

THE COMPETITION-REGULATION INTERFACE IN TELECOMMUNICATIONS: WHAT'S LEFT OF THE ESSENTIAL FACILITY DOCTRINE?

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1 Introduction

In the past three decades, telecommunications regulation has often crossed ways with antitrust tools: suffice it to recall that the US telecoms sector was regulated for many years by the outcome of an antitrust case – the AT&T breakup in 1982. In the European Union, the 1998 regulatory framework already introduced competition policy tools in the regulation of telecommunications, and the 1998 Access notice was issued by the European Commission for the purpose of, *i.a.*, “set out access principles stemming from Community competition law as shown in a large number of Commission decisions in order to create greater market certainty and more stable conditions for investment and commercial initiative in the telecoms and multimedia sectors”, as well as to define the boundaries between *ex ante* regulation and *ex post* competition law enforcement¹. Today, the 2002 “new” regulatory framework for e-communications largely relies on the concept of dominance (translated into Significant Market Power, SMP) as a precondition for the application of remedies by national regulators, and explicitly refers to Community competition law – thus, Article 82 of the EU Treaty – to define the features of SMP. Many other regulatory frameworks for e-communications worldwide rely on the use of antitrust tools to liberalise the telecommunications sector and gradually leave it subject only to *ex post* competition policy.

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¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:c:1998:265:0002:0028:en:PDF>.

As telecom regulation initially focused mostly on efforts to liberalise markets that were characterised by the presence of one (public or private) monopolist, one of the antitrust tools that served regulators' purposes most directly was the "essential facility" doctrine. This doctrine refers to cases in which an undertaking controls an input or an asset, the replication of which is considered impossible or too costly from a legal, structural or economic viewpoint². Accordingly, during the 1980s and 1990s it appeared to perfectly fit the condition of firms owning the only wireline infrastructure in their own countries. The AT&T breakup was inspired by the essential facilities doctrine as much as the European Commission's 1998 Access Notice, which carried a full-fledged "essential facilities test"³. According to the latter test, when refusal to grant access by an essential facility provider would limit the development of new markets, or new products on those markets, or impede the development of competition on existing markets, the refusal is likely to have abusive effects and should be treated along the lines of the caselaw that developed on the application of Article 82 of the Treaty to refusals to contract by dominant firms. In the past few years, several other legal systems have adopted the essential facilities doctrine as the pivotal tool of their liberalisation efforts. This was also due to the incorporation of the concept in the WTO basic negotiation on telecommunications services. Today, countries like Canada, South Africa, Japan, Australia, and many others refer to this concept as one of the key elements of their regulatory framework for electronic communications.

However, while the essential facilities doctrine is spreading like an oil spot, some of the most advanced countries have started to significantly depart from its application, either reneging it completely (like the United States) or expanding its interpretation well beyond the original boundaries (the EU). This interesting development in worldwide telecom regulation might in principle be attributed to a variety of causes: the failure of access obligations and "stepping stones" approaches (especially in the US); the emergence of cable and wireless

² See, *i.a.*, Hovenkamp, H. J., *Unilateral Refusals to Deal, Vertical Integration, and the Essential Facility Doctrine* (2008). U Iowa Legal Studies Research Paper No. 08-31.

³ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:c:1998:265:0002:0028:en:PDF>.

networks as competitors of wireline telecoms (which would put an end to the essential nature of wireline facilities); the need to provide a suitable environment for investment in next generation networks (NGNs); or the need to establish a clearer demarcation between the application of sector-specific regulation and *ex post* antitrust (as in the US after the Supreme Court decision in *Trinko*).

Below, I describe the birth and evolution of the essential facilities doctrine, and comment on its application in the telecommunications sector. Section 2 outlines the emerging approaches in the regulation of high-speed broadband infrastructure, and the main consequences that may derive in terms of competitiveness and innovation in these markets. Section 3 concludes.

1.1 The essential facilities doctrine in the US: rise, fall ... and rise again?

In the United States, the essential facilities doctrine was implicitly applied for the first time in *Terminal Railroad* (1912) and then in cases such as *Associated Press* (1945), *Loraine Journals* (1951) and *Otter Tail* (1973); it was then explicitly formulated in 1977 in *Hecht v. Pro Football, Inc.*⁴ The doctrine was applied to the telecommunications sector already in *MCI v AT&T* in 1983: in that case, the 7th Circuit explained that

*“a monopolist’s refusal to deal [...] is governed by the so-called essential facilities doctrine. Such a refusal may be unlawful because a monopolist’s control of an essential facility (sometimes called a ‘bottleneck’) can extend the monopoly power from one stage of production to another, and from one market to another”*⁵.

Accordingly, the conditions set by the 7th Circuit for imposing an antitrust duty to deal were:

- (i) control of the essential facility by a monopolist;

⁴ See *Hecht v. Pro-Football, Inc.*, 570 F.2d 982, 992-93 (D.C. Cir. 1977).

⁵ See *MCI Communications, Corp. v. AT&T*, 708 F.2d 1081, 1132 (7th Cir, 1983).

- (ii) a competitor's inability practically or reasonably to duplicate the essential facility;
- (iii) the denial of the use of the facility to a competitor; and
- (iv) the feasibility of providing the facility.

Even if the doctrine can be considered to be an elaboration of US courts, it must be recalled that it was only an elaboration of lower courts, not of the Supreme Court itself. As a matter of fact, the Supreme Court refused to apply the doctrine in leading cases such as *Aspen Skiing* in 1985. This rejection was also inspired by the rather skeptical approach adopted by leading antitrust scholars, such as Philip Areeda (1989) and the famous treatise by Areeda and Hovenkamp⁶. In the following years, the Supreme Court approach was adopted and even made more explicit in *Covad v. BellSouth* and *Metronet v. Qwest*⁷.

Regardless of the Supreme Court's denial of any "essential facilities doctrine", it is safe to state – as Waller and Tasch (2009) recently did – that the doctrine has a "long and proud history" in the US⁸. This is even truer for the telecommunications sector, as the doctrine inspired the US regulatory regime since the Modified Final Judgment that led to the break-up of AT&T in 1982, where the giant telecom operator had a monopoly in the local exchange network, which in turn was considered to be an essential facility⁹. The doctrine itself was applied to the telecommunications sector in subsequent years in other antitrust cases¹⁰. As a matter of fact, although the Supreme Court has avoided

⁶ See P. Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 Antitrust L. J. 841 (1989), at 841; and Areeda & Hovenkamp, *Antitrust Law* (2d Ed. 2002).

⁷ *Covad Communications Co. v. BellSouth Corp.*, 299 F.3d 1272 (11th Cir 2002) (revd *Bellsouth Corp. v. Covad Communications Co.*, 124 S. Ct. 1143 (2004), dismissed as to essential facilities on remand, 374 F.3d 1044 (11th Cir. 2004); *Metronet Servs. Corp. v. U.S. West Communs.*, 329 F.3d 986 (9th Cir 2003) revd *Qwest Corp. v. MetroNet Servs. Corp.*, 124 S. Ct. 1144 (2004); summary judgement granted to defendant on remand, *Metronet Servs. Corp. v. Qwest Corp.*, 383 F.3d 1124 (9th Cir. 2004).

⁸ http://www.luc.edu/law/academics/special/center/antitrust/pdfs/harmonizing_ess_fac.pdf.

⁹ See Spulber, in Cave and Majumdar (Eds.) (2002).

¹⁰ *MCI v. AT&T*; *Southern Pacific v. AT&T*.

imposing liability explicitly under the rubric of the essential facilities doctrine, every circuit court of appeals has done so explicitly¹¹.

With the 1996 Telecommunications Act, the concept of an essential facility (or “bottleneck”) was put at the core of the regulatory approach, with the imposition of the obligation to unbundle network elements (UNE). More in detail, the 1996 Telecommunications Act directed the FCC to issue regulations requiring incumbent local exchange carriers (“ILECs”) to lease “unbundled” elements of their local networks to competitors at regulated rates. The Act also required incumbents to lease the entire suite of network elements necessary to provide local telephone service—the “unbundled network element platform” (“UNEP”). As a result, the RBOCs were finally allowed to enter lucrative long-distance markets under the condition that they provided unbundled access to any entrant that wished to use part of their networks (the so-called Unbundled Network Elements or UNE) at just, reasonable and non-discriminatory conditions, based on the so-called TELRIC pricing.¹²

The 1996 Act, initially welcomed with enthusiasm as a “Camelot moment”, soon proved to be inadequate to efficiently regulate the fast-changing US telecom industry.¹³ The two main problems emerged were the following:

- mandatory unbundling obligations have been increasingly considered as an insurmountable hurdle for investments in (DSL) broadband deployment by RBOCs. In this respect, many economists have highlighted that charges to access the incumbents’ UNE were insufficient to reward investments in infrastructure.¹⁴
- the so-called “silos” approach adopted by the Act – in which each type of service (broadcasting, telephony, cable television, information services) is subject to its own regulatory structure – seems to have hampered the level-playing field, by creating an artificial “regulatory apartheid” between sectors

¹¹ See Elhauge, *Defining better monopolization standards*, 56 STAN. L. REV. 253, 261-62 (2003). And Spencer Weber Waller and William Tasch, *Harmonizing Essential Facilities and Refusals to Deal*, supra note 8.

¹² TELRIC stands for Total Element Long-Run Incremental Cost.

¹³ Senate Commerce Committee Hearing, Voice over Internet Protocol, Feb. 24, 2004.

¹⁴ See, e.g., Hausman-Sidak

subject to common carriage obligations under Title II of the 1934 Act (the wireline companies); and sectors falling under Title III (which include satellite and wireless) and under Title VI (cable), which were generally exempted from common carriage obligations¹⁵.

Needless to say, the application of the essential facilities doctrine in the 1996 Telecommunications Act was hampered by this “regulatory apartheid”: whether a facility is replicable is indeed a question that depends on how the relevant market is defined: if the telecoms broadband network is kept artificially separated from the cable one, then viable replication ends up being confined to the replication of *that same* network, rather than deployment of alternative infrastructure that could compete with the copper one.

In any event, the FCC gradually moved to eliminate regulatory apartheid by reaching a more technology-neutral regulatory framework: after declaring cable modem broadband services as an ‘information service’ in 2002, it decided to forbear from imposing mandatory unbundling and pricing of FTTH in August 2003, and extended its decision to FTTC in October 2004 and to DSL in September 2005. The FCC decision to forbear from imposing mandatory unbundling and price regulation on FTTC, FTTH and DSL reportedly provided a tremendous stimulus to investment in the US¹⁶. A ‘hands-off’ approach to regulation was also applied to other high-speed technologies and IP-enabled services such as VoIP¹⁷. In summary, the US have reached a greater degree of technological neutrality than initially achieved with the 1996 Act. Such neutrality comes close to creating the level-playing field that is needed for

¹⁵ The definition of “regulatory apartheid” was given by Peter Huber, quoted in Thomas W. Hazlett, *Explaining the Telecommunications Act of 1996: Comment on Thomas G. Krattenmaker*, 29 Conn. L. Rev. 217 (1996).

¹⁶ SBC Communications announced investments of \$4-6 billion, Verizon planned investments totalling \$15-20 billion and other providers, including incumbents like BellSouth, followed a similar strategy by announcing investments of \$3-4 billion. Some commentators have argued that investments by regional incumbents (RBOCs) would have taken place anyway, given the intense competitive pressure exerted by cable operators, and were not significantly affected by the FCC announcements.

¹⁷ The FCC has taken advantage of its legacy “silos approach” by classifying VoIP as an “interstate information service” back in November 2004, therefore exempting it from state regulation just as cable modem services. More recently, the FCC started its IP-Enabled Services Proceeding in order to assess whether VoIP is to be considered a telecom or an information service.

infrastructure-based competition and fast, almost universal broadband coverage. As a result, although lifting up regulation for investments in high-speed technologies might hamper access and investment by foreign players, such an approach appears to fit the US telecoms sector, due to legacy infrastructure-based competition.

Where did this leave the essential facilities doctrine? The evolution of the US approach to telecoms regulation was inevitably linked to the reconsideration of the doctrine. This occurred with the collapse of the UNE regime in 2003, when the FCC released its Triennial Review Order (TRO), addressing the unbundling requirements of incumbent local exchange carriers (ILECs) under 47 U.S.C. § 251. On March 2, 2004, the U.S. Court of Appeals (D.C. Circuit) issued its opinion in *USTA v. FCC* overturning key provisions of the FCC's triennial review order. The Appeals Court vacated those portions of the TRO that delegated to state commissions the authority to determine whether CLECs were impaired without access to network elements.

Stating that the *USTA II* case marked the demise of the essential facility doctrine as a whole in the US would probably go too far. Important court decisions, such as the *Microsoft III* final judgment, came close to an application of the doctrine: Microsoft eventually committed to provide access at non-discriminatory conditions to anybody who requested interoperability with Windows¹⁸. In the telecoms sector, it is probably more correct to observe that the application of the essential facilities doctrine was flawed, as the US regulatory regime had confined it into the very tight boundaries of the “silos approach”.

However, a stronger wave of attacks soon came from the Supreme Court during the Bush Jr. administration, in particular with the Supreme Court decision in *Verizon v. Trinko*, where the Roberts Court established an important rule on the relationship between antitrust laws and sector-specific regulation in the field of telecommunications. The asset at hand in *Trinko* was exactly the UNE: a customer of the incumbent local phone service monopolist had brought a

¹⁸ See Renda, *Catch me if you can*, ...

private antitrust class action arguing that Verizon had denied competitors access to interconnection support services which impaired their ability to deliver, hence the customer's ability to obtain, local telephone service in the downstream market. The Supreme Court ruled that, where a government agency has powers to enforce access to a facility, the antitrust essential facilities doctrine does not apply. The *Trinko* decision thus entails that in the telecommunications sector, the application of the essential facilities doctrine relies entirely on the shoulders of the sectoral regulator, and should not be approached under the Sherman Act.¹⁹ The Court judges clearly stated that

“We have never recognized such a doctrine, and we find no need either to recognize it or to repudiate it here”²⁰.

More specifically, the Supreme Court observed that, if it is in the FCC's competence to impose a sharing obligation, antitrust rules should not be juxtaposed with the regulator's decision not to impose access. In a nutshell, this means that, if the FCC has decided to lift access obligations on telcos, no essential facilities doctrine could be evoked to mandate access to the telco's network. The *Trinko* decision might be viewed as merely stating that sectoral regulation and antitrust law should be kept separate and should not overlap, in line with a general approach that has been adopted by US courts under the past decade, *e.g.* in the *Credit Suisse* decision. However, the skepticism towards the essential facilities doctrine seemed to be expressed rather generally by the Roberts Court: as two authors have recently stated, the decision marked “the near extinction” of the doctrine²¹.

Most recently, the attacked continued with the Department of Justice Report on single-firm conduct under Section 2 of the Sherman Act, in which the same arguments were reiterated with even stronger emphasis²². After quoting Areeda

¹⁹ This is partly overruling *Otter Tail*, where the overlap was allowed. See http://www.davidalbeck.com/writings/trinko.htm#_ftnref4.

²⁰ *Law Offices of Curtis V. Trinko v. Verizon*, 540 U.S. 398 (2004).

²¹ See Frischmann, B. and S. W. Waller (2008), *Revitalising Essential Facilities*, Antitrust L. J. Vol 75, 2008.

²² See US DOJ (2008), *Competition and Monopoly: Single Firm Conduct under Section 2 of the Sherman Act*, available at <http://www.usdoj.gov/atr/public/reports/236681.pdf>.

and Hovenkamp's statement that the doctrine is a "label that beguiles some commentators and courts into pronouncing a duty to deal without analyzing implications", the Department observed that

*"the essential-facilities doctrine is a flawed means of deciding whether a unilateral, unconditional refusal to deal harms competition"*²³.

In a nutshell, during the Bush Jr. administration the dominant approach in the US was that, if access to essential inputs is to be applied in the telecommunications sector, it is up to the FCC to consider it, and antitrust law cannot overlap with this decision. Against this background, the decisions by the FCC to abandon the UNE rule to award regulatory forbearance (often called "regulatory holidays") to companies investing in high-speed broadband networks such as FTTx and DSL between 2003 and 2005 virtually ruled out any possibility to apply the essential facility doctrine to mandate access to broadband infrastructure. The door to the essential facilities doctrine was *de facto* shut.

Evidence of the repudiation of the essential facilities doctrine in the US can also be found in the recent *linkLine* case decided by the Supreme Court on 25 February 2009. The plaintiffs had brought suit in 2003, alleging that AT&T violated §2 of the Sherman Act by monopolizing the DSL market in California. They alleged that AT&T refused to deal with the plaintiffs, denied the plaintiffs access to essential facilities, and engaged in a price squeeze. The Supreme Court could not directly apply *Trinko* as that case dealt with wholesale prices, and did not cover price squeeze allegations; however, the Chief Justice Roberts took the chance to clarify that "[i]n this case, as in *Trinko*, the defendant has no antitrust duty to deal with its rivals at wholesale; any such duty arises only from FCC regulations, not from the Sherman Act"²⁴. Even more explicitly, concurring Judge Breyer observed that, in his view, "a purchaser from a regulated firm (which, if a natural monopolist, is lawfully such) cannot win an antitrust case simply by showing that it is 'squeezed' between the regulated firm's wholesale

²³ *Id.* at 129.

²⁴ *Pacific Bell Tel. Co. v. LinkLine Commc'ns, Inc.*, No. 07-512 (2009).

price (to the plaintiff) and its retail price (to customers for whose business both firms compete)". Moreover, "[w]hen a regulatory structure exists to deter and remedy anticompetitive harm, the costs of antitrust enforcement are likely to be greater than the benefits"²⁵.

To sum up, it is fair to state that the essential facilities doctrine in the US has become only a regulatory issue, and only a narrowband story. It is not applied to broadband, and it was officially rejected by antitrust authorities.

However, there are reasons to believe that the equilibrium reached during the Bush Jr. administrations is likely to be altered by the DoJ during the Obama mandate. First, the new Head of the DoJ Antitrust Division, Christine Varney, has been applying the rule in her past decisions and has immediately called back the 2008 DoJ Report on Single-Firm Conduct under Section 2 of the Sherman Act, which she considered to be inadequate²⁶. Second, influential stakeholders such as the American Antitrust Institute have included the goal of "revitalizing the essential facilities doctrine" already in their transition report sent to the Obama team during the presidential campaign²⁷. Whether this will ultimately lead to a resurgence of the essential facilities doctrine in the US, it remains to be seen. Certainly, there seems to be an emerging consensus that, under some very specific circumstances, the essential facilities could still represent a viable solution to problems of insufficient competition: the statement by Ms Varney, which advocated for a more "European" way to antitrust enforcement, probably hides a less hostile approach to mandatory access compared to the previous heads of the Antitrust Division at the DoJ.

Most recently, the draft study conducted by the Harvard University's Berkman Center for the Federal Communications Commission concluded that access policy has boosted broadband penetration and deployment at relatively low prices for consumers, compared to the US regulatory holidays policy. This

²⁵ Id.

²⁶ See Varney in *Ciba-Geigy Sandoz*: <http://www.abanet.org/antitrust/at-source/09/04/Apr09-Gates4-28f.pdf>

²⁷ AAI transition report 2008 see http://www.antitrustinstitute.org/archives/files/Monopoly%20Chapter%20from%20%20AAI%20Transition%20Report_100520082111.pdf

finding – doomed to pave the way to a hectic debate in the months to come – was mostly inspired by the observation that “[i]n leading countries like Sweden and the Netherlands, following the earlier example of the United Kingdom, regulators are addressing the complexities of applying open access policy to next-generation infrastructure by pushing their telecommunications incumbents to restructure their operations and functionally separate their units that sell access to network infrastructure from their units that sell connectivity directly to consumers”; and that “countries that long resisted the implementation of open access policies, Switzerland and New Zealand, changed course and shifted to open access policies in 2006”²⁸. The Berkman Center’s Report starkly contrasts with the almost unanimous findings of recent literature, including those by Waverman et al. (2007); Wallsten (2006); Wallten and Hausladen (2009); Grajek and Röller (2009); and Pietrunti (2009)²⁹. All these studies found a negative correlation between access policy based on unbundling of the incumbent network and incentives to invest in telecom infrastructure, which suggest that mandatory sharing of essential facilities may have negatively affected dynamic efficiency. Whether the results of the Berkman Center’s report will contribute to a change of attitude by US regulators vis à vis access policy in fixed-line (and even mobile) infrastructure, it remains to be seen.

1.2 The essential facilities doctrine in Europe: alive and kicking

The early developments of the essential facilities doctrine in the US had a remarkable influence in Europe, where the doctrine was welcome and applied

²⁸ See “Next Generation Connectivity. A review of broadband Internet transitions and policy from around the world”, Draft, October 2009.

²⁹ See, *i.a.*, Waverman, L., M. Meschi, B. Reillier and K. Dasgupta (2007), *Access Regulation and Infrastructure Investment in the Telecommunications Sector: An Empirical Investigation*, LECG, September 2007; Wallsten, S., *Whence Competition in Network Industries? Broadband and Unbundling Regulations in OECD Countries*, December 2007, available at <http://www.techpolicyinstitute.org/files/s8.pdf>; Wallsten, S. and S. Hausladen, *Net Neutrality, Unbundling, and their Effects on International Investment in Next-Generation Networks*, *Review of Network Economics* Vol.8, Issue 1 – March 2009; Grajek, M. And L.H. Röller, *Regulation and Investment in Network Industries: Evidence from European Telecoms*, SFB 649 Discussion Paper 2009-039, at <http://sfb649.wiwi.hu-berlin.de/papers/pdf/SFB649DP2009-039.pdf>; and Pietrunti, M., *Regulation and investment incentives for next generation broadband access networks*, forthcoming as EIB working paper.

by the European Court of Justice in a number of cases, initially related to port infrastructure (*Sea Containers/Sealink, Europort AS/DBS*) and then expanded to other network industries, including gas (*Tiercé Ladbroke*). Overall, the essential facilities doctrine was integrated into the doctrine of refusal to deal with competitors, and in the application of refusal to supply customers with an essential input. Since the late 1990s, the essential facilities doctrine surfaced in cases related to media distribution (*Bronner*) and copyright, where it was applied by EU Courts in a number of cases - *Magill, IMS Health*, and eventually in the landmark case against *Microsoft*. In these cases, the conditions that must be met for a finding of abuse of dominance were clarified. Overall, a refusal to supply by a dominant undertaking is considered to constitute an abuse of dominance whenever (i) the refusal falls on an essential asset (or in *Microsoft*, copyrighted interoperability information); (ii) the refusal is likely to exclude all competition in the downstream market; (iii) the refusal is such that it prevents the emergence of a new product (or, as in the CFI decision in *Microsoft*, limits the possibility of competitors to develop innovative products in the future); and (iv) the refusal is not objectively justified.

The recent Guidance document on the treatment of exclusionary abuses under Article 82 also mentioned the essential facilities doctrine as a subset of refusals to deal by dominant undertakings. Paragraph 77 of the document clarifies that “[t]he concept of refusal to supply covers a broad range of practices, such as a refusal to supply products to existing or new customers, to license intellectual property rights, including when this is necessary to provide interface information, or to grant access to an essential facility or a network”³⁰. The new Guidance document also clarifies that Art. 82 can also apply to “constructive refusals”, *i.e.* cases in which the dominant undertaking unduly delays or otherwise degrades the supply of the product or imposes unreasonable conditions in return for the supply.

The EU application of the essential facilities doctrine under Article 82 must also take into account a specific feature of Community antitrust law, which attaches

³⁰ See COM(2009)864 final.

to dominant firms a so-called “special responsibility” vis à vis its competitors³¹. This feature, still heavily discussed in the literature, can be interpreted as placing on essential facility holders an additional obligation to allow competitors to access downstream markets. In the case of vertically integrated essential facility holders, article 82 can apply also to the case of discriminatory abuses, in which the dominant firm applies different conditions to equivalent transactions, thus placing some or all competitors at a disadvantage. In this respect, the Guidance document on the treatment of exclusionary abuses article 82 deals with margin squeeze cases as a special case of refusal to deal with competitors. The Commission clarifies that “instead of refusing to supply, a dominant undertaking may charge a price for the product on the upstream market which, compared to the price it charges on the downstream market, does not allow even an as efficient competitor to trade profitably in the downstream market on a lasting basis”. In these cases, the Commission will assess the exclusionary nature of the abuse by a price-cost test based on the LRAIC of the downstream division of the integrated dominant firm.

Moreover, the guidance document also clarifies the following issues:

- The indispensability element includes an assessment of whether competitors could effectively duplicate the input produced by the dominant undertaking in the foreseeable future, and as such is very close to the concept of essential facility. The Commission explains that the notion of duplication “means the creation of an alternative source of efficient supply that is capable of allowing competitors to exert a competitive constraint on the dominant undertaking in the downstream market”³².
- When the input is essential and the refusing firm is dominant, the Commission considers that the refusal to supply is generally liable to eliminate, immediately or over time, effective competition in the downstream market.

³¹ See *Michelin v Commission* (case 322/81).

³² See COM(2009)864 final, at §82 (quoting *Bronner*).

- A refusal to supply may lead to consumer harm where the price in the upstream input market is regulated, the price in the downstream market is not regulated and the dominant undertaking, by excluding competitors on the downstream market through a refusal to supply, is able to extract more profits in the unregulated downstream market than it would otherwise do.
- The Commission is open to considering any claim that an obligation to deal with competitors would stifle incentives to invest in the future. The access price set by the Commission thus will, in principle, “allow the dominant undertaking to realise an adequate return on the investments required to develop its input business, thus generating incentives to continue to invest in the future, taking the risk of failed projects into account”.

All these statements show that the essential facility doctrine is deeply rooted in Community antitrust law, and is increasingly considered by the European Commission in its analysis of refusals to deal by dominant undertakings. This is also reflected in recent case law on margin squeeze. For example, in the *Deutsche Telekom* case³³, the Commission demonstrated that there was no alternative to Deutsche Telekom's local loop access for competitors, although this analysis was carried out at the market definition stage rather than in the assessment of whether essential facility criteria were met.

The success of the essential facilities doctrine in Europe can also be ascribed to the different approach adopted by EU institutions in the application of competition law, and in particular to the oft-quoted “ordoliberal” roots of Article 82³⁴, which led EU trustbusters to pursue the openness of markets to the largest possible number of competitors where possible. According to some authors, reliance on a structuralist approach to antitrust policy has led EU competition authorities to go well beyond the concept of essential facility, bordering on what has been termed “convenient facility” doctrine³⁵. Especially in *Microsoft*, the Commission has shown its intention to go beyond the exceptional circumstances

³³ Decision 2003/707/EC, OJ 2003 L 263, p. 9

³⁴ See *i.a.* Akman (2007), *Searching for the Long-Lost Soul of Article 82 EC*. CCP Working Paper No. 07-5. And Ahlborn and Evans (2009), *The Microsoft Judgment and its Implications for Competition Policy towards Dominant Firms in Europe*, 75 Antitrust L. J. n. 3, 887-932.

³⁵ Ridyard

identified in previous caselaw such as *Bronner*, *Magill* and *IMS Health*, to impose compulsory access also in cases where the asset at hand was not found to be fully indispensable for competitors in the downstream market. This approach can lead to an overly flexible implementation of the essential facility doctrine, which may ultimately prove harmful for market players' incentives to invest and compete by innovation, rather than by imitation.

In sector-specific regulation, a similar trend can be observed. The essential facility doctrine was immediately visible in the "open network provision" (ONP) era, which echoed the UNE approach adopted in the United States. The overarching goal of the regulatory framework was to identify and open up only enduring bottlenecks, which represented real essential facilities. Similarly, the European Commission's 1998 Access Notice carried a full-fledged "essential facilities test" according to which, when refusal to grant access by an essential facility provider would limit the development of new markets, or new products on those markets, or impede the development of competition on existing markets, the refusal is likely to have abusive effects and should be treated along the lines of the caselaw that developed on the application of Article 82 of the Treaty to refusals to contract by dominant firms. Given this link, the "convenient facility" doctrine that has been attributed to the European Commission in recent years could end up being applied also by national regulators.

A similar approach was found also in Regulation 2887/2000, which deals with access to the copper loop, and was entirely based on the theory of essential facilities. Regulation 2887/2000 also clarified that "alternative infrastructures such as cable television, satellite, wireless local loops do not generally offer the same functionality or ubiquity for the time being, though situations in Member States may differ." Recital 5 also excluded from the scope of the Regulation fibre loops, considered to be "a specific market that is developing under competitive conditions with new investments".

However, the “ONP” era did not succeed in boosting competition in telecoms markets in Europe, just as the “UNE” era had failed in the US³⁶. However, while in the US the reaction was to abandon access policy in favour of regulatory holidays, also due to the existence of a legacy cable infrastructure and emerging wireless broadband platforms, in Europe the reaction was completely different.

As a matter of fact, the 2002 framework is based on the concept of dominance as applied under Article 82, and thus also based on the essential facilities doctrine; the essential nature of the assets owned by network operators is now part of the assessment of the need to regulate a relevant market *ex ante*, as the “three criteria test” that lies at the basis of the 2003 Recommendation on relevant markets, especially as regards the assessment of barriers to entry. Recital 11 of the 2003 Recommendation (reproduced as Recital 9 of the revised Recommendation adopted in 2007) clarifies that “[a] related structural barrier can also exist where the provision of service requires a network component that cannot be technically duplicated or only duplicated at a cost that makes it uneconomic for competitors”.

However, the implementation of the 2002 framework has led the European Commission and national regulatory authorities (NRAs) to go well beyond the concept of essential facilities, for the following reasons:

- The three criteria test has seldom been used by NRAs, since if they followed the list of markets pre-defined by the Commission in the 2003 Recommendation, they did not have to show that the three criteria were met. Only if they decided to define markets differently from the markets defined by the 2003 Recommendation, they had to run the test. Accordingly, NRAs had a clear incentive not to deviate from the Commission’s document, and never really assessed in practice whether long-run competition was possible in specific wholesale markets, due to the potential for infrastructure-based competition (e.g. from cable or wireless).
- The Commission and NRAs have followed the “investment ladder” model, which aims at facilitating entry by competitors by offering them favourable

³⁶ See Renda (2006), in *Deep Integration*. And Renda, in *Sleeping Giant*.

access conditions to different network elements at different moments in time, so that they can end up “climbing the ladder” and eventually get to the real essential facility, *i.e.* the local loop. Accordingly, NRAs have opened up much more than merely essential facilities to new entrants, and have often encouraged entry by competitors that had no intention to invest in their own network, and ended up doing arbitrage between different rungs of the ladder³⁷.

- The rigidity in market definition instilled by the 2003 Recommendation – which understandably aimed at achieving consistency in the application of the framework by NRAs – led some NRAs to define markets in a way that no knowledgeable competition authority would have accepted. Not only were some pre-defined relevant markets hard to configure as real economic markets (*e.g.* bitstream); more importantly, market definition has remained very technology-specific in some markets. A case in point here is Market 18, where the emerging inter-platform competition between DSL, cable, satellite and free-to-air TV has been most often neglected by NRAs.

In summary, given the structure of the regulatory framework, national regulators were called to mandate rivals' access not only to enduring bottlenecks, but also to network elements that could not be conceived as an essential facility. And overall, the issue of infrastructure-based competition has been almost ignored by NRAs in their daily practice. The features of the 2003 regulatory framework for electronic communications in Europe led to one major difference between the treatment of essential facilities in the United States and in Europe: in the US broadband infrastructure is shielded from network sharing obligations, whereas in Europe it is subject to the same access policy approach that applies to narrowband networks.

In addition, the review of the regulatory framework for e-communications in Europe has led to a stronger emphasis on the “essential” nature of high-speed IP-based infrastructure – the so-called next generation networks:

³⁷ See CEPS 2006.

- The scope of former market 11, formerly termed “wholesale unbundled access (including shared access) to metallic loops and sub-loops for the purpose of providing broadband and voice services” was extended to all types of high-speed broadband infrastructure with the removal of the word “metallic”³⁸. This market formerly corresponded to that referred to in Annex I (3) of the Framework Directive in respect of Regulation No 2887/2000; however, while – as already mentioned – regulation 2887/2000 excluded fibre loops from its scope, these loops are now covered by the revised recommendation in relevant markets.
- In addition, EU institutions have agreed that the list of remedies to be included in the revised Access Directive should now include also functional separation, which aims at realizing equality of access of all competitors to the same infrastructure.

The inclusion of functional separation in the list of remedies that can be applied by NRAs in the application of the regulatory framework can be considered as the “ultimate frontier” in the application of the essential facilities doctrine in the e-communications field. Heavily contested by incumbents and by several commentators, the Commission proposal has been endorsed by the European Parliament and the Council as an “exceptional remedy”, which requires proof by NRAs that less intrusive solutions would not achieve the desired result. The revised text adopted by the Commission after the parliament’s vote at the end of 2008 states that in exceptional cases, functional separation “may be justified as a remedy where there has been persistent failure to achieve effective non-discrimination in several of the markets concerned, and where there is little or no prospect of infrastructure competition within a reasonable timeframe after recourse to one or more remedies previously considered to be appropriate”. At the same time, the text calls for a careful consideration of “the incentives of the concerned undertaking to invest in its network”, as well as the risk of any potential negative effects on consumer welfare.

³⁸ New market 4 is now defined as “Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location”.

Against this background, it bears observing that the inclusion of functional separation in the Access Directive confirms the European attitude towards the imposition of structural remedies to address market failures. This trend – confirmed, although in different form, also with the imposition of unbundling obligations in the *Microsoft Windows Media Player* case – shows that, when it comes to essential facilities, the US and the EU are not converging. Rather, a continental drift can be observed, with the two systems proceeding in completely opposite directions.

In conclusion, in Europe the essential facilities doctrine applies both to narrowband and broadband communications, regardless of the technology used; it applies both *ex ante* (under the regulatory framework for e-communications) and *ex post* (under Article 82 of the EU Treaty). However, both the antitrust approach to essential facilities and the practical implementation of the regulatory framework for e-communications have led Europe to move beyond the strict application of the essential facilities doctrine, towards a situation in which facilities that are only “convenient”, rather than “essential”, can be subject to mandatory access or compulsory licensing.

1.3 Essential facilities around the world

In EU member states, competition authorities and national courts apply Community competition law, and thus broadly welcomed the essential facilities principle in their own caselaw. Recent cases include *Standard Spundfass*, *Hafa*, *Arealnetze* and *Royal Bank of Scotland/Lufthansa* in Germany; *Free/France Telecom* and *NMPP* in France; *Attheraces* and *Software Cellular Network* in the UK, and several other cases in practically all the EU27, including the Czech Republic, Lithuania, Cyprus, Estonia, Greece, Luxembourg, Hungary and others³⁹. Also in non-EU member states, the essential facilities doctrine has been often applied in competition cases: these include many Southern Mediterranean and Middle-East countries⁴⁰, as well as Australia, New Zealand,

³⁹ See, for some of these cases, Waller and Tasch (2008).

⁴⁰ See, *e.g.* Renda et al (2007), *MENA*

Japan, Guatemala, Russia and others⁴¹. In the UK, the Office of Fair Trading has adopted a rather narrow approach to essential facilities, stating that access can be imposed only in exceptional circumstances, such as where “access is indispensable in order for the would-be customer to compete and duplication of the facility is impossible or extremely difficult”⁴².

In addition, NRAs apply the essential facilities doctrine when implementing the regulatory framework for e-communications. However, some of them (the UK, Italy, Sweden) have already chosen to opt for functional (or in the case of Italy, operational) separation of the incumbent's infrastructure in order to promote competitors' equal access to the NGN infrastructure.

In Canada, the CRTC heavily relied on the essential facilities doctrine to regulate wholesale access to telecom infrastructure since 1997. Recently, in Telecom Decision CRTC 2008-17, released on March 3, 2008, the Commission articulated new rules that apply mainly to the services and facilities provided by incumbent local exchange carriers (ILECs), such as Bell Canada and Telus, to competitive service providers including alternative local and long distance carriers, resellers, and ISPs⁴³. The Commission adopted a very broad approach to access policy, by mandating access to infrastructures considered as “essential”, as well as regulation of wholesale facilities that are not “essential facilities”, but are anyway required for new entrants to effectively compete. The CRTC defines a facility as essential when: (i) it is required as an input by competitors to provide telecommunications services in a relevant downstream market; (ii) it is controlled by a firm that possesses upstream market power such that withdrawing mandated access to the facility would likely result in a substantial lessening or prevention of competition in the relevant downstream market; (iii) it would not be practical or feasible for competitors to duplicate the functionality of the facility⁴⁴. The CRTC went even further by distinguishing

⁴¹ Waller and Tasch, *cit.*

⁴² DuPont Case, 2003

⁴³ The Commission's proceeding was mandated by the Canadian Government as one of its initiatives to implement the 2006 Report of the Telecommunications Policy Review Panel.

⁴⁴ Paragraph (ii) of this definition is broader than the previous definition, which applied only to facilities provided on a “monopoly basis”, The new definition requires non-monopoly facilities to be provided to competitors if the Commission determines, based on its assessment of market

between essential facilities, conditional essential facilities, conditional mandated non-essential facilities public goods and mandatory interconnection services, differentiating regulatory remedies for each of these categories.

In Japan, the concept of essential facilities is explicitly referred to in the telecommunications law, which leads to the designation of those markets that warrant regulated wholesale access. In addition, the Japanese Fair Trade Commission has been active since 2000 in challenging the incumbent firm NTT for its alleged anticompetitive conduct in dealing with competitors seeking wholesale broadband access. In December 2003 the FTC issued a ceased and desist administrative order claiming that NTT was blocking the entry of competitors by charging 5000 yen per month per household customer for optical fiber service, while NTT East itself charged its retail customers fees on the level of 4000 yen per month. This allegedly allowed NTT to conquer a 90% market share. This decision, however, led to conflicts between the Ministry of Public Management, Home Affairs, Posts and Telecommunications and the FTC, as the former claimed that the latter unduly invaded its sphere of competence.

Also other countries (*e.g.* many African countries, Turkey, etc.) systematically apply the essential facilities doctrine both in general competition law and in the regulation of electronic communications.

1.4 Essential facilities and telecoms: *nemo propheta in patria?*

The previous sections looked at the birth and evolution of the essential facilities doctrine, and found a rather surprising result: despite the fact that it was elaborated in the US, the essential facilities doctrine seems to have survived and permeated the regulatory framework for e-communications and the enforcement of competition laws mostly outside the United States. As a matter of fact, looking at the liberalization of telecommunications worldwide, reliance

conditions, that withdrawal of mandatory access would likely result in a "substantial lessening or prevention of competition." This language, which seems to be based on the abuse of dominance provisions in Section 79 of the Competition Act, establishes a fairly subjective test, and future regulatory litigation can be expected before its interpretation is settled.

on the essential facilities doctrine appears still extensive, with applications that are not limited to traditional narrowband infrastructures, but also cover mandatory access to high-speed broadband.

The case of Europe is probably the most interesting from this viewpoint. In the Old Continent, the essential facilities doctrine can be defined as the “spinal tap” of the current regulatory framework; and even when access obligations are not imposed by NRAs, competition authorities can step in and challenge dominant firms’ conduct if it is likely to lead to anticompetitive foreclosure. In this context, the expansion of the essential facilities doctrine to fibre infrastructures appears inevitable, also due to the extension of the scope of former market 11. And given the emphasis currently put on the need to stimulate investment in NGNs by mandating the sharing of passive infrastructures (ducts, masts, etc.), the application of the essential facilities doctrine seems likely to be given even more importance in the years to come.

The stark divergence between the treatment of the essential facilities doctrine in the US and EU certainly deserves closer scrutiny. US authorities – both the DoJ and the FCC – seem to concur that applying the essential facilities doctrine can lead to significant uncertainty, hampers incentives to invest and leads to the protection of competitors, rather than competition in the interest of end consumers. On the other hand, EU antitrust and telecoms policy are aligned in their reliance on the essential facility doctrine. In the next section, we assess whether this divergence can have significant policy impacts in the years to come.

The table below summarizes national experiences with the essential facilities doctrine in the telecoms field and in general antitrust policy. As shown in the table, very much is left of the essential facilities doctrines in telecoms regulation around the world. However, in the US too little attention has been devoted to the virtues of the doctrine in the past few years – and a reconsideration of the hostile approach of the past few years is very likely in the next few months; at the same time, in the EU the enthusiasm for the theoretical appeal of regulated access to infrastructure has led the Commission and other institutions to exaggerate in mandating access to existing or future networks, or even to assets

or information that could at best be considered useful – neither indispensable, nor impossible to replicate – for competitors.

Table 1 – Essential facilities around the world

Country/region	Antitrust law	Telecoms regulation	Overlap between antitrust and telecoms policy
United States	Doctrine elaborated only by “lower courts”, never officially endorsed by the Supreme Court. “Narrow” interpretation	The doctrine has been influential for narrowband since the 1980s, but does not apply to broadband	Not possible. As stated by the Supreme Court in <i>Trinko</i> , antitrust policy cannot step in where regulators already have the possibility of mandating access
European Union	The doctrine has been applied in many sectors, including telecoms, also by the ECJ. “Broad” interpretation	Essential facilities were at the core of the ONP regime since 1998 and also of the 2002 regulatory framework. But the latter has been implemented in a way that goes beyond the doctrine.	Possible. The European Commission, CFI/ECJ and national competition authorities have intervened in the telecoms sector in several cases
Japan	Rooted in national competition law “narrow” interpretation and infrequent application	The telecoms law explicitly refers to essential facilities.	Possible. The FTC has been active in challenging NTT for its alleged anticompetitive conduct in dealing with competitors seeking wholesale broadband access.
Canada	The essential facilities doctrine has been applied in several competition cases. “Broad” and frequent interpretation.	The CRTC heavily relied on the essential facilities doctrine to regulate wholesale access to telecom infrastructure since 1997. The CRTC now applies a “sliding scale” of essentiality	Possible.
Australia	???	???	???
New Zealand	???	???	???
Turkey	Essential facilities are one of the key elements of national competition law	Telecoms policy is mostly based on the EU framework, and thus goes beyond the doctrine in many cases. No specific rules on broadband	Possible , although the competences for <i>ex post</i> competition policy have not been given to the new

		yet.	regulator, ITCA.
Russia	Essential facilities are one of the key elements of national competition law		
Thailand	No essential facilities doctrine	Regulation is symmetric , i.e. does not envisage special access obligations for essential facility owners	Not applicable

2 Access policy, non-legacy essential facilities and chicken/egg policymaking

As we explained in the previous sections, the notion of essential facilities is a dynamic one, susceptible to change overtime according to the evolution of technology and consumer preferences. Especially in the telecoms field, where convergence is blurring the boundaries between fixed and mobile communications, as well as between telecoms and IT services, the traditional view of PSTN telecoms network as essential facilities – at least for what concerns inter-switch elements – must now be thoroughly reconsidered. As a matter of fact, the replicability of the incumbent's wireline network can become feasible through (i) wireless technologies that overcome the problem of the local loop; (ii) wireless broadband networks (4G) that are increasingly seen as substitute from the perspective of demand-side substitutability; and (iii) alternative broadband platforms (such as cable, fiber optics, broadband over powerlines etc.) that are deployed mostly in densely populated areas, sometimes with the help of public subsidies. In this context, whether a fixed telecoms network should still be considered as an essential facility, and some of its elements as enduring economic bottlenecks, is highly disputed.

Against this background, while convergence challenges the essential nature of existing telecoms facilities, migration towards next generation access networks is likely to exacerbate the essentiality of some network elements. In particular, as often observed especially in Europe, civil engineering works constitute the bulk of the investment needed for the deployment of NGA networks (approximately 80%). Given the enormous cost of digging holes to make space for one or more fiber networks in existing ducts, countries that plan to rely on duct-sharing are also defining these passive elements as essential facilities, and are imposing obligations on their owners to share them with competitors. For example, in France the regulator ARCEP stated that France Telecom's civil engineering infrastructure, including the underground infrastructure that hosts the local loop, is an essential facility, and accordingly France Telecom is required to provide access to it.

Even if the debate on essential facilities seems at least as important in an NGA environment as it was for old-generation telecoms regulation, this does not mean that the terms of the debate are the same. A first, very important difference is that during the past two decades the main policy challenge in this field has been liberalization: accordingly, policymakers focused in particular on the need to open existing facilities to newcomers, in order to facilitate their entry on the market. Access policy was thus related to existing facilities in the network, which were undergoing a transition from monopoly to competition. Today, the issue is completely different: as one of the top European players has recently stated before the European Regulators' Group, the only legacy advantage given by a metallic local loop considered as an essential facility is the so-called subloop, which is already being regulated. Besides this, "new infrastructures should be considered as an investment opportunity and cannot be seen, by definition, as an essential facility"⁴⁵. In other words, while the theoretical framework for access to essential facilities has been conceived to regulate a situation where an incumbent player can exploit a legacy advantage over prospective new entrants, the NGA debate looks at "future essential facilities", which for the most part still have to be built. This is why the debate has become so intriguing today, and so difficult to solve. Is there such thing like a "future essential facility"?

As regards the infrastructure layer, the "new essential facilities" are being broken down into various categories, and policy is now focusing on various degrees of sharing. In particular, the most important distinction is certainly between "passive" and "active" infrastructure sharing. The former type is the most often associated to the essential facilities concept, especially as regards the need to introduce obligations to share civil engineering infrastructures⁴⁶. The

⁴⁵ Telecom Italia, response to ERG consultation, available online at http://erg.ec.europa.eu/doc/publications/consult_ngn_2008/consult_regprinc_nga/telecom_italia.pdf

⁴⁶ A first case has already emerged in France, where Free charged France Telecom for abuse of dominant position in refusing to give its competitors access to its civil engineering infrastructures, which would allow them to deploy their own fibre-optic telecommunications network. In January 2008 the Conseil de la Concurrence dismissed Free's request for interim measures but decided to investigate further the case on the merits. The decision bears a key importance on Free's future reliance on FT's infrastructure, or on an own infrastructure. However, The Conseil considered that France

new European Commission recommendation on relevant markets already explains that “[a]s networks evolve in most Member States and existing metallic loops are replaced partially, or even totally, by fibre, the existing local loop may become significantly shorter than today's local loops, or even entirely disappear. In such cases, where no alternative infrastructure is likely to become available to allow replication, then access to either ducts or alternative network elements must be considered. Access to ducts could be an important part of any remedy imposed to address problems associated with physical network access.”⁴⁷ The ERG has also clarified that “NGA investments are likely to reinforce the importance of scale and scope economies, thereby reducing the degree of replicability, potentially leading to an enduring economic bottleneck”. This last statement seems to pave the way for a massive application of the essential facilities doctrine in an NGA environment⁴⁸. Countries that have already mandated or plan to mandate access to passive infrastructure include Belgium and Italy (only access to ducts and dark fibre); France (sharing of ducts and in-building fiber); Denmark and Germany (access to ducts and dark fiber, and subloop unbundling); and Spain (sharing of in-building fiber, access to ducts and dark fiber, and subloop unbundling). On the other hand, mandatory sharing of active infrastructure is currently limited to bitstream access over NGA in a few countries (Belgium, Denmark, Spain, UK).

Moreover, the essential facilities debate is evolving into even more prospective and less tangible assets. In particular, once telecoms services will have migrated to an all-IP environment, ISP platforms in heavily concentrated markets may also be subject to mandatory access policy: the current trend towards mandatory net neutrality obligations in the US and Europe testifies of an increasing attention towards access of new entrants at higher layers of the value chain, *i.e.* applications and services. If markets will be defined in a very

Telecom's holding of civil engineering infrastructures is likely to give the company a particular responsibility, notably including not to distort the play of competition on the very high speed budding markets in keeping for itself the use of the infrastructures and refusing its competitors to use them, or giving them a discriminatory access.

⁴⁷ See Section 4.2.2, p. 34 of the Explanatory Note, Accompanying document to the Commission Recommendation on Relevant Product and Service Markets.

⁴⁸ ERG Common Position on Regulatory Principles of NGA, ERG (07) 16 Rev 2.

technology specific way, and incumbent players in those markets will retain a significant market share, then their all-IP platforms will be seen as essential distribution channels for applications and content, exactly as the newspaper distribution channel in the ECJ's famous *Bronner* case, and Windows in *Microsoft*. Net neutrality regulation would impede that dominant ISPs manage their traffic in a way that extracts revenues from applications and service providers seeking reasonable quality of service. Accordingly, mandatory net neutrality would deprive ISPs that already have very limited sources of revenue from their regulated infrastructure or their other possible revenue source, *i.e.* differentiated QoS fees for application and content providers⁴⁹.

This attempt to regulate *ex ante* prospective essential facilities is inevitably doomed to face important hurdles, for at least two reasons.

- First, given the huge investment stakes needed to deploy NGNs, big players would refrain from investing if they know that they will be able to charge only LRIC-based access prices (even if increased by 10-15%, as proposed by the European Commission in the recent NGA Recommendation⁵⁰) to new entrants wishing to use their networks. This creates a chicken or egg dilemma for policymakers: regulating today to ensure competition and risking a “chilling effect” on investment, or letting players invest, and then regulate at a later stage? In either case, absent a clear commitment on the side of the policymaker, players will anticipate the regulatory approach and decide about their investment on the basis of their expectations. For example, Verizon and AT&T invested heavily in new fiber and DSL networks in the US only after the “holiday announcements” of the FCC; whereas in Europe, as of today, incumbent players represent a minuscule share of the current investment in NGA networks.
- Even if players decide that they are willing to invest, the concomitant regulation of the infrastructure layer (through access policy) and the higher layers (through mandatory net neutrality) may hamper the business case for such investment. As a matter of fact, practically the only revenue source left

⁴⁹ Renda, etc. and forthcoming

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for investors to strike the break-even in an ideal business plan would be increasing monthly subscriptions for end users, something that cannot be done *ad libitum*, if the platform is to be successful.

Finally, the financial turmoil that has originated from the subprime mortgage crisis has instilled a sense of further urgency in the debate over NGA deployment. Investment in new telecom infrastructure is increasingly seen as a much needed counter-cyclical thrust for the real economy⁵¹. Accordingly, there seems to be little time to solve the essential facility puzzle: if the new networks are so similar to public goods – because future access policy will make them non-rival and non-excludable from the perspective of incumbents – then public money can be thrown on the table to convince investors. And this is the approach that seems to be emerging at least in Europe, as will be explained in the next section.

2.1 Mandating access to new networks: the European Commission's NGA recommendation

Important examples of the emerging approach to the regulation of new telecoms networks are two recent initiatives adopted by the European Commission, *i.e.* the NGA Recommendation adopted on 12 June 2009; and the Guidelines on the application of EU State aid rules to State measures aimed at promoting the rapid deployment of broadband networks in certain regions, published in September 2009.

The first document clearly states that access to civil engineering infrastructure (ducts, poles etc) should be mandated on a cost-oriented basis and in accordance with the principles of equivalence. Interestingly, the Commission also states that effective physical access remedies might render imposition of an obligation of wholesale broadband access unnecessary, especially where access to the unbundled fibre loop is available, and in particular on a point-to-point basis. In this respect, the Commission's approach seems to create different layers of essential facilities: if the passive infrastructure layer is already subject

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to mandatory sharing obligations, then the other elements (*e.g.* active infrastructure elements) will not be considered as essential facilities, and as such will not be subject to network sharing obligations. However, new access remedies in terms of interfaces for interconnection of optical networks and bitstream remedies may be required: in particular, wholesale bitstream access prices should be cost-oriented with different prices for different bitstream products to the extent that such price differences can be justified by the underlying costs of service provision. This basic rule faces exemptions when there is a proven track record of functional separation that has resulted in fully equivalent access to NGA and where there is a sufficient competitive constraint on the operator's downstream arm.

In addition, the Commission clarified that cost-oriented access to the unbundled fibre loop should be provided in the case of co-investment into FTTH; but with no requirement for cost orientation where: (i) the SMP operator has jointly with at least one other provider of electronic communications services competing on the downstream market deployed an FTTH network; (ii) the co-investors deploy multiple fibre lines; (iii) the co-investment project is not exclusive (timely notice should be given to potentially interested parties who could participate on the same terms and conditions); and (iv) all co-investors enjoy equivalent access to the jointly deployed infrastructure.

This, in turn, means that the Commission is considering access obligations from a sequential perspective: the same network infrastructure will be subject to different regulatory regimes, depending on its ownership and openness of the deployment process. In case of open, transparent co-investment, cost-oriented access charges will not be imposed.

At the same time, the Commission guidelines on state aids for broadband deployment distinguish between white, grey and black geographic areas. White areas are rural and scarcely populated zones in which no broadband infrastructure exists or is likely to be developed. State support in these areas is generally regarded as compatible with the provisions of the EC Treaty provided that certain proportionality conditions are respected. An area where an NGA network does not currently exist and where privately funded NGA networks are

not likely to be operational in a period of 3 years is regarded as a white NGA area. Public authorities are entitled to intervene in these areas, although if this corresponds to a traditionally grey area, the Member State must demonstrate that the broadband services provided by incumbents do not satisfy the needs of the users in that area, and that there are no less distortive means to accomplish the same goals.

Black areas are characterized by the availability of broadband services over at least two competing NGA infrastructures (although it is not clear whether 4G wireless will be considered as a competing infrastructure). The Commission is skeptical about the need for public intervention in these areas and considers that it may crowd out private investment and distort competition. Hence, unless a clearly demonstrated market failure is identified, State measures for the deployment of broadband infrastructure in these areas will be viewed negatively.

Finally, the Commission defines grey areas as those where broadband services are offered to users, but only one network operator is present. Public funding of broadband networks in these areas requires a more detailed assessment in order to determine whether (1) affordable and adequate services are already offered to all potential users and (2) the same goals can be reached by means of less distortive measures. Grey NGA areas are those in which only one network is in place or is being deployed and there are no plans for the rollout of another one in the coming five years. Public investment in these areas deserves careful analysis. In particular, the compatibility of the State intervention requires that the Member State demonstrates that the existing (or planned) NGA network is not enough to satisfy the needs of users in that area, and that there are not less distortive means to reach the same goals.

The distinction between black, grey and white areas recalls the taxonomy of “2.x”, “1.x” and “0.x” areas proposed by Professor Eli Noam a few years ago. However, the Commission goes beyond this taxonomy by postulating that state intervention may be required to subsidize the entry of new infrastructure players both where there are no NGA networks at all, and when there is only one infrastructure in place (and there is reason to believe that it is not sufficient).

This goes way beyond the essential facilities doctrine and is partly incompatible with it, for the following reasons.

First, the Guidelines award broadband networks a status of services of general economic interest. As such, the Commission Guidelines explicitly require that any new state-funded network is “available for all interested operators” and is “based on the provision of a passive, neutral and open access infrastructure”. This, in turn, means that such networks should provide access seekers with all possible forms of network access and allow effective competition at the retail level, ensuring the provision of competitive and affordable services to end-users. These include, for ADSL networks, bitstream and full unbundling, whereas for NGA fibre-based networks at least access to dark fibre, bitstream, and if a FTTC network is being deployed, access to sub loop unbundling should be provided.

Second, the Commission Guidelines also foresee potential discrimination at higher layers, and mandates that where state-funded networks involve the creation of a vertically integrated broadband operator, adequate safeguards should be put in place to avoid any conflict of interest, undue discrimination and any other hidden indirect advantages.

The combination of the two documents published by the European Commission suggests the following:

- In white NGA areas, the state can provide funds to help the deployment of open access infrastructure, in which net neutrality should also be guaranteed to the extent possible;
- In grey areas, open access should be mandated even if there is already an existing infrastructure, and thus even when the new network is not likely to be an essential facility;
- There could well be situations in which two infrastructure players compete in the market, but one of them is state-funded (grey areas that become black after public investment). Even in these cases, both players will be subject to mandatory network sharing obligations, despite the fact than none of them can be defined as an essential facility.

3 Conclusion: the new essential facilities doctrine

As we have shown in the previous sections, the essential facility doctrine lies at the core of telecoms regulation since the very beginning of the liberalization process. The original focus on enduring economic bottlenecks, however, was soon found to require too significant upfront investments for new entrants, and has been progressively expanded to cover access obligations to network elements that could even be considered as substitutes from an antitrust perspective (*e.g.* bitstream access and LLU), and cases in which mandatory access did not really reflect the “essentiality” of the element at hand.

Later, the failure of the stepping stones approach in the US has suggested a U-turn in the US regulation of broadband infrastructure, which culminated with the Supreme Court *USTA* and *Verizon* decisions in 2002 and with the access holiday season launched by the FCC in 2003-2005, which led to massive investment by incumbent players. At the same time, Europe continued its reliance on access policy, and successfully increased the number of competitors (but not necessarily the degree of competition) in its 27 member states. The limited empirical evidence in support of the investment ladder approach in Europe have not stopped other countries from adopting a similar framework, and today countries like Canada, Australia and several Middle East and African countries heavily rely on the EU regulatory model to shape their own regimes.

Accordingly, until a few months ago, the essential facility doctrine was basically dead in the US, and alive and kicking in the EU and in many other regions, where the regulatory approach even stretched the concept of essential facilities by mandating access to various (replicable) network elements, and in some cases even requiring functional separation of the incumbent's network operations (*e.g.* in the UK, Sweden, Italy). Available data so far has suggested that aggressive access policy – which goes beyond the mere application of the essential facility doctrine – has resulted in excessive service-based competition in many countries, with low prices emerging together with low investment and speed. At the same time, countries that have deviated from this track to protect investment exhibit higher prices, but also better infrastructure.

Today, the debate features entirely new flavours. First of all, in an NGA environment the unbundled elements are different, and are mostly represented by passive infrastructure (ducts, masts, antennas), rather than fibre loops. Second, the essential nature of these facilities is very hard to assess, but seems widely acknowledged by regulators around the world. Third, the essential facilities to be regulated are in many cases not existing, but only prospective, which calls for public intervention to solve the chicken/egg dilemma. Fourth, the net neutrality debate affects the viability of new investment even more, and may require even more massive public intervention if net neutrality is mandated by regulation on NGA networks. Finally, the emerging consensus – also in the US – is again in favour of asymmetric access-based regulation, mostly relying on LRIC pricing, possibly with a higher cost of capital that reflects the high risk of these investments.

Where will this all lead? The overall impression is that the pendulum will swing again between the open access debate (which tends to exaggerate the reliance on essential, as well as “convenient” facilities) and the regulatory holidays debate. To be sure, the essential facilities doctrine continues to stand in the middle between these two extremes, and may emerge again as a potential third paradigm for regulating access to telecoms networks. Should this occur, the role of *ex ante*, umbrella regulation would be minimized as compared to that of case-by-case, *ex post* competition assessment. In a world of competing (fixed and mobile) infrastructures, perhaps a more careful reconsideration of what the original doctrine actually meant is the only way to strike the balance between competition and incentives to invest.

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