive by ANACOM also risks that Sapo may indeed be squeezing prices in areas which continue to be subject to regulation. A Portuguese operator has calculated that replicating Sapo's retail offer by using the published wholesale broadband product would cause it to lose between EUR9.53 and EUR15.07 per month (depending on the speed offered to the end user).

10.2.3 Other allegations

Alternative operators in Portugal have been faced with various other barriers to competition, including discriminatory behaviour and ineffective regulation. Together these barriers represent a significant impediment to competition.

⁷³ Areas were deemed competitive if there was at least one unbundler and good cable coverage. PT was found to have 25% market share in these areas.

Discriminatory conduct with respect to unbundling

PT has a history of discriminatory behaviour in local loop unbundling. Examples include:

- In 2004, PT was providing PSTN lines to its own clients in four working days (best 80% of cases) while delivery times to LLU-based operators were much longer.
- In 2007, PT failed to comply with LLU SLAs: repair times were consistently above the established SLA (between 48% and 61% of 2007 malfunctions were repaired in more than 10 working hours).
- Poor scheduling of visits to customer premises and appointments for installation of co-location equipment, leading to numerous operational delays.
- Inaccurate invoices sent to altnets including unjustified charges, (which are then scrapped once the regulator is called upon to intervene).

Duct access reference offer and service levels

Although Portugal is regarded as comparatively innovative in its introduction of a duct access reference offer, in reality the implementation of the offer gives rise to a number of barriers to alternative operators being able to use this duct access offer effectively:

- PT is given full visibility of competitors' network deployments using its ducts (forecast over two months) thus jeopardizing any 'time to market' advantage competitors may have had. Without information handling rules and/or divisional separation, such information could easily be used for anti-competitive purposes.
- Each time PT needs to carry out works on the network requested by the alternative operators, these are only started after approval from municipalities. This behaviour is discriminatory as works are carried on PT's own initiative are only subject of notification to municipalities after the works.
- Information about duct occupation levels is also very limited, which impacts on the ability of the alternative operators to plan their network.
- SLA compliance is very poor but payment of compensation from the incumbent operator is dependent on the alternative operators meeting their prior deployment predictions/forecasts. The penalty regime is therefore ineffective, and PT has limited incentives to meet the SLAs.

Number portability and migration

Alternative operators in Portugal have also faced difficulties in migrating PT customers and porting the telephone numbers over to their own networks.

- The system involves manually processing some service cancellations, an added delay which increases PT's win back time.
- An extremely high number of porting requests are refused in a discriminatory way, for a variety of reasons including
 - a limited number of porting requests that could be processed each day
 - allegedly due to incorrect names or addresses. Reportedly PT would refuse to disclose any information to support subsequent investigations, which often resulted in multiple refusals of the request, often leading to the prospective customer being lost.
 - due to alleged misuse of the formal process (incorrect use of the refusal code 'Lack of cancellation form').
- PT conducts win-back activities during the porting process, abusing its access to privileged information.

Alternative operators have made formal complaints to the authorities; PT's refusal of porting requests resulted in Anacom levying a fine of EUR500 000 in January 2010, and complaints to the competition authority are still pending. A new regulation has been introduced which prohibits porting requests being refused due to a wrong address which has had a positive effect in the number of refusals, but some problems still remain unaddressed.

11 Spain

11.1 Market context

A little over a decade since Spain's telecoms market was opened, Telefónica remains the country's largest telecoms operator.

Fixed

The cable operator ONO acquired fellow cable operator Auna in 2005 to become the second largest fixed operator in Spain. Orange Spain is in third place, following its acquisition in 2007 of Ya.com from Deutsche Telekom and integration with its existing Wanadoo ISP. Vodafone Spain entered the fixed-line market relatively late, purchasing Tele2's operations in Spain and Italy in 2007. Nevertheless, Telefónica retains approximately 75% of the voice market by revenues, as can be seen in Figure 11.1 below.

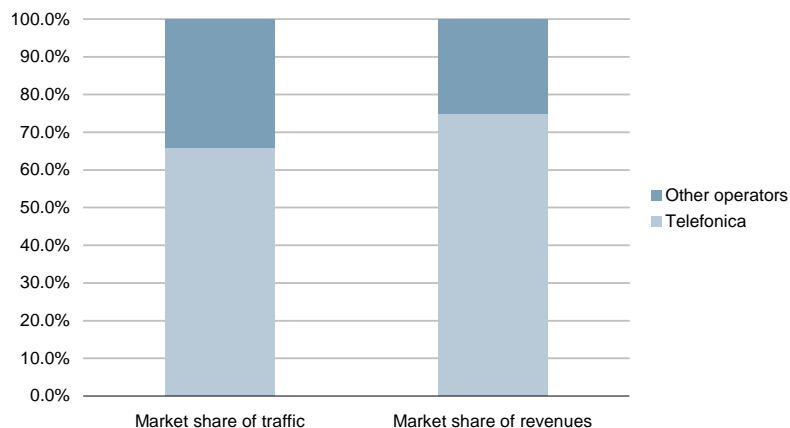


Figure 11.1: Spanish fixed voice market share of traffic and revenues in 2008 [Source: Analysys Mason Research]

Mobile

GSM networks were launched by Telefónica and Vodafone in 1995, and by Orange in 1999; 3G networks followed in 2004. Newest entrant Xfera (Yoigo) finally launched in 2006, having originally been awarded its concession in 2000.

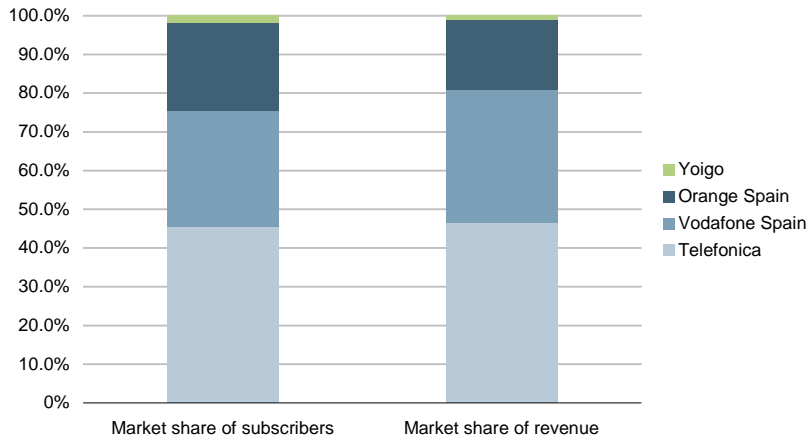


Figure 11.2: Spanish Mobile voice market shares by subscribers and revenues [Source: Analysys Mason Research]

Broadband

Again Telefónica retains a significant share, as shown below.

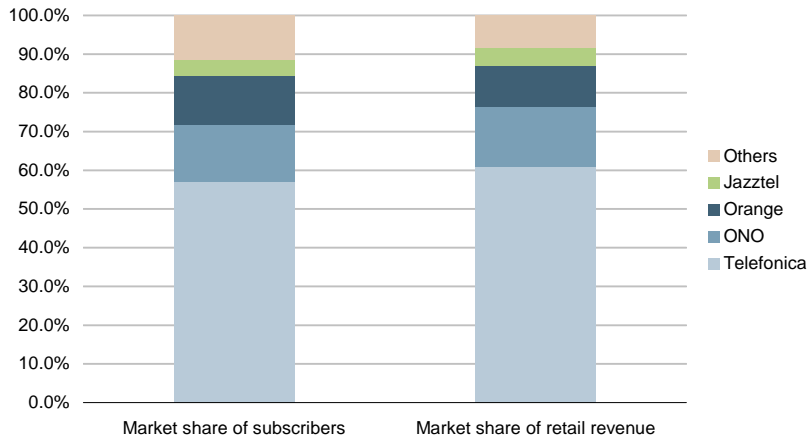


Figure 11.3: Spanish broadband market share of subscribers and revenues in 2008 [Source: Analysys Mason Research]

Next-generation access

Telefónica has been rolling out fibre to cross connection frames (which include underground chambers or the equipment rooms in multi-occupancy buildings, and street cabinets), and has now done so in every town of more than 50 000 people. Telefónica launched a high-speed triple-play service in November 2008. Following a complex series of regulatory arguments, including a Phase

II investigation by the Commission regarding the market definition of Market 5, the following remedies have been imposed:

- access to ducts but not dark fibre in Market 4
- a countrywide bitstream product⁷⁴ capped at 30Mbit/s (i.e. bitstream at higher speed is carved-out from regulation); the bitstream that must be provided does not include multicast capability.

It appears that Telefónica's FTTH deployment has stalled, despite the 30Mbit/s regulatory exclusion effectively limiting Telefónica's obligation to grant access to fibre-based speeds.

Alternative operators have concerns about the practicability of using the duct access offer and the suitability of the bitstream product for triple-play services.

11.2 Specific issues

11.2.1 Remotisation of access points

Telefónica has conducted a programme of 'remotisation' of DSLAM equipment (i.e. fibre to a remote cabinet) over the last few years. This has caused and will continue to cause problems to competitive operators.

The most serious concern is the lack of transparency: the plans for this deployment have not been available to competitive operators who are therefore unable to strategically plan their own network investments. Telefónica has in effect discriminated in provision of access to information.

Stronger rules on information sharing may be needed to ensure the communication regarding (and design of) network upgrades between the incumbent retail arm and competitors.

According to data reported by Telefónica to CMT,⁷⁵ as of May 2008 there were 620 952 loops connected to the so-called 'nodes' that therefore cannot be unbundled due to having been remotised. A further unknown, but significant, number will have had fibre deployed to the premises, effectively preventing unbundling in future (given the CMT decision not to mandate fibre unbundling). On these lines, competitors are restricted to using bitstream access, which is limited to double-play voice and Internet (due to the lack of multicast capability) and to a maximum speed of 30Mbit/s, given the CMT decision on Market 5. Competitive operators have been asking that a more capable type of bitstream be made available to support innovative services, but this has not been acted upon; and in the meantime, Telefónica is able to use its non-replicable triple-and quadruple-play services to win subscribers.

⁷⁴ CMT's proposal, made in October 2008, to lift ex-ante regulation (as in the UK) in so-called "Zone 1" competitive areas was later abandoned, and the remedies applicable to the whole country.

⁷⁵ Decision of 31 July 2008, page. 16.

After analysing the four types of ‘nodes’ deployed by Telefónica, CMT concluded that their impact on the broadband market had been low up to this point. The arguments in support of this position included:

- Many of these nodes were introduced to shorten long local loops (using EUR30 million of public funding, ‘Plan PEBA’) which by virtue of their length were not in any case suitable for broadband.
- Only around 1% of requests by alternative operators for LLU over 2006-2008 were turned down for this reason – although this is likely to have increased in 2009 because in December 2008, 557 556 FTTX accesses had been deployed by Telefónica, representing 3.4% of total Telefónica wired access lines.
- Many of these nodes were introduced in zones of new housing build, so don’t interrupt existing services.⁷⁶

However, alternative operators claim these arguments do not sufficiently recognise the costs and problems caused by these nodes. For example, even though the so-called ‘Type 4’ nodes supposedly allow alternative operators a metallic path back to the MDF, the mere action of installing them interrupts service and introduces changes to the electrical characteristics of the loops (cross-talk). This then leads to changes in the bit rate experienced by clients, with the accompanying customer complaints and disconnections.

CMT has stated that Telefónica is allowed to move forward with the remotisation under certain conditions. Where these are not met, CMT must give approval on a cabinet by cabinet basis, and seeks to strike a balance between the interests of consumers on long loops and the needs of customers served by competitive operators. CMT recently declined approval in 7 of 24 cases. To partly deal with the issue of degraded services caused by the remotisation, CMT also obliges Telefónica to offer the competitors whose services are degraded free migration to a discounted bitstream product for the customers affected.

Alternative operators consider that the procedure followed to approve the remotisation is not correct and does not grant the necessary warranties either for operators or for existing customers.

11.2.2 Large up-front discounts in broadband market

Another area in which competitive operators are concerned is the test applied to determine whether the incumbent is applying a margin squeeze. CMT has taken the positive step of specifying ex-ante the margin squeeze test to be applied, but unfortunately it may not be having the desired effect.

CMT applies a broadband margin squeeze test that:

⁷⁶ Ibid. page 27.

- considers the cashflow from the customer over 27 months⁷⁷ (we understand that this was derived from a typical altnet customer lifetime, a positive step)
- is based on the actual costs of the incumbent (an 'equally efficient operator' test)
- discounts the cumulative cashflow to determine the customer's 'lifetime value'
- permits promotions, discounts and marketing costs that do not exceed this lifetime value.

Under this test, Telefónica is allowed to offer a package called 'Dúo ADSL 6 Mb' for EUR40.90 per month, with a promotional price of EUR19.90 (a discount of 51%) for the first 12 months. The binding period for this package is 12 months: after 12 months, the customer is free to either migrate to another broadband provider, or sign up for a new contract (and a new promotion) with Telefónica.

Telefónica and CMT would argue that such a discount is reasonable, considering that the average customer lifetime is far longer than 12 months – so over the course of the customer's lifetime, there is no margin squeeze. This argument would indeed be acceptable, if all customers lasted 27 months; however if there was a sub-segment of the market which was price sensitive, allowing such a promotion risks allowing Telefónica to dominate that sub-segment of the market – those consumers who will shop around for the best offers, and who will leave Telefónica (or be offered another promotion) after the 12 month binding period⁷⁸.

It is therefore possible that alternative (or additional) approaches may be required if the effect of the offer is to change the market (e.g. increased churn, due to a segment with a 12 month customer lifetime).

The regulatory assessment of long-running discounts (as in Austria) or sizeable discounts (as in Spain) is a possible subject for BEREC to consider.

⁷⁷ Until recently, the test was applied over 36 months.

⁷⁸ Only the "unused lifetime value" may be offered as a promotion. However it is not clear how the CMT will police compliance with such detailed measures in practice.

12 Pan-European business services

12.1 Market context

Multinational corporations (MNCs) large or small, need cross-border ICT services. This need is driven as companies evolve:

- becoming more global, operating across borders
- having an increasing reliance on ICT to support their business processes and facilitate interactions with other companies⁷⁹.

MNCs often aim to rely on a single pan-European ICT/communications provider (PECP) to deliver their communications, in order to avoid the considerable overhead and complication of dealing with separate suppliers in each country. Similarly, outsourcing ICT services to a single supplier enables economies of scope and scale to be achieved, reducing costs and improving efficiency.

Underlying these pan-European ICT services is a need for connectivity in each country of operation which spans all the individual services that make up the business telecommunications sector:

- high-capacity lines for major sites
- medium and lower capacity solutions for other sites
- means of connecting home workers
- voice and data services enabling a mobile workforce.

Incumbent operators serve business customers within their own country, and a few have their own PECP operations. Incumbents have commercial incentives to make life difficult for their PECP competitors:

- by seeking to extract monopoly rents
- by discrimination against PECPs in order to achieve a competitive advantage within their own country and in cross-border trade.

Specific issues raised by PECPs include:

- lack of suitable access products
- regulation which is too focussed on the consumer market

⁷⁹

The Economic Benefits from Providing Businesses with Competitive Electronic Communications Services, study sponsored by BT, 2007, available at <http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Consultativeresponses/BTdiscussionpapers/Electronic/index.htm>

12.2 Lack of suitable access products

Pan-European ICT suppliers focus on providing software solutions and services using an international backbone. Although some PECPs have dense city metropolitan access infrastructure, for others their customer density can be too low to warrant access network investment except for the very largest sites. As a result, PECPs require access to a variety of wholesale access inputs.

This is recognised in the latest draft decision of BNetzA on Market 5 (reference BK3b-09/069, page 11), which states- *“... a bitstream access product is necessary with a view to existing products in other European countries. European competition would be distorted if the person concerned can buy bitstream access in other countries, but not in Germany. This is particularly true when offering pan-European products to end-customers with Europe-wide presence.”*

Some specific examples of inadequate business access products from around Europe include:

- Margin squeeze
 - Retail Ethernet services offered by the incumbent are cheaper than can be replicated with the available wholesale services in Sweden and France.
- SLA violations
 - Provisioning KPIs show a high proportion of rejections, delay and services delivered in violation of established SLAs in Italy.
- Lack of suitable access and interconnection products
 - In Italy, Hungary, Czech Republic, Poland and Germany, wholesale Ethernet access on fibre is not available on regulated terms.
 - In Spain, Ethernet terminating segments are not mandated at speeds other than 10Mbit/s and 100Mbit/s; also on 10 December 2009, CMT resolved a dispute in which it found that Telefónica had unlawfully resisted implementing its required Layer 1 (uncontended) service and has imposed a daily penalty should Telefónica not correct the situation within three months.
 - Wholesale line rental service not being provided in Germany⁸⁰ and Hungary
 - In Germany there is no wholesale Quality of Service Layer 2 bitstream available that can meet the current demand, so operators still need to purchase leased lines. As a result of the underlying technology, these are far more expensive than an Ethernet based Layer 2 Bitstream service.

12.3 Regulation too focussed on consumer market to the detriment of business services

Unfortunately, access products have often been developed with competition in the residential market in mind.

⁸⁰ There is a resale offer at the retail price

- For example, NRAs have focused on LLU as a basis of competition for the residential market, but for business suppliers a fit-for-purpose bitstream is more important, as LLU viability is dependent on a high density of end-users that is unlikely to be achieved with business clients. This situation will persist and could worsen with NGA, particularly if there is a focus only on duct and dark fibre remedies or access connections deep in the network (such as sub-loop unbundling).
- Similarly, efforts to increase broadband coverage in rural areas are often focussed on residential customers.
- Due to higher resilience requirements, suppliers of business ICT services need access products with higher specifications SLAs than their residential equivalents.

12.4 Other allegations

There are a range of other issues. Two which may have wider implications are:

- Lack of compliance by incumbents and lack of enforcement by the NRA, possibly due to a lack of strong penalties.
- Lack of transparency, especially regarding publication of details regarding cost accounting, price control and accounting separation, which is required to ensure compliance with cost orientation obligations.

12.5 Conclusions

This is a clear case in which inconsistent regulatory approaches in different countries might affect cross-border trade⁸¹. For example, if operator A in country 1 is forced by regulation to sell a wholesale Ethernet leased line (a 'terminating segment'), but operator B in country 2 is not, and if there is a client with operations requiring Ethernet connectivity in both countries, then operator B is at an advantage (they can use their own network, and buy the wholesale product, but operator A can probably only compete by paying the retail price for the service in country 2). The net effect is for competition to be weakened to the detriment of the client (as A is only a weak constraint in the price offered by B). This might also lead the NRA in country 1 to have incentives to weaken regulation to protect operator A; however the correct response would be for more vigilance of the lack of regulation in country 2 (of course, that regulation would still have to be in accordance with the Framework).

As a matter affecting cross-border trade, extra vigilance may be required from European authorities, looking at harmonisation of remedies for certain key markets (e.g. terminating segments of leased lines, wholesale broadband access) which are critical for business connectivity.

⁸¹ Much more so, in fact, than many of the regulatory issues in which the Commission is closely involved.

A further possibility which merits consideration would be to consider a separate relevant market for wholesale broadband access for business users.

13 Conclusions and recommendations

13.1 Conclusions

Competition has been one of the main forces behind choice, value and innovation in telecoms markets. It has led the way in the development of new services, in reducing prices, and in stimulating demand.

The creation and widespread use of high-speed networks and services are important goals for the European Digital Agenda. The role of effective competition in driving service quality, availability and take-up remains equally valid with the transition to fibre-based fixed networks and high-speed mobile networks.

There is a widespread assumption that competition is effective today, and in some service markets (notably consumer broadband) undoubtedly significant progress has been made. However, competition is often less developed than may be desirable:

- Many countries show high, stable or even increasing market shares for the incumbent.
- Major competitors remain significantly less financially secure than incumbents with EBIT margins significantly lower and capex equal or higher as a proportion of revenues.
- In several countries consumers and businesses have a limited choice of suppliers and are paying more than they should or are receiving sub-standard speeds or services.
- There remain risks to existing levels of competition as regulatory developments do not always keep pace with the market during a period of technological transition.

There may be several reasons for these competitive difficulties. Evidence from a survey of competitive operators particularly highlights discriminatory conduct by dominant firms which takes a number of forms, including:

- refusal to supply fit-for-purpose inputs
- margin squeeze
- non-price discrimination including delay, inferior product quality and information asymmetries.

There are prospects that the competitive situation will significantly worsen if measures are not taken to prevent such discriminatory conduct in the delivery of next-generation services, where current evidence in a number of countries is not encouraging.

If action is however taken (by NRAs, Competition authorities, and the Commission) to address discriminatory conduct, consumers would reap significant benefits. Consumer surplus could be

increased by EUR25 billion and the take-up of next-generation high-speed services could be materially increased.

13.2 Recommendations

Strong competition needs to remain a priority to complete the last 20 years' work towards a liberalised electronic communications market. For example, any amount of investment in next-generation access (NGA), however desirable, will not benefit typical subscribers if it results in monopoly or oligopoly, because high-speed services will be priced well above the typical average spend.

Unbundling the copper loop has already led to massive benefits for EU citizens; it would be folly to ignore this strong success when building the next-generation network (NGN). Regulators and governments should therefore prefer NGA architectures and business models that can support retail service competition, ideally allowing unbundling.

We believe that in many circumstances high-speed wholesale access products) including bitstream) would also give strong benefits to consumers, either through lower prices, improved speeds, specialised entertainment or business services, lower barriers to adoption, or other features of the offer (e.g. contract duration). They will also increase high-speed broadband service take-up as a result.

NGA deployment models proposing 'risk sharing' need to be understood in light of the fact that even the more successful entrants have a smaller existing customer base than the incumbent and relatively poor cashflow; this may be as a result of anticompetitive behaviour by incumbents (noting that the courts have found competition law abuses by many incumbents). Most incumbents, on the other hand, have strong cashflow and a large customer base that could be transferred directly to a new network. Pricing or investment models that require large up-front investments or reward high volumes therefore risk creating barriers to entry and may result in foreclosure, undermining any potential benefits from competition.

The Commission has an opportunity to emphasise many of these points in its upcoming recommendation on NGA.

It should not be possible for a party subject to SMP remedies or general conditions to evade them simply by changing the technology over which they provide services. This may require care from NRAs in drafting market definitions or remedies during periods of technological change and additional Commission scrutiny in the Article 7 process.

The Commission and national regulators should set targets and monitor progress towards achieving competitive retail markets and closely monitor the use of key wholesale inputs which support competition under the European Digital Agenda.

Enforcement of SMP remedies under the existing ex-ante Framework needs to be strengthened.

- Non-discrimination, if properly enforced, is a powerful remedy especially if the concept of 'equivalence' (using the same inputs, at the same price and non-price conditions, and using the same systems and processes) is followed. Indeed, it offers the opportunity to ensure that networks remain open to competition as they are upgraded rather than on a case by case basis and with some delays, as well as providing guarantees on service levels. . Nevertheless despite existing non-discrimination remedies there is endemic discrimination in many countries, showing how difficult it is to enforce. BEREC or Commission guidance on the use of non-discrimination might be useful.
- Functional separation, at least if effectively implemented so as to create the right structures, products, and incentives, can provide a useful means to enforce non-discrimination through creating positive incentive mechanisms and to break free of the slow and continuous battle over availability and non-price conditions for wholesale products. There may however be a risk that less optimal functional separation measures might create additional delays, inefficiencies and costs, and could reduce regulatory certainty. There is a role for the Article 7 process in ensuring that any functional separation is well designed and meshes well with the other parts of the regulatory framework. Guidance could also be useful.

Persistent gaps between the profitability of even large scale entrants and the profitability of incumbents may warrant closer examination of access prices to ensure they are not excessive. The prices of regulated services, and their supporting cost models and accounting data, need to be coherent and transparent to market players and closely examined by NRAs. If necessary, action should be taken by BEREC or the Commission.

The Commission and national competition authorities should assess whether the competitive issues identified in this report such as denial of access to key inputs in relation to next generation networks, or margin squeeze (in broadband or triple play, fixed and mobile calls markets) may warrant ex post enforcement action or a wider review.

The Commission has an explicit role in cross-border trade in the internal market and should take greater interest in the provision of pan-European communications services to multinational businesses (large and small). A recommendation on this and related issues (regarding bitstream and point-to-point Ethernet links) might be useful; one possible outcome would be to recognise different market segments or the need for different remedies through the market analysis process.

Whilst the mobile market shows fewer difficulties than fixed, it does still have a number of worrying characteristics, including persistently imbalanced market shares in many EU member states. The dynamics of mobile competition and barriers to competition in the mobile sector could usefully be examined by the Commission.

The evolution of the retail market towards service bundles needs to be reflected by NRAs and may soon require the Commission to modify the definition of the retail markets that are examined in the context of Market 5 to take account of double- and triple-play developments. Competition will fail unless there is a suitable wholesale product for providing double- and triple-play products.