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Agenda

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Making connections: mobile consolidation and European Commission remedies

Consolidation in the telecoms sector is driven by the convergence of network technologies and changing market dynamics. Merger remedies (when required) should safeguard consumer interests and allow industry evolution to adapt to these trends in the medium to long term. These two objectives are not mutually exclusive, and an evolving innovative industry will benefit consumers. What are some of the motivations underlying recent European Commission mobile merger remedies in this context?

Recent months have seen a number of mergers and acquisitions (M&As) in electronic communications. As reported in the *Financial Times*, deals in the technology, media and telecoms sector in the first quarter of 2014 were at their highest level since 2006.[1] In Europe, these M&As include both in-sector and cross-sector consolidation, across and within national boundaries. Recent examples of in-sector consolidation include the acquisition of Orange Austria by Hutchison 3G Austria, and the merger between T-Mobile and Orange in the UK.[2] Examples of cross-sector consolidation include the acquisition of Kabel Deutschland and Cable & Wireless by Vodafone.[3]

Ongoing M&A activity includes the proposed acquisition of Telefónica by Hutchison in Ireland, and that of E-Plus by Telefónica in Germany.[4] The European Commission Directorate General for Competition is currently reviewing these cases and there is considerable interest among the investor and wider community in how the Commission will deal with them, particularly if the acquisitions are approved—and, if so, what remedies will be required. How these cases are dealt with will be a signal of the appetite among European regulators and competition authorities for further mobile sector consolidation in Europe. In this context, we discuss the rationale behind consolidation, and the motivations underlying some recent merger remedies imposed on mobile M&As in Europe.

Cross-sector consolidation

There are a number of factors driving cross-sector consolidation in the electronic communications sector. These include the convergence of network technologies; consumer demand for service bundles; competition to provide these bundles; and the growing volume of mobile data traffic. This growing volume requires substantial investment in mobile networks, and also increasing use of fixed networks by mobile network operators (MNOs) to 'offload' the data traffic.

The convergence of network technologies is based on the adoption of Internet Protocol (IP) technology which can transport different traffic types over both fixed and mobile networks. IP can be used to transport voice, various instant messaging services (which are essentially data traffic) and video, in addition to data used for Internet services.[5] Thus, previously disparate communication infrastructures (traditional fixed line over copper or fibre, cable TV and mobile) use the same underlying transport protocols to supply various services to the end-user. This convergence of fixed and mobile networks means that, unlike in a non-IP world, an integrated network operator can exploit network scale and scope economies by jointly supplying fixed and mobile services.[6]

This supply-side convergence is reinforced by the growing demand for electronic communications and media service bundles. For example, a survey of broadband users in September 2013 (in the UK, France, Germany, Italy, Austria and Spain) found that more than 50% of users bought their fixed broadband services in conjunction with other communications services.[7] Competition for these customers, which depends on the ability to supply bundled services, is thus an important factor driving cross-sector consolidation.

Finally, the current level (in 2013, mobile networks carried 18 times the global Internet data traffic of 2000) and forecast growth in global mobile data traffic (eleven-fold between 2013 and 2018) not only requires substantial network investment both to increase network capacity and to introduce new technologies such as 4G/5G, but also means that mobile networks increasingly depend on high-capacity fixed-backhaul links and the ability to offload mobile data to fixed networks (45% of global mobile traffic was offloaded

onto fixed networks using Wi-Fi or femtocells in 2013).[8] This dependence between mobile and fixed networks provides a further rationale for cross-sector consolidation—in effect, mobile networks require an underlying fixed network to fulfil the growing demand for mobile data services driven by the adoption of smartphones and other mobile-connected devices such as tablets.

In-sector consolidation in the European mobile sector

The rationale for in-sector consolidation will vary across electronic communication sectors. Here we focus on the European mobile sector, which faces considerable pressures to consolidate, not only across sectors given the trends described above, but also within the sector. This is because, in addition to the investment pressures driven by the growth in mobile data, there are a relatively large number of MNOs in Europe, each of which faces increasing competition from over-the-top (OTT) services and a fragmented European market.

There are more than 100 MNOs in Europe, with many countries having as many as four mobile networks. This means that, compared with some of their global counterparts, European MNOs have smaller scale in an industry where scale matters, given the high ratio of fixed to variable costs.[9] The larger scale of US MNOs (the two leading US operators—Verizon Wireless and AT&T Mobility—are each larger than the three largest EU operators combined)[10] and a relatively consolidated market partly explain why the US mobile sector has recently outperformed the EU mobile sector on a number of metrics. These metrics include higher levels of investment and faster roll-out of long-term evolution (LTE) (4G) networks, leading to higher average mobile broadband speeds and network data capacity, which in turn allow for more connected devices—and higher data consumption—per user.[11] Data from the OECD illustrates the investment gap—over 2009–11 the average telecoms investment per access path in the USA was around US$137, compared with US$74 in Europe.[12] These higher levels of network investment are reflected in the current and forecast gaps in LTE usage between North America and Western Europe. Cisco estimates that, in 2013, the percentage of total LTE mobile connections in North America was 24.5% (compared with 1.9% in Western Europe), and that this will grow to 50.6% in North America in 2018 (compared with 24.3% in Western Europe).[13]

These higher data consumption levels (combined with innovative pricing schemes) have allowed US operators to monetise recent data growth. The average revenue per connected device has fallen in both the USA and Europe. However, because US subscribers consume more data per device and tend to connect multiple devices to the network, the average revenue per user in the USA has increased in recent years, unlike in Europe where MNO revenues have been in steady decline.[14] This provides US operators with funds to innovate and invest in new technologies, in contrast to their European counterparts.

In addition, European MNOs (like MNOs elsewhere) face growing competition from OTT services. This development is especially challenging for European MNOs, given that Europe has among the highest rates of smartphone adoption in the world,[15] which facilitates the use of OTT services such as Skype, Apple FaceTime and WhatsApp. These services compete with (and provide alternatives to) text messaging and voice services, which are still the main revenue generators for European MNOs (these MNOs have a lower proportion of data revenues than, for example, US operators).[16]

OTT services, unlike the services offered by European MNOs, are also less affected by the fragmentation of the European mobile market. The target market for these services is European (or even global) in scale, giving OTT service providers a potentially much larger customer base over which to spread their fixed and operating costs—costs that are an order of magnitude lower than those of running mobile networks.

The market solution—national consolidation

The market solution to this fast-changing technological and competitive landscape (with more service competition from OTT providers and cross-sector competition) is consolidation, as demonstrated by recent and proposed M&A activity in the sector.

In the European mobile sector, this consolidation is often within national boundaries. This is because the benefits from national consolidation are higher than cross-country consolidation, as all production and most consumption (except international roaming) of mobile services is currently within national boundaries. Production and mobile networks are national, largely because radio spectrum is licensed on this basis in Europe. Thus it is national (as opposed to cross-country) consolidation that allows operators to rationalise their existing networks, and to realise gains from scale economies in rolling out new technologies such as 4G. In addition, MNOs can provide better service quality (such as faster mobile broadband and coverage) by acquiring additional spectrum.

Given this fragmentation of mobile networks across Europe, there are few, if any, network scale economies from cross-country consolidation.[17] There are non-network, pan-European scale economies that provide some impetus for cross-border consolidation, but these are arguably weaker and it is less clear that they would provide sufficient incentives to consolidate. These non-network scale economies include the ability to provide services across national boundaries as OTT providers are able to do, and potentially a better negotiating position with OTT providers and content providers, given the ability to deliver OTT

services and/or content in multiple countries. However, the ability to fully exploit these opportunities also depends on the development of pan-European licensing and regulatory regimes for content and other OTT services.
On the other hand, national consolidation—by improving profitability and re-equipping MNOs for future competition—can provide funds and/or allow operators to make an investment case to expand outside national boundaries. Such national consolidation, followed by coordinated spectrum (ownership/lease, renewal, and release) policies across Europe, can be a building block for cross-country consolidation, and help to achieve the Commission's Connected Continent, the aim of which is:[18]

> to build a connected, competitive continent and [enable] sustainable digital jobs and industries; making life better by ensuring consumers can enjoy the digital devices and services they love; and making it easier for European businesses & entrepreneurs to create the jobs of the future.

Rethinking recent merger remedies

If, as discussed above, the motivation for (national) consolidation is adaptation to ongoing technological and market changes, merger remedies should balance medium- and long-term gains from new market structures[19] against the genuine concern of upward pricing pressure that may result from there being one fewer MNO in the market.

The concern that consumers might face higher prices following a merger or acquisition has led the Commission to impose a number of remedies in recent cases, such as the acquisition of Orange Austria by Hutchison 3G Austria, and the merger between T-Mobile and Orange in the UK. These remedies have included MVNO access, roaming obligations, and spectrum divestment.

There are two motivations behind these recent merger remedies that may need to be re-examined going forward:

- any reduction in the number of national MNOs will result in (substantially) higher prices for consumers;
- any asymmetry in spectrum holding via market-led industry consolidation (as opposed to government allocation processes such as auctions) among MNOs should not be allowed.

Given the changing technological and market dynamics described above, the number of MNOs needed to ensure 'effective' competition may be fewer than before the adoption of OTT services and cross-sector competition (for example, three instead of four—although each case will be different). This is because MNOs are no longer exclusive providers of mobile services over their networks. The separation of networks and services means that access and the ability to use OTT services are likely to be more important for 'effective' competition than the number of MNOs. Moreover, these OTT services can be, and often are, used across fixed and mobile platforms (such as Skype), so one fewer MNO might not reduce the competitive discipline that these OTT services impose on mobile operators.

Previous Commission Decisions imply that spectrum divestment as a merger remedy has been imposed to ensure either that sufficient spectrum is available for a potential new entrant,[20] or that spectrum is symmetrically distributed among the MNOs remaining after consolidation.[21] However, it is not obvious that a bias towards spectrum divestment for these reasons is necessary or beneficial to consumers or the industry. In the former case, reserving spectrum and facilitating entry of a new entrant might seem counterproductive, as it would effectively be aiming to reverse the effects of a merger or acquisition on the market structure, changes that may be required for the industry to adapt to the new technological and competitive dynamics discussed above.

Similarly, it is not entirely clear why merger remedies should involve the redistribution of spectrum among MNOs, especially if any resulting asymmetry in spectrum holdings is temporary. This will be the case if additional mobile spectrum bands are to be released in the market, or if market mechanisms such as spectrum trading can be used to transfer spectrum among operators. In this context, a temporary asymmetrical distribution of spectrum may result in more intense competition in terms of service innovation if it allows operators to differentiate services and capture the rents that this generates. On the contrary, if operators always hold symmetric spectrum, the services they offer are likely to be more homogeneous and this may soften competition.

In the USA, for example, operators with more 4G spectrum (AT&T Mobility and Verizon Wireless) took the lead, and invested in and rolled out 4G networks early, to the benefit of US consumers. In contrast, in Europe the opportunities to differentiate services (either self-supplied or supplied by OTT providers) on the basis of network investments following an acquisition or merger may be constrained due to spectrum divestment remedies combined with wholesale access policies for MVNOs.[22] This lowers returns on investments (and hence incentives to undertake these investments in the first place), leading to a potentially perverse outcome, given that it is consumers who eventually benefit the most from innovative technologies and services.

Merger control remedies play an important role in ensuring that consolidation does not lead to consumer harm, for example via higher prices. However, given the technological and competitive dynamics in the electronic communications sector, and the substantial investment required by MNOs to increase capacity and roll out new technologies, it may also be necessary to allow some level of consolidation in the European mobile sector. This could help the industry to meet growing consumer demand for data services and close the

[1] *Financial Times* (2014), 'TMT deals at highest level since 2006', 30 March.

[2] Commission Case No. COMP/M.6497 Hutchison 3G Austria/Orange Austria; and Commission Case No. COMP/M.5650 T-Mobile/Orange.

[3] Commission Case No. COMP/M.6990 Vodafone/Kabel Deutschland; and Commission Case No. COMP/M.6584 Vodafone/Cable & Wireless.

[4] Commission Case No. COMP/M.6992 Hutchison 3G UK/Telefónica Ireland; and Commission Case No. COMP/M.7018 Telefónica Deutschland/E-Plus.

[5] For example, to transmit voice, VoIP can be used over fixed networks and VoLTE over mobile LTE networks. IP-based video on demand (VoD) is an over-the-top service—i.e. provided over the Internet; and IPTV is a specialised service usually provided over reserved broadband capacity so as to meet certain quality-of-service parameters.

[6] An integrated network could share a number of network components such as backhaul links and the core network. There are also likely to be economies of scale and scope in retail activities such as common billing systems, customer care centres, and joint marketing campaigns.

[7] This proportion was much higher in the UK (77%), France (75%), Spain (67%) and Germany (62%). See Ofcom (2013), 'International Communications Market Report', 12 December, Figure 1.14.

[8] Cisco (2014), 'Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2013–2018', 5 February.

[9] This is because a large proportion of network capital expenditure for a mobile network is driven by coverage, not traffic. This coverage-driven capital expenditure has to be incurred upfront.

[10] See GSMA (2013), 'Mobile Wireless Performance in the EU & the US', May.

[11] Investment levels are also determined by other factors, such as general macroeconomic conditions and investment cycles based on the introduction of new technologies. For example, the USA released spectrum suitable for 4G services earlier than Europe.

[12] OECD (2013), 'Public telecommunication investment per total communication access path', *OECD Communications Outlook 2013*, 11 July, Table 3.10. The European average is based on the following countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the UK.

[13] Cisco (2014), 'Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2013–2018', 5 February, Table 7.

[14] GSMA (2013), 'Mobile Wireless Performance in the EU & the US', May, Figure 5. IDATE (2013), 'Growth of mobile service revenues in Europe and in the USA', *DigiWorld Yearbook 2013*, p. 155.

[15] Smartphone penetration in Western Europe at the end of 2012 was, on average, 49% of mobile phone users, and is expected to reach almost 80% by 2017. See GSMA (2013), 'The Mobile Economy Europe 2013'.

[16] Ofcom (2013), 'International Communications Market Report', 12 December, Figure 6.33.

[17] For an MNO to exploit network scale economies across two countries, it would need to build a single consolidated network in those countries. This is likely to require that the countries are geographically adjacent, as mobile networks are underpinned by fixed networks (backhaul links) connecting various base stations to each other and with the core network. MNOs would also require the same spectrum frequencies in similar quantities in both countries so that the operational and technological parameters of the mobile networks are compatible.

[18] European Commission (2013), 'Commission adopts regulatory proposals for a Connected Continent', Memo, 11 September, Introduction.

[19] That is, fewer MNOs competing with OTT providers, and cross-sector competition—such as with MVNOs (mobile virtual network operators) operated by fixed operators, or 'landline over mobile' solutions. Examples are BT SmartTalk, launched by BT (the incumbent fixed-line operator in the UK), and Ziggo Bapp, launched by Ziggo (a Dutch cable TV and broadband provider).

[20] This appears to have been one of the main motivations for spectrum divestment by H3G in Austria (Commission Case No. COMP/M.6497 Hutchison 3G Austria/Orange Austria).

[21] This appears to have been one of the main motivations for spectrum divestment by EE, formed by the merger of T-Mobile and Orange in the UK (Commission Case No COMP/M.5650 T-Mobile/Orange).

[22] MVNO access, for example for fixed operators, may play an important role in disciplining MNOs.