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FACILITY-BASED COMPETITION — TOWARD MORE DEREGULATION IN TELECOMMUNICATIONS SECTOR TITLE[◇]

SUMMARY

The paper encompasses the problematic approach toward deregulation/reregulation of telecommunications service markets regarding the necessity of the development of facility-based (infrastructure-based) competition. The article contributes towards the discussion of relaxing and reshaping the regulatory grasp when it comes to the stimulation of the emergence of new telecom services. The elaboration delivers a platform to consider incentives and anti-incentives hiding behind the business decisions regarding investment in infrastructure. In the first chapter the investment ladder approach is presented. Then, second chapter of the paper introduces the incentives and anti-incentives for entrants to build their own access platform. In the last part of the article the case of Poland's telecommunications sector is presented.

The hypothesis underlying the afore-mentioned matters is that the effective stimulation of facility-based competition induces (some) deregulation of telecommunication markets.

Keywords: facility-based competition, incentive regulation, investment ladder, incentives and anti-incentives to build infrastructure, deregulation

JEL Classification: L5, K2

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INTRODUCTION

Competition in telecommunications sector can evolve in the form of service-based competition and facility-based competition (inter-modal competition, inter-platform competition). Facility-based competition, as far as the research results are concerned, is perceived as the base of sustainable competition to develop with the potential for new ranges of services (product innovation) and advancement of sector deregulation.

For the competition to function well, it is compulsory that each operator has a control over its supply chain to the greatest possible extent. Infrastructure-based competition is perceived as a step toward more deregulation. It is favored over service-based competition as it is expected to eliminate burdensome regulation in the sector. Moreover, the wide spectrum of the needs of consumers are best satisfied with different competing technologies.

Therefore, the range of “build or buy” decisions of the entrants emerges¹. Service-based competition and infrastructure-based competition are presented as two different means of fostering competition in local loop. Those two forms of competition are interrelated in terms of achieving long-term development targets.

Facility-based competition is the *condition sine qua non* for demand creation and innovation to flourish in the long-term. And, new demand and innovation are the key elements of welfare maximizing long-term economic (dynamic) efficiency². In the current technological environment, facility-based competition, i.e. inter-modal competition or competition between different transmission media (for ex. copper, fiber) is the most effective means to foster competition between generic technological alternatives and thus ensure exploitation of demand and innovation potentials in the long-run. In contrast,

¹ M. Bourreau, P. Dogan, *Service-based vs. Facility-based Competition in Local Access Networks*, „Information Economics and Policy”, Vol. 16, No. 2/2004, pp. 287–306.

² Static efficiency (efficient production of existing services) involves implementing cost-oriented and non-excessive prices, minimizing cost of production, and ensuring fair network access and interconnection conditions, and the absence of predatory pricing ; Dynamic efficiency (new demand creation and development of innovation) results in welfare gains through new services that satisfy evolving user needs (T. Kiessling, Y. Blondeel, *The impact of regulation on facility-based competition in telecommunications. A comparative analysis of recent developments in North America and the European Union*, http://www.tik.ee.ethz.ch/~m3i/related-work/cm/Cost-Regulation-in-Telecoms-Kiess_Mar99.pdf (24.06.2014). pp. 19–44).

competition between service providers (service competition) generally results in lower prices and only to a minor extent in new network services³.

Market entry induced by facility-based competition is the critical element of investment process to advance. Effective investment in alternative access networks needs limited or eliminated unbundling to the core elements of infrastructure to induce the incentives of entrants and the incentives of incumbent to expand their own access networks. Entrants face the unbundling in terms of the following:

- first, on the one hand, the local loop rental of the incumbent's lines that can be ceased at any time, and, on the other hand, direct investment in an alternative infrastructure which once established is irreversible;
- second, on the one hand, when the demand is uncertain and advanced services are offered, investment is feasible as much as market forces are promising and predictable, and, on the other hand, as much as the real option value is embraced in the regulatory pricing scheme.

The regulation approach before and after market entry is the key element of the incumbent's investment decision process. In this respect, it's of critical importance to consider deregulation of telecommunications service markets, especially, those concerning advanced service offer. The efficiency stemming from that approach is strictly connected to the phenomenon of the asymmetry of information between regulator and regulated operator. Unleashed decisions of market players within liberated market forces shape the strong incentives to install long-term investment together with real option value of access prices⁴.

It's unclear, however, what sort of conditions lead deregulated sector to self-sustaining competition, and what competitive means in telecommunications. Much indicates that telecommunications markets will still function as oligopolies. As the experience of many developed countries shows, it was the facility-based competition when the discipline of the market power of the incumbents turned out to be the only strategy to find sustainable telecom service customer welfare. Facility-based competition was the foundation of long-term efficiency due to open opportunities to innovate (launch new services and the services of a better quality). What occurred to be clearly perceivable, investing in alternative networks was even more effective than

³ *Ibidem*.

⁴ M. Bourreau, P. Dogan, *Regulation and innovation in the telecommunications industry*, „Telecommunications Policy”, Vol. 25, No. 3/2001, pp. 167–184; G. Woroch, *Facilities Competition and Local Network Investment: Theory, Evidence and Policy Implications*, Mimeo, 1998.

investing within the same network infrastructure (possibilities to subscribe to many access suppliers composed much more suitable portfolio of services)⁵.

The paper is an endeavor to present the issue of infrastructure competition in the light of possible prerequisite for alternative access networks to operate which is deregulation of emerging telecommunications service markets. In the first part, the investment ladder approach is delivered. Then, second part of the paper introduces the incentives and anti-incentives for entrants to build their own access platform. The last part is devoted to the portrayal of the telecommunications sector in Poland in terms of efficient allocation of resources toward boosting facility-based competition.

The hypothesis underlying the afore-mentioned matters is that to stimulate effectively facility-based competition, (some) deregulation of telecommunication markets is inevitable. The possible consequences of such an approach to regulation are not to be the subject of the present publication.

The method used in the paper includes case study highlighting the relation of the price of LLU and the investment in alternative access in electronic communication in Poland. The core message of the presentation is that the process of (de)regulation is possible to be analyzed within the asymmetry of information approach by examining incentives and anti-incentives to enter the market.

1. FACILITY-BASED COMPETITION IN THE INVESTMENT LADDER — AN APPROACH TOWARD LONG-TERM (DYNAMIC) EFFICIENCY

There is a general agreement that resale and service competition provide important benefits to the consumer in addition to facility-based competition⁶. However, resale and service competition do not improve overall market performance if they replace the incentive to construct facilities⁷.

The ladder of investment approach is based on the presumption that access regulation promotes competition (leads to the reduction of barriers of entry), including its facility-based form. Low access prices stimulate service-based competition and help new entrants to build a customer base and gain the information on the market. As they reach higher and higher floors

⁵ M. Bourreau, P. Dogan, *Regulation...*, *op. cit.*, pp. 167–184; G. Woroch, *op. cit.*

⁶ Operations start more rapidly, costs are reduced, service offerings are expanded to some extent, new entrants rapidly build a customer base and brand recognition which in turn can help financing facility construction.

⁷ T. Kiessling, Y. Blondeel, *op. cit.*, pp. 19–44.

(rungs) of the ladder of investment and develop its own facilities (infrastructure), the facility-based competition matures. The role of regulatory intervention shifts to increase the access price in order to boost the entrants' climbing up the ladder. Therefore, service-based competition serves in this approach as "a stepping stone" for facility-based competition to emerge. There are, however, some effects of the ladder of investment approach implementation that could diminish the desired outcomes. The most meaningful effect is the lower level of investment due to "replacement effect" (low incentives for entrants to develop its own infrastructure solidified by low regulated prices of access to incumbent's infrastructure)⁸ and reduced incentives for incumbent to invest by access regulation lowering the net value of infrastructure investment⁹.

In its positive (descriptive) part the hypothesis of the ladder of investment highlights the move of competitors up the ladder of investment, relying, as their market share rises, less and less on the incumbent's facilities and gradually installing their own network even closer to their customers. In the normative aspect of the hypothesis the role of regulator in stimulation the process of achieving higher rungs of ladder of investment and ultimately "the maximum feasible level of infrastructure competition" is emphasized¹⁰.

The culmination of the process of investment within the "ladder of investment" approach should be an intense competition across the value chain, pushing competition to implement the next generation of technologies under the conditions of contestability. Hence, the need of regulation will be progressively eliminated. The essence of the ladder of investment concept is to set the appropriate incentives. Regulator for the ladder of investment (loi) to function well, must create a credible signaling that its access policy will evolve to stimulate the achievement of the next rungs of loi which should be underlined as "demanding, but feasible in terms of the distance between the rungs (the incremental investment to be undertaken) and the speed of the ladder's climb"¹¹.

Service-based and facility-based competition are, therefore, treated either as complements or substitutes in building up new telecom infrastructure and fostering sustainable competition in telecommunication sector while the dynamic efficiency is achievable.

⁸ M. Bourreau, P. Dogan, *Build or Buy Strategies in Local Markets*, „American Economic Review”, Vol. 96, No 2/2006, pp. 72–76.

⁹ M. Cave, *Encouraging infrastructure competition via the ladder of investment*, „Telecommunication Policy”, Vol. 30, No. 3–4/2006, pp. 223–237.

¹⁰ M. Cave, *Applying the ladder of investment in Australia*, Report of Professor Martin Cave, <http://www.telstra.com.au/abouttelstra/download/document/schedule-a-annex-1-martin-cave-report.pdf> (10.09.2014).

¹¹ M. Cave, *Encouraging...*, *op. cit.*, pp. 223–237.

The ladder of investment is not mandatory at the European Union level, however, it was often exposed as the reference of a good policy approach for building-up telecommunications infrastructure.

The European Regulators Group (ERG) revealed in its recommendations the advantages of the step-by-step investment and building-up customer base in terms of one-way access before deploying entrants' own infrastructure. At the same time, the ERG stressed that the existence of infrastructure-based competition will ensure "self-sustaining competition and the ultimate withdrawal of regulatory obligations"¹².

In view of scientific testing the proposition of the ladder of investment "remains problematic" and should function in particular circumstances as no more than hypothesis¹³.

As an investigation suggests, the gap between bitstream lines and LLU lines can be presented as the evidence for the ladder of investment to work well. The opposite, is, however, observed in the case of LLU lines — new lines gap¹⁴, where entrants reach the LLU rung of the ladder of investment and seem impotent to move any further up the ladder. The number of LLU lines and the number of level of the ladder do not activate the investment in infrastructure of new entrants. The number of Bitstream access lines used seem to have some positive effect on LLU investment. The results of investigation conducted by Bacache M., Bourreau M., Gaudin G. (2010) remain consistent with the "standard view" of the relation for new infrastructure meaning that service-based competition seem to be substitute to facility-based competition¹⁵.

The facility-based competition is recognized as the prerequisite of the efficiency as the measure of economic success in the long-run. There are far more benefits observable under facility-based competition, where flexibility and innovation is much more easily achievable, than under facility-shared arrangements, where entrants have to rely on the Incumbent Local Exchange Carriers' (ILEC) network (the facilities or the services) for delivering services (Digital Subscriber Lines, DSL, services)¹⁶ and hence, are obviously restricted by the ILEC choices of price, service and technologies. Therefore, service-based competition in the long-run is at best seen as a step toward facility-based competition¹⁷.

¹² *Ibidem*.

¹³ M. Cave M., *Applying...*, *op. cit.*

¹⁴ The final goal of ladder of investment.

¹⁵ M. Bacache, M. Bourreau, G. Gaudin, *The ladder of investment approach and the development of new access infrastructure: Which empirical evidence?*, Telecom ParisTech, March 2010.

¹⁶ It can be realized through resale or through unbundling scheme.

¹⁷ M. Bourreau, P. Dogan, *Service-based...*, *op. cit.*, pp. 287–306.

Effective threat of facility-based competition can result in incumbents strategic activities to delay facility-based competition in local access market¹⁸. Dynamic efficiency, meant as welfare gains obtained through new services satisfying evolving user needs, optimal rate of innovation and investment improving production processes and leading to the long-run average cost reduction, better working practices and better management of human capital, is a concept on long-term processes. It does, however, involve short-term decisions when it comes to the trade-off: improved productivity over time at the expense of higher costs in the short run¹⁹.

2. INCENTIVES AND ANTI-INCENTIVES TO BUILD THE ENTRANTS' OWN FACILITIES

The problem of incumbent's incentives to invest in New Generation Access (NGA) boils down to the intensity of regulatory grip and the dilemma of monopoly-competition costs and benefits. The essence of NGA investment stimulation, however, is the problem of new entrants' incentives to invest in NGA networks. Table 1 presents the possible range of incentive and anti-incentive market entrants face when it comes to building infrastructure.

The structure of the market determines critically the firms incentives to set up and/or expand their own infrastructure. In telecommunications service markets competition is the structure promoted to boost economic efficiency and consumer welfare. The competition, however, can be stimulated toward service-based or facility-based competition. The intensity/power of incentives to build its own facility depend deeply on the margin between the expected profit flows from facility-based competition (efficiency of entrants' facility compared to the one of the incumbent's is of strategic importance) and the benefits derived from service-based competition (regulation of the terms of access to the incumbent's infrastructure plays a key role)²⁰.

Furthermore, it's worth highlighting, as far as the terms of access are concerned, that it is for this reason the incumbent operators are often self-motivated / immanently motivated to strategically manipulate the potential de-

¹⁸ *Ibidem*.

¹⁹ M. McCartney, *Dynamic versus Static Efficiency: The Case of Textile Exports from Bangladesh and the Developmental State*, [in:] E. Fullbrook (ed.), *A Post Autistic Economics Reader*, Anthem Press 2007.

²⁰ See more on the relationship between regulation and investment G. Guthrie G., *Regulating Infrastructure: The Impact on Risk and Investment*, „Journal of Economic Literature”, Vol. 44, No. 4/2006, pp. 925–972.

cisions of entrant whether to buy or build access facility or services, if there is no service-based competition regulation in the sector.

Table 1. The list of possible incentives and anti-incentives to build (the entrants' own) facilities

Criterion	Incentives	Anti-incentives
on the level of pricing	resale rates surpasses interconnection rates for service providers, and interconnection rates for service providers surpasses interconnection rates for infrastructure operators*	robust service competition stimulated by resale rates which are lower than interconnection rates for service providers and interconnection rates for service providers is lower than interconnection rates for infrastructure operators (case of Poland)
	prices of unbundled network elements based on actual incremental cost plus a mark-up to recover a portion of shared and common cost rather than hypothetical minimum cost standards like total element long run incremental cost (TELRIC)	rate of return regulation delivers uncertainty due to short review periods, anticipation of the reduction in the (interconnection) rates once an entrant's share is enlarged to a certain percentage
	price cap regulation (incentive regulation)** among all other schemes the most highly motivates to invest and innovate, unless the sector / market vulnerability to shocks is high	
	price cap regulation induces economically efficient level of prices, reduction of costs, longer horizon strategy of development (4–5 years in the UK)	low prices of access to the "old" network induces low prices of access to the "new" technology and diminish investment to NGA
	deregulated competition	
on the level of infrastructure	the availability of unbundled network elements is limited to essential facilities	the more risky an investment, the more demotivated an investing firm is
	access to and sharing of (by telecom operators — as a symmetric obligation) technical infrastructure necessary to broadband deployment is facilitated	unbundling entails diminished investment incentives
	more compatible a system of networks stimulates the benefits generated by the network externalities — inhibits static welfare losses arising from weak competition, and dynamic welfare losses emerging from diminished incentives to innovate	
	applied "sunset clauses"*** and its timing in terms of geographical differentiation depending on market structure	
	more compatible a system of networks reduces the established "base advantage" of the dominant firm, eliminating at the same time, predatory product innovation and regulating interoperability	
on the level of regulator attitude	the less regulatory opportunism, the more determined the firm's investment response is	too harsh a regulatory obligation toward service competition in areas where infrastructure competition is economically unattainable may hinder NGA deployment due to the scale and scope economies reachability
	the regulation of access to new generation networks needs to be featured by some asymmetry depending on the relative market position of the incumbent and the entrants	ex-ante regulation of the new technology reduces incentives to invest

* The policy of protecting infrastructure investment incentives is successfully implemented in many countries through the application of asymmetric regulation between resellers, service providers and facility-based operators, see: Kiessling T., Blondeel Y., *op.cit.*, pp. 9–10.

** Price cap regulation is a form of high-powered incentive regulation (see more: R. Śliwa, *Regulacja bodźcowa w telekomunikacji*, „Telekomunikacja i Techniki Informacyjne”, Vol. 1–2/2014).

“Sunset clauses” is a provision of a (regulation) law that gives an “expiry date”, it terminates after a fixed period unless it is extended by law (UK Parliament glossary, <http://www.parliament.uk/site-information/glossary/sunset-clause> (09.10.2014); S. Piątek S., *Sieci szerokopasmowe w polityce telekomunikacyjnej*, WZ UW, Warszawa 2011, p. 142).

Source: on the grounds of: Kiessling T., Blondeel Y., *The impact of regulation on facility-based competition in telecommunications. A comparative analysis of recent developments in North America and the European Union*, http://www.tik.ee.ethz.ch/~m3i/related-work/cm/Cost-Regulation-in-Telecoms-Kiess_Mar99.pdf (24.06.2014); M. Bourreau, C. Cambini, P. Dogan, *Access pricing, competition, and incentives to migrate from “old” to “new” technology*, HKS Faculty Research Working Paper Series, No. RWP11-029/2011; D. Adamski, *Regulatory support for the development of broadband access networks NGA*, [in:] S. Piątek (ed.), *Telecommunications Regulation in Poland*, WZ UW, Warszawa 2013.

Unbundling copper local loops may provoke service-based competition and inhibit or stimulate investment in new alternative network structures. The net outcome depends highly on the prevailing supply conditions. Unbundling reduced the economies of scale, and therefore, made average costs soar and the saldo of cost-benefit analysis made negative, especially in low demand areas (necessary geographical limitations)²¹.

A necessary condition for resale and service competition to be incentive consistent with facility-based competition is that the price level for resale connections lies above the termination/origination charges that service providers have to pay which in turn is greater than the interconnection price that infrastructure providers have to pay. Failure to ensure this condition can considerably stifle the incentives to invest in infrastructure and/or penalize existing infrastructure investments²². The inefficiency of situation where resale rates are lower than interconnection rates for service providers and interconnection rates for service providers are lower than interconnection rates for infrastructure operators is encompassed by the high probability of reduction the incentives to invest into competing infrastructures. The differentiation of interconnection tariffs is essential to prevent facility-based operators from traffic loss, and inhibit their downward revised market expansion plans.

Price cap regime is expected to be a “stepping stone” to deregulation (declaration of Oftel)²³. Different level of access require the investors (entrants) different levels of investment. Such the conditions may lead to different strengths of post-entry competition. More infrastructure sharing (higher level of access) result in a weaker differentiation in broadband services²⁴.

The availability of unbundled network elements limited to essential facilities ensures optimal incentives to invest into own infrastructure at the same

²¹ M. Bourreau, P. Dogan, *Regulation...*, *op. cit.*, pp. 167–184; G. Woroch, *op. cit.*

²² T. Kiessling, Y. Blondeel, *op. cit.*

²³ M. Bourreau, P. Dogan, *Regulation...*, *op. cit.*, pp. 167–184.

²⁴ M. Bourreau, P. Dogan, *Level of access and competition in broadband markets*, HKS Faculty Research Working Paper Series, No. RWP10-006/2010.

time enabling carriers to complete their service scope on the basis of unbundled network elements, thus making multi-carrier competition for broadband services more viable in the long-run.

Greater flexibility delivered by *ex post* control mechanisms make incumbent's business decisions more involved in innovative activities. *Ex ante* control with its asymmetric nature may provide inefficient entrants a competitive advantage and affect the long-run evolution of the market .

Using hypothetical minimum cost standards like total element long run incremental cost (TELRIC) results in prices for unbundled network elements which are below the actual cost of many or all of the potential entrants. The price of unbundled network elements should reflect the operators' costs of building their own facilities.

3. FACILITY-BASED COMPETITION IN POLAND — THE OUTLINE OF THE PROBLEM

Poland is one of many European Union member states whose national regulatory authority implemented the approach of the ladder of investment. Bitstream access (BSA) and local loop unbundling (LLU) were regulated and service-based competition emerged with no real prospects toward heavy facility-based competition so far.

Despite poor public stimulation, the investment in network infrastructure advanced (especially in mobile access networks in 2013) and the bevy of households connected to Internet increased significantly in 2013 and reached almost 88.0%. Fixed-access Internet was the most popular with the mobile access still gaining the recognition. TP and PTK Centertel (merged at the end of 2013 to Orange Polska) was the most often chosen as Internet operators for customers in Poland. The bandwidth is still progressing and attracting customers with prices quite close to the European average²⁵.

The access to the network infrastructure on the basis of local loop (LLU) was used solely by Netia. Moreover, the market of wholesale access to infrastructure (in terms of BSA and LLU) has been of very slight dynamic. Access through LLU was the lowest, and was reported from 1.8% in 2009 to 6.0% of share in 2013 amongst all ways of access (including BSA, TP infrastructure, alternative operators' own infrastructure). The most important access to telecom infrastructure in Poland was through the infrastructure of Telekomunikacja Polska (at present Orange Polska), with the share

²⁵ UKE, *Raport o stanie rynku telekomunikacyjnego w Polsce*, Warszawa 2013.

of 71.9% in 2009 hold up to 2013 with only tiny decline in 2013 (and some more in the period of 2010–2012). Access through BSA was popular at the level of 15.7% on average as well as alternative operators' own infrastructure (12.0% on average)²⁶.

The relation of the price of LLU and the investment in alternative access platforms presents possible way of capture crucial impact of regulation, i.e. the impact on ability of the sector to achieve sustainable inter-platform/inter-modal/facility-based competition (between competing infrastructures or platforms). Inter-modal form of competition has the potential to deliver the most sustainable, long-term benefits for society. It opens up the opportunities for innovations and product differentiation. Therefore, the attention is driven to investment in transformative technologies that strengthen facility-based competition (not the ones similar to the services of the incumbent). The trade-off between intense access regulation and the goal of promoting inter-platform competition emerges. There is an attempt undertaken to grasp the impact of this trade-off emergence on the example of the telecommunications sector in Poland (table 2).

Table 2. Access network in the telecommunications sector in Poland

Year	CRITERION			
	Price of unbundled local loops (LLU); monthly fee (one-time fee) (in PLN)	Market share of different platforms used to access broadband or high-speed Internet services; income structure (in %)	Investment in access infrastructure, in km	
			Total length of the network of local telephony	In fibre optic network
2006/2007	RUO 2005: 58 (161) RUO 2006–2007: 36 (181)	xDSL 48.56 TVKcablemodem 20.72 modem 2G/3G 13.62 LAN-Ethernet 7.96 WLAN 4.91 ¹	676 564 ²	31 212 ²
2010	RUO 2008–2009: 22 (55.5)	xDSL 41.94 TVKcablemodem 22.66 modem 2G/3G 16.37 LAN-Ethernet 8.66 WLAN 4.69	720 512	41 637
2013	UKE-TP Agreement 2009–2012: 22 (55.5)	xDSL 30.1 TVKcablemodem 22.4 modem 2G/3G 26.8 LAN-Ethernet 8.8 WLAN 6.4	762 546	50 587

¹ data in the form of income structure available since 2009

² data for 2007

RUO — Reference Unbundling Offer

Source: S. Piątek, *Sieci szerokopasmowe w polityce telekomunikacyjnej*, WZ UW, Warszawa 2011, s. 92; UKE, *Raport o stanie rynku telekomunikacyjnego w 2013 roku*, Warszawa 2014; GUS, <http://stat.gov.pl> (01.10.2014).

²⁶ UKE, *Raport o stanie rynku telekomunikacyjnego w 2013 roku*, Warszawa 2014, s. 22.

As table 2. presents, the decline of the unbundled local loops fees resulted in more investment in fibre optic network. Moreover, cheaper access through LLU was accompanied by definitely lower share of xDSL technology, higher share of TVK, LAN-Ethernet as well as WLAN in the broadband Internet access market in Poland. Despite the fact that the level of LLU fee in Poland was one of the lowest in Europe, it failed to be the source of boosting the investment in access infrastructure significantly (by 33.4% in 2006/2007–2010; and by 21.4% in 2010–2013; made in the greatest extent by Telekomunikacja Polska SA). Furthermore, this form of the relation inspired more intense shift of the attention toward other (than just access fee) determinants of infrastructure investment activities in telecommunications.

CONCLUSIONS

As a number of research, as well as the example of telecommunications sector in Poland, indicate the mandatory unbundling does not satisfy the goal of appropriate investment in the entrants' own infrastructure. Therefore, the paper hypothesis can be partly positively verified. Not all sort of deregulation practices guarantee the expected pace of investment dynamics. Moreover, many other factors determine the infrastructure investment in telecommunications.

More flexibility in the markets of next generation access is inevitable. The intensity of the flexibility will certainly depend on the stability of non-discrimination rules to guarantee actual/real state of market competitiveness (equal treatment of competitors). Deregulation of telecom activities, especially in the market of new products, is therefore, the area of research open to exploration in country-specific conditions. The gradual, successful, featured of good timing/sequence deregulation is expected to be beneficial in terms of short-run price rises smoothing/balancing or/and fostering innovation. There is, however, still the question pending on how to find "the right balance" between incentivizing investments and safeguarding competition.

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