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Broadband Stimulus Policy In Europe And The US: A Comparative Review

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BROADBAND STIMULUS POLICY IN EUROPE AND THE US: A COMPARATIVE REVIEW

by

Dariusz Adamski*

I
OVERVIEW

The American Recovery and Reinvestment Act of 2009[1] (herein after "Stimulus Act"), signed by President Barack Obama into law on February 17th, allotted about 0.92% of its overall $787 billion budget – $7.2 billion – to broadband related programs. The sum consists of two parts, separately allocated in Title I and II of the Act's Division A. The first broadband program, amounting to $2.5 billion and managed by the US Department of Agriculture's Rural Utilities Service (RUS), is devised for grants, loans and loan guarantees for broadband infrastructure in rural areas, seventy five percent of which are "without sufficient access to high speed broadband service." The other share of the broadband-related investments within the stimulus package is to be disposed by the Broadband Technology Opportunities Program (BTOP), a program managed by the National Telecommunications and Information Administration (NTIA). BTOP has five main objectives:

1. Providing access for consumers in unserved areas;[2]

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[1] American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

[2] *See generally*, John. M. Peha, *Bringing Broadband to Unserved Communities*, BROOKINGS (July 2007), http://www.brookings.edu/papers/2008/07_broadband_peha.aspx (Estimating that in July 2008 about eight percent of US homes (10.4 million) did not have access to cable broadband, while eighteen percent homes were not served by any DSL service provider.)

2. Improving access for consumers in underserved areas;
3. Providing support for public interest schemes facilitating access to broadband;
4. Improving broadband uptake by public safety agencies;
5. Stimulating demand for broadband, economic growth, and job creation.[3]

Within the overall sum of $4.7 billion allocated to the BTOP, at least $200 million is earmarked "for competitive grants for expanding public computer center capacity, including at community colleges and public libraries"; at least $250 million "for competitive grants for innovative programs to encourage sustainable adoption of broadband service"; and up to $350 million for developing and maintaining a broadband inventory map.[4] The Secretary of Commerce may also allocate to the FCC "amounts deemed necessary and appropriate... for the purposes of developing a national broadband plan or for carrying out any other FCC responsibilities."[5]

At the same time, in the European Union (EU) the European Commission (Commission) has earmarked, as part of the Community stimulus actions, €1 billion for actions aimed at overcoming the "broadband gap" between urban and rural areas. More specifically, the resources are to provide access to thirty percent of the EU's rural population lacking broadband, mainly in Eastern and Southern parts of the EU.[6]

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[3] American Recovery and Reinvestment Act § 6001(b)(l)
Supra note 1 at Sec. 6001(b).

[4] *Id.*, at § 6001(l).

[5] *Id.*, at div. A, tit. II at 14.

[6] Communication from the Commission to the European Council, European Economic Recovery Plan, COM(2008) 800 final, Nov. 26, 2008. Broadband stimulus is part of Action No. 10: "High-speed Internet for all." *See also*, http://ec.europa.eu/agriculture/rurdev/employment/ict/index_en.htm.

While the broadband stimulus constitutes a clear departure from the market driven approach to broadband in the US,[7] the European actions are an incremental development of telecommunications policy interweaving elements of industrial intervention with comprehensive regulation. It is therefore worth a look at the debate surrounding the U.S. Congress' actions from the perspective of experiences in stimulating broadband deployment in Europe. To this end this article will contextualize the stimulus comparatively, and then discuss already announced details of the US recovery package from the perspective of comparable practices pursued in Europe.

II
CONTEXT

While cable broadband has never been subject to policy intervention in the EU,[8] the access part of telecommunications infrastructure has fallen into the ambit of a two-tiered policy. It comprises a comprehensive regulatory system, on the one hand, and a redistributive industrial policy, on the other. The first one aims at enhancing competition on telecommunications markets deemed structurally uncompetitive, while the latter subscribes to a broader public policy towards innovation and "inclusive Information Society."

Broadband stimulus contributes to the latter in the first place. Before discussing it, however, it is worth to explain the relationship between the EU broadband stimulus, as part of its innovation policy, and the European telecommunications regulatory framework.

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[7] J. Steven Rich, Brand X and the Wireline Broadband Report and Order: The Beginning of the End of the Distinction Between Title I and Title II Services, 58 FED. COMM. L.J. 221 (2006).

[8] Except for rare instances of horizontal telecom-cable integration. For the sake of efficient intervention on telecommunications markets, regulation has been extended to cable networks in these instances. *See, e.g.*, Press Release Telecoms: Commission endorses new Danish rules to open wholesale access to cable broadband (Mar. 12, 2009) http://europa.eu/.

In stark contrast with the current approach of the FCC, regulation[9] still plays a decisive role in enhancing efficiency of telecommunications markets in the EU.[10] This ongoing dependence on regulation stems from several factors: a general approach (which, if anything, will be strengthened by the current economic downturn) that the ultimate aim of consumer welfare can and should be pursued through governmental action; the fact that intra-modal competition[11] is much less of an option in Europe than in the US due to much more moderate reach of the cable technology;[12] and relatively late liberalization of the telecommunications sector.[13]

Among provisions relevant to broadband, the regulatory framework authorizes national regulatory authorities (NRAs) to verify periodically the significant market power (SMP) of incumbent operators[14] on markets susceptible to *ex-ante* (forestalling) regulation,[15] and to trigger regulatory

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[9] Throughout the article the American term "regulation" will be used interchangeably with its European equivalent of "*ex-ante* regulation." The difference stems from the fact that the term "antitrust" (U.S. nomenclature) most often functions in the EU as "*ex-post* regulation."

[10] Regulation has been generally lifted from markets based on the backbone and middle-mile infrastructure. Conversely, it has stiffened on data and voice international roaming markets and (particularly important for the present discussion) markets of physical access infrastructure.

[11] Also called infrastructure competition, facilities-based competition, or intra-platform competition.

[12] In January 2009 DSL accounted for 79.4% of broadband connections in the EU, comparing to 15.3% of cable and 1.4% of fiber.: *See* Progress Report On The Single European Electronic Communications Market (14th Progress Report); {COM(2009) 140 final}; SEC(2009) 376 at 36 (Mar. 24, 2009).

[13] The liberalization was completed in the EU-15 in late 1990s, and in the new accessions states—in the beginning of 2000s.

[14] Market analysis is undertaken pursuant to Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03), O.J. 2002, C 165/6. The methodology used is congruent with that used by competition (antitrust) authorities.

[15] Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with

measures if the SMP occurs. The regulatory toolset is potent, reaching as far as tariff-setting and (implicit, so far) functional separation.[16] All behavioral obligations (transparency, non-discrimination, accounting separation, access to network facilities, cost orientation) are used by the NRAs[17] on two wholesale broadband markets covering the least replicable asset in the value chain of broadband, and therefore susceptible to *ex-ante* regulation: (1) of access to physical infrastructure, including shared or fully unbundled access and (2) of broadband access.[18] SMP incumbents[19] are therefore generally obliged to offer both LLU and Bitstream products (along with resale and ancillary services like collocation or access to ducts) to other providers on terms and conditions determined by the NRAs.

Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, C(2007)5406 rev 1, O.J. 2007, L 344/65 (The Commission set the following three criteria, based on insurmountably low market contestability, for establishing regulatory susceptibility of a given market:

(a) Presence of high and non-transitory barriers to entry;

(b) Market structure not tending towards effective competition within the relevant time horizon;

(c) The insufficiency of competition law alone to adequately address the market failure.)

[16] *See* Directive 2002/19/EC of the European Parliament and of the Council of Mar. 7, 2002 on access to, and interconnection of, electronic communications networks and associated facilities, O.J. 2002, L 108/7. Pending process of amending the regulatory framework aims, *inter alia*, at making this measure available to the NRAs, as a remedy of last resort, in a more explicit manner. For current stage of the amendment process see http://ec.europa.eu/information_society/policy/ecomm/tomorrow/reform/index_en.htm.

[17] Only the Maltese NRA has removed all the regulatory obligations from the wholesale broadband access market. The UK and Portuguese NRAs are in the process of withdrawing or targeting access regulation on certain geographic areas. For a broader account of the market situation *see supra* note 12 at 51-52.

[18] *See* Directive 2002/19/EC, *supra* note 15 (designating eight markets (one retail and seven wholesale) as susceptible to *ex-ante* regulation).

[19] 14th Progress Report, *supra* note 12 at 37. (The incumbent (DSL) broadband providers had 45.6% of the (retail) market share in January 2009 (i.e. 54.4% of the market was occupied by entrants), comparing to 46.0% in January 2008 and 46.8% in January 2007.)

The situation is somewhat more piecemeal when it comes to the Next Generation Access Networks (NGAs), both VDSL and FTTx, as these are not necessarily substitutable with the DSL markets subject to regulation. Some countries, however, have extended access obligations onto these markets, sometimes in a symmetric fashion (embracing all operators on a given market).[20] In response to expansion of the NGAs,[21] the Commission is currently working on a recommendation introducing an aligned regulatory approach on regulated access to Next Generation Access Networks (NGA).[22]. Most importantly for the current discussion, regulation of the NGAs should be lighter in comparison with the DSL access networks, in order to take into account "the initial investment by the facility owner, bearing in mind the risks involved in making the investment."[23] On the other hand, though, technological upgrades do not justify *per se* lifting regulatory remedies from operators providing NGAs.[24]

In consequence, the pace and scope of broadband deployment depends in Europe, regardless of the standard interplay of market forces, on the ability of NRAs to strike the right balance between static (short term) efficiencies, which suggest resolute intervention into wholesale tariffs, and dynamic (long-term) efficiencies, advocating more moderate policy in order to stimulate investments in the technologically dynamic, and thus hardly predictable, environment. In essence, therefore, and contrary to the regulatory choices of the FCC, broadband policy in the EU relies in the first place on broadening markets (stimulating price

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[20] *See id.* at 52-53.

[21] To point at two most ambitious plans: in 2008 Deutsche Telekom announced €3 billion investments in NGAs and BT in the UK GBP1.5 billion.

[22] Details of the consultation process of the draft Recommendation are available at: http://ec.europa.eu/information_society/policy/ecomm/library/public_consult/nga/index_en.htm.

[23] *See* Directive 2002/19/EC, *supra* note 15, at Art. 12(2)(c).

[24] German attempts to legislatively exempt Deutsche Telekom from third party regulatory access to its VDSL network caused a clash with the Commission in 2007: press release of Feb. 26, 2007 Commission launches "fast track" infringement proceedings against Germany for "regulatory holidays" for Deutsche Telekom, IP/07/237, *available at* http://europa.eu/. The plans were later abandoned.

reductions oriented towards static efficiencies) and deepening them (stimulating investment, i.e. enhancing dynamic efficiency)[25] with regulatory measures.[26]

Regulatory intervention has been supported in Europe by proactive industrial policies on national and community level. Therefore, the current EU broadband stimulus, contrary to the general approach on the other side of Atlantic, does not stand in Europe as an isolated and transient set of public expenditures aimed predominantly at boosting employment and recovering the staggering domestic production. It is rather another stage of industrial policy stemming from overarching, and mainly redistributive, strategies: "eEurope Action Plan 2005"[27] (strategy for years 2002-2005) and the "i2010 – A European Information Society"[28] (strategy for years 2005-2010). More precisely, the broadband stimulus plan, currently being developed at the EU level and already named the "EU broadband strategy," aims at complementing and reinforcing the i2010 strategy.[29]

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[25] On relationship between regulation and investment in the UE *see* J. Huigen, M. Cave, *Regulation and the promotion of investment in next generation networks—A European dilemma*, 32 Telecomm. Policy 713 (2008) and A. de Streel, *Current and future European regulation of electronic communications: A critical assessment*, 32 Telecomm. Policy 722 (2008), at 725-726 (review of contradictory estimates).

[26] Ideally, the (DSL access) regulation should invite platform entry based on limited investments from entrants in the short term, and use "stepping stones" ("rungs in a ladder of investment") in transition towards loop entry (and enhanced infrastructure investments), in the longer term. *See* M. Cave, *Encouraging infrastructure competition via the ladder of investment*, 30 Telecomm. Policy 223 (2006) (perspective of the European regulatory practice). The concept has been successful in the EU. In Jan. 2009 69.3% (27.4 million) of all incumbent lines were either fully or partially unbundled compared to 60.1% a year earlier and 49.2% in January 2007. *See* 14th Progress Report, *supra* note 12 at 43. For a skeptical assessment of whether the previous US regulatory system was in a position to achieve the same regulatory goals see T. Quast, *Did federal regulation discourage facilities-based entry into US local telecommunications markets?*, 32 Telecomm. Policy 572 (2008).

[27] eEurope 2005: An information society for all, COM(2002)263 final.

28 COM(2005)229 final,
http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm.

[29] The Internet portal created for the strategy is available at http://www.broadband-europe.eu.

Quite paradoxically, the extant elements of industrial policy intervention, often associated with arbitrariness and inefficiencies, set a more stable ground for the stimulus actions than the approach prevailing in the US so far. Fiscal stimulation is more logical (and based on more reliable information) when the broadband sector is structurally non-competitive and therefore non-efficient without government intervention in low-density/low-income areas. By the same token, the necessity of stimulating broadband deployment with fiscal mechanisms is more questionable in markets perceived as structurally competitive, generally more efficient, and capable of incurring higher investments in the long term.[30] This poses the question whether any broadband-related redistribution is indeed necessary in the US. One dilemma is whether its aggregate benefits would exceed costs, considering oversight problems discussed later. And, if so, then the other is whether the financial stimulus should not be more appropriately channeled towards actions where market forces are less promising in addressing negative externalities[31] of non-action.[32]

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[30] John Horrigan, *Home Broadband Adoption 2008,* Pew Internet & American Life Project, (July 2008), *available at* http://www.pewinternet.org/~/media//Files/Reports/2008/PIP_Broadband_2008.pdf (The Report demonstrates that in 2008 62% of American dial-up users were not interested in shifting into broadband, and only one in five among about 27% adults in the "digital gap" indicated no access or too high a price as prime reasons for not using the internet. Roughly every second in this group pointed at "I'm not interested", "the internet is difficult or frustrating", "it is a waste of time" as the main reason for not being connected. No corresponding EU data are known to the author. Yet an assumption that the picture is similar in Europe would make economic rationality of broadband deployment and upgrade with a "push" method paid through taxes correspondingly suspicious.)

[31] Negative externalities are defined as divergence between private and social costs.

[32] *See generally,* Michael Katz, *Broadband's Role in the Economy and the Stimulus*, AEI Center for Regulatory and Market Studies (Feb. 10, 2009), *available at* http://www.aei.org/events/eventID.1881/event_detail.asp. (arguing that, assuming that the cost of preventing one infant death is $250 thousand, opportunity costs of the broadband stimulus at the level of $6 billion (conservative calculation of the initial House bill) amount to 24 thousand saved infants foregone). http://www.aei.org/events/eventID.1881/event_detail.asp.

III
STIMULUS IN MORE DETAIL

Broadband is often referred to as "the highway of the 21st century."[33] The telecommunications infrastructure, however, is far less transparent and more sophisticated than the motorway. Thus the preparatory work related to ascertaining the most desirable network architecture and technologies in a given location takes more time. To be efficient, broadband build-out and/or upgrade is therefore rather poorly predestined for immediate actions.[34] Yet indeed immediate actions are required by the Stimulus Act. According to the "shovel ready" philosophy of the stimulus package, the Act makes it clear that "priority for awarding ... funds shall be given to activities that can commence promptly following approval." In more specific terms, the BTOP is to dispose its stimulus funding before the end of fiscal year 2010 (Sec. 6001(d)(2)) and projects are to be completed within two years following an award (Sec. 6001(d)(3)).

How can the government assure "the biggest bang for the buck" in such short deadlines, considering that the federal government does not possess good quality information on the current status of the broadband reach-out?[35] Competition between tenderers may play an important role, yet naturally only in the areas where it would occur. Potentially, an inventory map, which is contemplated by the stimulus legislation, could also be useful. It is worth quoting the relevant provision (Sec. 6001(d)(2)) in extension, though, paying attention to the timeframe:

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[33] *See, e.g.*, B. Lennett, S. Meinrath, *Building a 21st Century Broadband Superhighway: A Concrete Build-out Plan to Bring High-Speed Fiber to Every Community,* NEW AMERICA FOUNDATION (January 2009), *available at* http://www.newamerica.net.

[34] To use the language of the Stimulus Bill: "Priority for awarding funds made available under this paragraph shall be given to projects that provide service to the highest proportion of rural residents that do not have access to broadband service." http://thomas.loc.gov/cgi-bin/query/F?c111:1:./temp/~c111l4Z4eN:e48350.

[35] Legislation seeking better information on broadband connection—Broadband Data Improvement Act, 47 U.S.C. § 1301 (2008), was enacted in Oct. 2008. Only a few months earlier, in June 2008, the FCC released details of its March order on collection of broadband availability data at any meaningful (census tract) level. Legislation seeking better information on broadband connection—Broadband Data Improvement Act,

> The Assistant Secretary [of Commerce] shall develop and maintain a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States that depicts the geographic extent to which broadband service capability is deployed and available from a commercial provider or public provider throughout each State. Not later than two years after the date of the enactment of this Act, the Assistant Secretary shall make the broadband inventory map developed and maintained pursuant to this section accessible by the public on a World Wide Web site of the National Telecommunications and Information Administration in a form that is interactive and searchable.[36]

To be sure, the map will be produced soon after the BTOP completes the awarding procedure, and thus it will not help in prioritizing the support. The inventory part of the stimulus is even more interesting from the broader perspective, though. To recapitulate: First, the stimulus package is a temporary scheme aimed at recovery from the current economic downturn. Second, intra-modal competition renders the US broadband markets sufficiently competitive, according to the FCC's position. Why, then, spend $350 million on an inventory map? It is rather pointless, unless the incoming administration is taking into consideration departure from either of the paradigms, and, in consequence,[37] shifting towards permanent government intervention.

Another provision suggests this even more strongly. Namely, in early 2010 the FCC is to submit to the Congress a national broadband plan,[38] which "shall seek to ensure that all people of the United States have

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[36] The inventory map occurred already in Sec. 3 of Broadband Census of America Act, H.R. 3919, 110th Cong. § 3 (2007). Appropriations authorized for the inventory map amounted, according to H.R. 3919, 110th Cong. § 10(a) (2007), to $60 million (for three years)—almost six times less than $350 million (*supra*, Overview) authorized by the Stimulus Bill for the same purpose.

[37] Except for the fact that no Communitywide inventory map has been either produced or even planned in the EU.

[38] American Recovery and Reinvestment Act, *supra* note 1 at Sec. 6001(k)(1).

access to broadband capability and shall establish benchmarks for meeting that goal."[39] This language closely resembles the European rhetoric of the "inclusive Information Society" and of the corresponding strategies aimed at implementing the idea.

Central planning sounds odd enough in the American context. More disturbingly, however, the awarding procedure, the development of the plan, and the nationwide inventory map are to be pursued simultaneously, by three different agencies, in a very short timeframe, and in a government institutional framework unaccustomed to far-reaching market intervention.

Haste in spending naturally favors telecom giants like Verizon or AT&T. Under the existing time constraints these companies are best placed to propose "shovel ready" actions by replacing corporate capital (now either much more costly or unavailable), in projects they have already planned, with tax-dollars. When it comes to the BTOP, the measures alleviating ensuing potential problems are set by the Stimulus Act. Eligibility criteria are the first of them. Accordingly, award proposals may be submitted only by public authorities, nonprofits, or another entities "that the Assistant Secretary finds by rule to be in the public interest."[40] Second, the Act favors socially and economically disadvantaged small businesses,[41] and, third, the applications, among others, are to demonstrate "that the project would not have been implemented during the grant period without Federal grant assistance."[42]

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[39] The plan should include: "(A) an analysis of the most effective and efficient mechanisms for ensuring broadband access by all people of the United States; (B) a detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure and service by the public; (C) an evaluation of the status of deployment of broadband service, including progress of projects supported by the grants made pursuant to this section; and (D) a plan for use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes." *Id.* at § 6001(k)(2).

[40] *Id.* at § 6001(e)(1)(C).

[41] *Id* at § 6001(h)(3).

[42] *Id.* at § 6001(h)(3).*Id.* at § 6001(e)(3).

One cannot predict at this point the extent to which these valves will stand up to their task. At least the efficacy of the last one is doubtful, however, considering that the federal agencies do not possess information requisite to verify assertions of tenderers. And certainly the above provisions will not do the trick when it comes to the appropriations disposed through the RUS, as it is not covered by comparable requirements.

The stimulus legislation does not give a full overview of interconnection obligations imposed by the awarding agencies on beneficing operators. The Department of Agriculture and the NTIA will define them in the awarding process.[43] Some details can be already assessed, though. To start with the most significant one, the Stimulus Act, when determining appropriations managed by the RUS, provides that priority is given to open access projects,[44] a clear retraction from the unconditional openness requirement set by the House version of the bill.[45] Returning to the comparative character of this article, in the EU, quite predictably, the requirement of open wholesale access has always been adhered to strictly in broadband projects subsidized from public resources, whether of the Community or member states.[46] In state aid decisions[47] the wholesale access requirement ensues that "the selected

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[43] The Assistant Secretary of Commerce, in coordination with the FCC, is explicitly authorized to set the basic interconnection provisions for BTOP projects. *Id.* at § 6001(j).The Assistant Secretary of Commerce, in coordination with the FCC, is explicitly authorized to set the basic interconnection provisions for BTOP projects. *Id.* at(Sec. 6001(j)).

[44] In the statutory language: "priority for awarding such funds shall be given to project applications for broadband systems that will deliver end users a choice of more than one service provider." *Id.* at § 5(b), Div. A, Title I.

[45] The bill, H. R. 1, explicitly provided that: "[t]his amount is available for grants, loans and loan guarantees for open access broadband infrastructure." *Id.*

[46] Some of the other standard terms used in the EU inevitably will also be employed in the US Stimulus. This regards particularly requirements of open tendering process, technological neutrality, limited project duration, or monitoring and clawback mechanisms. On the other hand, subsidy matching, required by Sec. 6001(f) of the Stimulus Bill is rarely requested in European projects.

[47] Any aid from resources of a member state must be notified to the Commission. The latter determines its impact on interstate competition. The subsidy is illegal when it

operators will have to provide access to the subsidized networks to other operators on equal and non-discriminatory terms that will enable the latter to replicate their formers' offers."[48] The requirement stabilizes prices and quality of retail services, and on efficiency of the subsidized scheme in general, through market mechanisms. Yet, by the same token, it may raise problems of setting wholesale prices and wholesale service quality, and the costs of regulation/adjudication in case commercial negotiations between the subsidized network provider and other ISPs fail. Naturally these costs somewhat offset benefits of enhanced efficiency caused by service competition, and may lead to regulatory perpetuation. The problem is clearly exacerbated by distortions that the subsidy causes for the price setting mechanism of market interplay between supply and demand.

The open access generates a revenue stream for the subsidized operator from the wholesale market. It may, however, be seriously counterbalanced by falling retail prices. After all, this is exactly the idea behind inter-modal competition.[49] Unless the gap can be covered by broadening the market (the consumer base in the first place), which is not certain under the requirements of minimizing price distortions, enhancing service competition may encourage subsidies. The choice between requiring wholesale openness (as in the EU) and giving only a lip-service

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"distorts or threatens to distort competition by favoring certain undertakings." (EC Treaty, Art. 87(1). This is generally the case of broadband deployment subsidized from national resources and exploited commercially. The Commission may, however, consider these as compatible with the common market if, among others, they "facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest." *Id.* at (Art. 87(3)(c). This provision is almost always applied by the Commission to clear broadband subsidies. For a remote exemption of a situation when the Commission issued a negative decision see Decision of July 19, 2006, C(2008)3226 final, N 35/2005 – the Netherlands; Broadband infrastructure in Appingedam. Restrictions now discussed (like open access) are devised by member states to demonstrate that the aid is proportional, i.e. that the same improvement cannot be achieved with less of the aid. *Commission decisions on State aid to broadband (2003-2009)*, European Commission Competition Directorate (Feb. 24, 2009), is *available at* http://ec.europa.eu/competition/sectors/telecommunications/broadband_decisions.pdf.

[48] Decision of July 2, 2008, C(2008)3176 final, N 250/2008 – Italy; Broadband connections for Alto Adige II.

[49] Inter-modal competition is also called "service competition" or "inter-platform competition."

to it (as in the US) essentially, therefore, comes down to choosing between inefficiencies stemming from regulatory supervision (in the case of imposing open access) or from monopoly control over the infrastructure (in the case of foregoing this requirement). Both may be significant, and both are extremely difficult to measure and predict in a sector experiencing tremendous technological development. Assuming efficient regulatory oversight, the European model should be preferred. One may be somewhat wary about this option, however, considering the long track of inefficient and incumbent protective regulation in the US. Subsidized monopolies, nevertheless, require regulation of some sort in either scenario. Absent open wholesale access, the task of maintaining high quality retail services and reasonably low prices must be assumed by a monitoring agency, in essence merely shifting regulation from the wholesale to the retail level.

While open access aims at keeping retail prices reasonably low, another requirement almost universally provided in European subsidy schemes is intended to hold them from falling unreasonably. Most often referred to as "elimination of price distortions," this essentially means "that the selected operators will have to offer retail services at prices that are comparable to the average prices in areas where the service already exists."[50] Without such a condition, the stimulus can easily turn into an excessive subsidy of end-users in rural and remote areas, by providing access to services at prices lower than in areas in which broadband is provided on fully commercial terms. According to the European approach, therefore, properly designed broadband subsidies should cover only what German authorities call a "profitability gap."[51] It is yet to be seen if a similar requirement will be introduced by the US stimulus agencies. The Stimulus Act, however, leaves this question unaddressed. One of its provisions suggests even that price distortions (as understood in the EU) may be justified: namely, the projects supported should "increase the affordability of, and subscribership to, service to the greatest population of users."[52] On the other hand, the Act requires that

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[50] Decision of 30 April 2008, C(2008)1623 final, N 14/2008 – United Kingdom; Broadband in Scotland - Extending Broadband Reach.

[51] "The difference in investment costs and profitability threshold for providing similar broadband services in rural areas compared to urban areas." Decision of 2 July 2008, C(2008)3157 final, N 115/2008 – Germany; Broadband in rural areas of Germany.

[52] American Recovery and Reinvestment Act, *supra* note 1 at § 6001(h)(2)(A).

the projects "provide the greatest broadband speed possible to the greatest population of users in the area."[53] Efficiency enhancing mechanisms aimed at eliminating price distortions are arguably in a much better position to achieve this latter goal.

The Stimulus Act requires that the projects subsidized through the BTOP be compliant with four network neutrality principles set by the FCC.[54] The principles provide that: (1) consumers are entitled to access the lawful Internet content of their choice; (2) consumers are entitled to run applications and services of their choice, subject to the needs of law enforcement; (3) consumers are entitled to connect their choice of legal devices that do not harm the network; and (4) consumers are entitled to competition among network providers, application and service providers, and content providers.[55] Interestingly, no comparable requirements of network neutrality have been introduced into the European broadband projects. This seems to stem predominantly from the fact that the network neutrality, understood as the principle of end-to-end connectivity, is protected through general regulatory means. Particularly, Art. 5(1)(a) of Directive 2002/19/EC provides that the NRAs are authorized to impose "to the extent that is necessary to ensure end-to-end connectivity, obligations on undertakings that control access to end-users, including in justified cases the obligation to interconnect their networks where this is not already the case." The European practice shows, moreover, that this authorization does not play a particularly important regulatory role.[56]

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[53] The final version of the bill therefore does not establish a minimal threshold of passive infrastructure costs stemming from speed requirements. The original House bill required transmission speeds of at least 45 Mbits downstream and at least 15 Mbits upstream. *Id.* at § 6001(h)(2)(B). The final version of the bill therefore does not establish a minimal threshold of passive infrastructure costs stemming from speed requirements. The original House bill required transmission speeds of at least 45 Mbits downstream and at least 15 Mbits upstream. *Id.* at (Sec. 6002(j)(1)).

[54] *Id.* at § 6001(j).

[55] New Principles Preserve and Promote the Open and Interconnected Nature of Public Internet, FCC 05-15 (Aug. 5, 2005).

[56] Only the Polish NRA has attempted to apply the rule, which it has twice attempted, in context of Internet traffic since the regulatory framework was implemented into national laws of the EU member states in about 2004. The European Commission, however,

IV
CONCLUSIONS

Two days after the Senate embarked on its version of the Stimulus Act, then President-Elect Obama announced that "to build an economy that can lead this future, we will begin to rebuild America ... It means expanding broadband lines across America, so that a small business in a rural town can connect and compete with their counterparts anywhere in the world."[57] Along such positive externalities of enhanced business productivity,[58] supporters of the broadband stimulus point also that some international statistics rank the US as the 15th worldwide in terms of broadband penetration.[59] More important, some estimations predict that

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suggested using more standard regulatory tools (letters of Feb. 27, 2007—notification PL/2006/0656, and of Feb. 4, 2008—notification PL/2008/0745). On the deregulated, but also much more competitive, U.S. market the FCC has also intervened only twice in similar cases within the last five years. Madison River Communications L.L.C., Consent Decree, 20 FCC Rcd. 4295 (2005), Comcast, Memorandum Opinion and Order, FCC 08-183 (Aug. 1, 2008). Overall, this highlights the role of negative publicity as the main bulwark against similar practices, rendering regulatory intervention relatively less important.

[57] President-elect Barack Obama, Remarks on American Recovery and Reinvestment Plan
Thursday, (Jan. 8, 2009), *available at* http://www.whitehouse.gov. http://www.usnews.com/articles/news/stimulus/2009/01/08/president-elect-barack-obama-on-his-american-recovery-and-reinvestment-plan.html.

[58] For a broader (and supportive) discussion of these see R. D. Atkinson, *The Case for a National Broadband Policy,* INFORMATION TECHNOLOGY & INNOVATION FOUNDATION (June 2007), *available at* http://www.itif.org/files/CaseForNationalBroadbandPolicy.pdf.
See R. D. Atkinson, *The Case for a National Broadband Policy,* INFORMATION TECHNOLOGY & INNOVATION FOUNDATION, (June 2007), *available at* http://www.itif.org.

[59] *See* OECD Broadband Statistics,
http://www.oecd.org/dataoecd/21/35/39574709.xls. In fact the comparison is not as worrisome when the US is compared to the UE as a whole (27 member states). From this perspective, broadband penetration rate in June 2008 was 3.4% higher in the US than in the EU (25% and 21.6%, respectively), with annual increase in penetration only slightly higher in the EU than in the US (3.4% and 3.1%, respectively). *See also supra* note 12 at 35.
Data as of June 2008, available from the OECD Broadband Portal: http://www.oecd.org/sti/ict/broadband. In fact the comparison is not as worrisome when

the broadband stimulus will have a significant positive impact on workforce. Accordingly, $5 billion stimulus would create almost 100,000 new jobs directly in short-term and almost 2.5 million jobs as network effects.[60] Others announce almost 500,000 jobs retained or created directly under a broadband subsidy of $10 billion.[61] And, after all, the proportion of the broadband appropriations in the overall stimulus package may be deemed moderate, much lower than sometimes advocated.[62]

On the other hand, however, except for expenditures aimed at improving infrastructure in the public domain, educational, medical or used for public safety purposes, the stimulus boils down to transferring money from (future) taxpayers to (current) telecom companies in the name of subsidizing broadband. More importantly, the transfer is to take place in an already developed business environment, with Verizon very successfully pursuing its FTTH "FIOS Program" (and AT&T its somewhat less successful "U-verse Program"), with new and cheap cable modem technologies (Docsis 3)[63] soon allowing US cable operators for

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[60] Letter from Communications Workers of America to the House Speaker and Senate Majority Leader, (Dec. 9, 2008), *available at* http://files.cwa-union.org/speedmatters/CWA_Proposals_Broadband_Investment_20081209.pdf.

[61] Robert. Atkinson, Daniel. Castro, & Stephen. Ezell, *The Digital Road to Recovery: A Stimulus Plan to Create Jobs, Boost Productivity and Revitalize America*, report by THE INFORMATION TECHNOLOGY & INNOVATION FOUNDATION, 7 (Jan. 7, 2009), *available at* http://www.itif.org.

[62] Namely $44 billion proposed by the Free Press.: *See* S. Derek Turner, *Down Payment on Our Digital Future:. Stimulus Policies for the 21st-Century Economy*, FREEPRESS (Dec. 2008), *available at* http://www.freepress.net/files/DownPayment_DigitalFuture.pdf.

[63] Version 3 three of Data Over Cable Service Interface Specification enables transfer of 200 Mbps (downstream; four channels). In Europe, upgrades in theseis technologies have been started in 2008 in Belgium and Sweden, and are planned in Spain (2009) and Portugal (2010). *See supra* note 12 - 14th Progress Report, p. at 45.

much higher speeds than currently available, and with current operators setting up ventures (like Clearwire) to extend wireless broadband networks. Most of the European markets are much less amenable to this sort of advanced intra-modal competition and cost-effectiveness it brings about. The mixture of regulatory intervention and industrial policy applied there is therefore more justifiable. It is also entrenched in already functioning, and traditionally accepted, institutional arrangements. In the US, on the other hand, the retreat from the Schumpeterian attitude towards broadband markets has been both rapid and quite radical,[64] reaching as far as elements of central planning, traditionally rejected on this side of Atlantic for its, euphemistically speaking, suspicious efficiency. It is also worth to bear in mind the comment of Judge Greene, uttered in the AT&T divestiture case, on the FCC's regulatory (in)capabilities: "the Commission is not and never has been capable of effective enforcement of the laws governing AT&T's behavior."[65]

It is still to be seen whether the two agencies responsible for broadband subsidies are competent enough to avoid similar charges. For many reasons, from regulatory vacuum to information asymmetries[66] to quite exotic core policy expertise of one of the agencies (RUS), the task will be very difficult. And most fundamentally, the positive externality arguments are dubious, considering that broadband is used in

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[64] Except An exception is for municipal broadband initiatives. A research team of the Pennsylvania State University inventoried approximately 350 WiMAN projects in mid-2006. For a broader overview of corresponding policy actions see Andrea. H. Tapia & Julio A. Ortiz, *Municipal Responses to State-Level Broadband Internet Policy*, Telecommunications Policy Research Conference, *available at* http://web.si.umich.edu/tprc/papers/2006/554/TPRCfinal_pdf.

[65] Modification of Final Judgment, United States v. AT&T, 552 F.Supp. 131, 168 (D.C. Cir. 1982).

[66] The EU framework attempts to remedy the information asymmetries problem with an obligation put on telecoms to provide "all the information, including financial information ... necessary for national regulatory authorities to ensure conformity with the provisions of, or decisions made in accordance with" the regulatory framework: Art. 5(1) of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), O.J. 2002, L 108/33. Even with such a strong legal basis the regulatory process is seriously hounded by information asymmetries.

overwhelming proportions for entertainment purposes.[67] It may be argued that the same resources could boost real innovation and entrepreneurship if spent on research advancing human abilities to harness information technologies for the benefit of the whole society (e.g. wireless technologies or health IT, to name just two among many). These opportunities and resulting positive externalities are significantly forgone under the broadband stimulus.

[67] J.A. Pouwelse, P. Garbacki, D. Epema, & H. Sips, *Pirates and Samaritans: A decade of measurements on peer production and their implications for net neutrality and copyright*, 32 Telecomm. Policy 701, 702 (2008), ("In 2006, P2P traffic was responsible for over two-thirds of all Internet traffic, surpassing web browsing by a factor of almost 3. Over 71% of all this P2P traffic consists of video.") *See also* MATTHEW HINDMAN, THE MYTH OF DIGITAL DEMOCRACY at 60-61 (Princeton Univ. Press 2009) (revealing that "[o]verall, about 10.5 percent of Web traffic goes to adult or pornographic Web sites. A slightly smaller portion (9.6 percent) goes to Web-mail services such as Yahoo! Mail or Hotmail, 7.2 percent of traffic goes to search engines, while only 2.9 percent of Web traffic goes to news and media sites.")