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14 years of AGCOM: what has changed in the Italian TLC since 1998 to now

Raffaele Mosca¹

This paper does not try an analytical overview of the activity in the last 14 years of the two Councils of the Italian Communications Authority (AGCOM) that have been in charge thus far. It attempts to stimulate readers to form a their own critical judgment instead. To this end, we examine some of the most significant markets in the Electronic Communication sector, discussing their development in Italy and by comparing it with the ones of other EU member states. It results that this process has been influenced from time to time by the structural differences between countries and by the effect of national policies and, also, by the different role played by the regulation. Sometimes it appears clearly that the lack of economic politics guidelines has hindered the regulator's ability to take a proper forward looking approach. The markets covered are Broadband, Mobile and Fixed Telephony; while the countries chosen as a reference are: Belgium, France, Germany, Great Britain, Holland, Poland, Spain and Sweden.

1. The NRA

It seems appropriate, before considering any of the individual issues discussed in this paper, briefly reviewing the status of the Italian NRA (AGCOM²) and its position in the Italian and European institutional frameworks. The AGCOM is not only part of the national legislative framework designed by L. 481 of 1995, which established in Italy the regulatory framework for the public utilities, but it is also required by the Community telecoms rules. These rules obviously don't prescribe any specific institutional architecture in the individual member countries, but they define stringent characteristics that individual national authorities must comply with. Autonomy is the fundamental one among them, both in terms of relations with other state bodies and in the economic and organizational aspects.

This point was considered from the beginning in the Italian legislation, even in advance of the Community. In fact, since the aforementioned L. 481, the national legislator has determined that the "Authorities work in full autonomy and independence of judgment and evaluation" and that "each Authority has its own organization, accounting and administration."

Also L. 249 of 1997, which, with a forward looking vision, instituted the AGCOM as a convergent Authority, says (Article 1, paragraph 1) "that (the Authority) operates in full autonomy and independence of judgment and evaluation", also regarding internal organization and finance.³

¹ While assuming full responsibility for what is written, I sincerely thank Elena Gallo and Gilberto Nava for the fervent discussions and valuable suggestions that helped to shape this paper.

² Autorità per le Garanzie nelle Comunicazioni.

³ Art. 1 par 9: "L'Autorità, entro novanta giorni dal primo insediamento, adotta un regolamento concernente l'organizzazione e il funzionamento, i bilanci, i rendiconti e la gestione delle spese, anche in deroga alle disposizioni sulla contabilità generale dello Stato, nonché il trattamento giuridico ed economico del personale addetto, sulla base della disciplina contenuta nella legge 14 novembre 1995, n. 481, prevedendo le modalità di svolgimento dei concorsi e le procedure per l'immissione nel ruolo del personale assunto con contratto a tempo determinato ai sensi del comma 18. L'Autorità provvede all'autonoma gestione delle spese per il proprio funzionamento nei limiti del fondo stanziato a tale scopo nel bilancio dello Stato ed iscritto in apposito capitolo dello stato di previsione della spesa del Ministero del tesoro."

In Directive 2002/21/EC,⁴ which defines a common regulatory framework for electronic communications networks and electronic communications services (Framework Directive), also the Community legislator intended to ensure the competence, independence of the national bodies that provide electronic communications networks or electronic communication services, up to envisage the structural separation of the market regulation functions from the government and other PA functions (e.g. Ministry of Economy / Public financial institutions), which have the ownership or control of an operator in the industry. The next revision of the European regulatory framework in 2009, based on the experience gained so far, has led the Community legislator to define an even more precise and stronger autonomy for NRAs.⁵ Directive 2009/140/EC,⁶ amending the Framework Directive,⁷ provides that (i) Member States should ensure that NRAs get adequate financial and human resources to fulfill their function, (ii) the decisions of the NRAs may be suspended or canceled only by the legal mechanisms for appeal provided for by law; (iii) NRA members may be relieved of their duties only in case of non-compliance with the conditions for the exercise of their functions.

It is important to note that the regulatory framework defined by the Directives of 2009 has instead largely rejected the request by the Commission, which initially asked for a real European authority under its control, that NRAs should refer to and which should have veto power on their decisions. The sometimes bitter debate that followed and which involved the Commission, the European Parliament, Member States and NRAs found a compromise⁸ in the establishment of a body composed of representatives of the various authorities (BEREC⁹) with the role to assist the Commission in its decisions, which don't include the veto power on the decisions of individual NRAs. In case of disagreement on a specific decision, the Commission can only impose a suspension of up to three months after the entry into force of the contested measure, during that period of time the Commission, BEREC and the involved NRA attempt a resolution of the case. If the Commission were to consider as impossible such an agreement, it may intervene by means of a Recommendation.

The "defeat" of the supporters of the European Authority can be read in many ways, both referring to the reluctance of Member States to give further elements of sovereignty to Community institutions and taking into account the consideration that the level of integration

⁴ Implemented in our legal system in the "Electronic Communications Code", by Legislative Decree 1 August 2003, n. 259.

⁵ NRA - National Regulation Authority.

⁶ Directive 2009/140/CE has been implemented, quite lately, in our legal system by Legislative Decree 28 May 2012, n. 70.

⁷ The changes to the Framework Directive that impact economic and operational autonomy of NRAs were made in Article. 3, by inserting in paragraph 3, the explicit provision that "Member States shall ensure that their national regulatory authorities exercise their powers in an impartial, transparent and timely manner. Member States shall ensure that national regulatory authorities have adequate financial and human resources to accomplish the tasks assigned to them." With regard to the strengthening of the independence from the government, 2009/140/EC introduces in the art. 3 of the Framework Directive, a new paragraph which reads: "3a. Without prejudice to the provisions of paragraphs 4 and 5, national regulatory authorities responsible for ex ante market regulation or for the resolution of disputes between undertakings in accordance with Article 20 or 21 of this Directive shall act independently and shall not seek or take instructions from any other body in relation to the exercise of these tasks assigned to them under national law implementing Community law. This shall not prevent supervision in accordance with national constitutional law. Only appeal bodies set up in accordance with Article 4 shall have the power to suspend or overturn decisions by the national regulatory authorities".

⁸ Directive 136/2009/CE modifies some earlier Directives 2002/22/EC (Framework Directive), 2002/58/EC (personal data) and EC Regulation 2006/2004 (co-operation between NRAs) and implements the second part of the review of the regulatory framework on electronic communications defined in 2009. In particular, it provides for greater powers for the Commission to intervene, even with the veto, on decisions of the NRAs.

⁹BEREC (Body of European Regulators for Electronic Communications - <www.berec.eu.int>) was established by European Regulation 1211/2009, part of the group of directives aimed to "maintain" the regulatory framework of 2002.

and homogeneity of the internal market is not yet sufficient, particularly with reference to the recent entry into the Union of countries whose recent history is very different from that of the original founders, to think that it can be managed through a single centralized body. In any case, you can still say that the “maintenance” of the European regulatory framework for electronic communications in 2009 has left the NRA stronger, both from the Community institutions and the national ones.

It may be the case then to look little more closely at how these characteristics of independence and autonomy can be verified in the actual functioning of AGCOM, bearing in mind that only the development of maximum transparency can ensure their effective implementation.

2. Transparency and independence

The issue of the independence of NRA from politics (namely the President, the Council, the Commission for Services and Products and the Commission for Infrastructure and Networks) is relevant from the time of its appointment. In this respect, the debate that led to the election by the Parliament of the members of the third Council NRA has put forward the issue of competence of the candidates; for many this parameter also acts as an antidote to the interference of policy.

The latter however seems to be quite a simplistic position, although there is no doubt that the appointment of people who have gained significant expertise in the areas covered by the Authority's activities is an important element of guarantee on its functionality. However, given the increasingly wide range of powers of the NRA, it is very difficult to imagine that such a huge amount of technical knowledge, legal or economic conditions may be entirely covered by a so little number of people. The recent reduction in the number of members, passed from 8 to 4, makes the problem even more evident. It is therefore necessary, even in partial contrast to the most common clichés that reduced to the expertise of decision-makers the ability to make correct decisions, to assume a broader point of view, involving not only the members of the Council, but also offices, that should enable Commissioners to gain qualified decisions by appropriate preparatory work.

In other words, even if the process of selection of candidates for commissioners should conform to the rules of transparency more than it has been until now, the simple publication of their professional curricula, claimed by some as a kind of panacea, even if it represents a significant aspect, it is not certainly enough in order to guarantee their independence.

Much more important instead it would be to be able to get, after the election and for the duration of their mandate, a greater traceability of each Commissioner's activity. The full disclosure of the positions taken in the meetings of the Council and Commissions would help a lot, so that it was possible to appreciate the different opinions expressed, especially when contrasting with the decisions taken by the college. The members of the U.S. FCC, for example, make formal public statements whenever the body to which they belong has to decide on some major issue.

It would be also important to assign the responsibility of the individual issues among the commissioners on a rotation basis, so that a single commissioner won't become the exclusive representative for some of them, avoiding to incur in the risk, on the one hand, to make easier the work of lobbies, on the other hand, to facilitate the crystallization of pre-established positions.

Finally, the preparation of a multi-year planning document, which should go through a public consultation, would be an important element in improving the transparency and give stakeholders greater certainty regarding the timing of intervention on specific matters.

Similar considerations may also apply to the operation of the offices, in particular as regards rotation in the allocation of tasks and activities and the planning of the use of

resources. Moreover, again in order to improve transparency, it is important that the preparatory documents which precede and accompany the discussion of individual issues in the collegial organs were always made public and any departure from the proposals contained in them were always adequately motivated.

3. The analysis of the AGCOM activity

From a methodological point of view it is undoubtedly complicated to define criteria, that may allow you to “measure” in the literal sense the action of AGCOM, reviewing it in time and space (ie, even compared to similar decisions in other Member States), which are possibly little affected by exogenous factors that influence the activity of the Authority.

Furthermore, the recent and strategic decisions about the rules for the development of next generation networks (e.g. the resolution 1/12/CONS about the identification of regulatory obligations related to access services to next generation networks) will not be taken into account as part of this analysis, because they can produce their concretely impacts in the medium term.

Similarly, an evaluation of the impact of the NRA’s activity on the markets, for example on the basis of a criterion historically used by the European Commission, which measured the level of competition achieved in a Member State on the basis of the number or type of authorized operators, would be not very significant, because this parameter has been certainly influenced by: (i) the financial crises of 2001 and 2008, (ii) the fall in consumers’ spending by 2008, (iii) the evolution of ownership structures and the strategic choices of foreign holding companies, which may have had an impact on the subsidiaries in Italy, regardless of the dynamics of the competitive and regulatory environment in the domestic market or of the business results of these companies.

We have therefore decided to consider the main indicators for some key markets in Electronic Communications, that give a picture of their development, of the prices of wholesale services and, in some cases, of the supply conditions determined by the Authority. Those figure are then discussed, in the temporal dimension, following the relevant regulatory resolutions adopted by AGCOM, and in the spatial dimension, by comparisons with similar services in the main Member States.

Another point of view from which it is possible to evaluate the effectiveness of regulation is to observe the evolution over the years of a number of indicators, compared with other EU countries, which give an account of the distribution and the usage of telecommunication services, with particular reference to the most innovative ones. The ultimate aim of the regulation is in fact to maximize the contribution to the welfare of the economic activity developed by an entire industry, the electronic communications in our case, by means of the application of the relevant Community and national rules, in the context defined by the laws that define and circumscribe the powers of independent authorities.

The latter point of view should be used with the due caution: it would be in fact too easy to attribute to the sole responsibility of the AGCOM’s activity the outcome of events that are affected by the overall social and economic Italian context. In other words, being at the same time an integral part. It is generally not possible to fully analyze in abstract the choices adopted by AGCOM in order to assess their adequacy, without considering the context that produced them and that they themselves have in turn contributed to change.

That said, however, the availability of a top-down outlook, which is complementary to the bottom-up, which examines the evolution of the intrinsic variables of the regulatory system, gives you an overview of the evolution of the whole system of Electronic Communications in Italy.

4. Concorrenza nelle Infrastrutture vs. Concorrenza nei Servizi

The development of competition in the internal market is one of the cornerstones on which the EU Treaty is built: all sectoral regulations, including Electronic Communications, are aimed at the need to eliminate as far as possible, both at national and Community level, all barriers that can prevent businesses from entering the market and to be competitive.

Of course, this general rule can be translated in different ways, depending on the overall goals that the legislator would like to address. From this perspective, it is a common practice in the world of EC, as also is in several other areas that insist on network services (rail, electricity, gas), to distinguish between competition at the infrastructure level (development and management of communication networks) and at services level. These two approaches are largely alternative; regulators, both at EU and national levels, have chosen between them several times over the years, often with a different sign depending on the specific market under consideration (e.g. fixed vs. mobile).

In very general terms and without any claim of completeness, this issue can be addressed bearing in mind that:

1. The development of communication networks from scratch is, in most cases, a very capital intensive activity, characterized by a risk which is not negligible. As a result, investors who decide to enter these markets will be more encouraged to invest as much as the regulatory framework will ensure conditions for a rapid and predictable full recovery. Because the regulation imposes to owners of non-replicable infrastructures (natural monopolies) to sell them for rent to competitors at cost-oriented economic conditions, the determination in such models of the allowed rate of return on the invested capital becomes, at the end, the most important factor for an economic assessment of opportunity.
2. The development of competition in services, in order to reduce the final prices and select the most innovative and efficient operators, requires a system of low wholesale prices, so that the barriers to enter the market of services are as low as possible. Only in this way small and innovative companies can hope to be able to grow.
3. The development of communication networks is often associated with the use of scarce resources, such as frequencies in the case of mobile services. This factor, on one hand, inherently limits the total number of operators, but, on the other hand, forces the legislature, in order to ensure the efficient use of those resources, to develop mechanisms of assessment of the business plans over the medium term and to impose ex-ante targets, such as, for example, always in the case of the mobile, the achievement of certain values of coverage of the territory within a fixed time.
4. If we consider in a timing perspective the development of services and networks starting from the liberalization of their markets (1 January 1998), we can observe that, while the fixed networks of the former monopolies in most European countries were fully developed and dimensioned to support all the traffic generated at the national level, on the front of the mobile networks instead the developments were in their starting phases. In Italy, for example, the license for the second mobile operator was assigned in 1995.

In light of the above, it may therefore be concluded that, while the priority for mobile services in the first phase of the liberalization would have been to stimulate the development of new networks, in the fixed networks instead it was necessary to ensure the maximum opening of the market, to get the maximum number of competing offers, pursuing the maximum benefit of the final consumer. In other words, and always with reference to the preceding paragraphs, a “wise regulator”, who took office in the fateful year of liberalization, would decide to impose stringent ex ante measures on wholesale prices of the former fixed monopoly operators, while it should have loosen the regulatory pressure for mobile operators, who were in the vicinity of the peak of the curve of their investment, with the objective of accelerating the return as soon as possible.

In general, one could observe that this behavior was followed by the majority of European regulators. The main differences concerned the intensity, but not the sign, of the specific measures that have been put in place and, above all in the following years, the different

perceptions of the evolution of markets and services that, starting from a certain point in time, makes the initial assumptions no longer completely valid.

In the Mobile, the nearing of the point of recovery of investments made to build the networks, should have suggested to regulators to introduce two sets of measures which, on the one hand, would have opened the market to operators without their own network (MVNO - see note 13), imposing on operators appropriate obligations at the infrastructure level and cost based wholesale tariffs, while the other should lead to a reduction in termination rates that, from the earliest stages of the development of these services, had in fact allowed their subsidy from the fixed networks. Such behavior was in fact adopted, even under the pressure of the European Commission, in almost all EU countries, although in different times and with different intensities. This point is documented in details in the following.

In the Italian case, for example, the choice made in 2001 at the political level to maximize the revenues for the public finance resulting from the expensive bid for the frequencies needed for third-generation services, objectively moved forward in time for mobile operators the point of break even and thus contributed to slow down the introduction of pro-competitive regulatory measures.

In the fixed network, instead, the rapid development of broadband services and the consequent need to replace in the medium term the existing copper access network, no more able to guarantee the bandwidth's needs hypothesized for the next future, with new networks (NGA – New Generation Access network), would have advised regulators to adopt measures to encourage investment by operators who had achieved the most significant market positions.

Even though the Commissioner for Digital Agenda and Vice-President of the EC Neelie Kroes recently said that: “alternative players should not have to compete with one hand tied behind their backs: incumbents should not be discriminated between their own retail arms and others. Although often undervalued in today's regulatory practices, securing truly equivalent by alternative operators access to incumbent networks is probably the most important guarantee of sustainable competition, on existing and new networks”.¹⁰ Of course, this approach should be evaluated in a more general context, wider than that in which the regulator operates, from which any country-wide problem should emerge, even the possible need to define ad hoc industrial policy measures.

In order to provide concrete exemplifications of the different choices made by some European regulators on the same issues, you may consider NRA and OFCOM (UK regulator). The comparison is clearly not intended to suggest which of the Authority has worked best: there are in fact too many differences, sector-specific, in institutions and in the national economy, which should be taken into account and that are so important to make an analytical comparison very unreliable.

Take for example the ULL. Italy was one of the first EU countries to adopt a regulation¹¹ for it, on the basis of the European regulatory framework defined by the 1998 Regulatory Package,¹² AGCOM introduced a full unbundled access to the copper network and fiber of the fixed incumbent operator in national legislation. Even in the UK the same service was introduced a few months later, however, with a price almost double than it was in Italy, although in both cases the authorities have used a calculation method based on the principle of cost orientation.

¹⁰ Enhancing the broadband investment environment – policy statement by Vice President Kroes, Bruxelles, 12/07/2012 <<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/12/554&format=HTML&aged=0&language=EN&guiLanguage=en>>.

¹¹ Decision 2/00/CIR, March 16th 2000.

¹² Also known as ONP Framework. Consisting of a set of directives and recommendations, among them: Licensing Directive 97/13/EC, ONP (Open Network Provision) Directive 90/387/EEC, Interconnection Directive 97/33/EC complemented by Directive 98/61 / EC that introduced number portability and carrier selection, directives 92/44/EEC and 97/51/EC on Leased Lines.

The basic difference, beyond the technicalities on the econometric methodologies, however, consisted in the fact that, while in Italy the unbundling of the network of the former monopolist operator was the only possible way to stimulate the start of the competition at the infrastructure level from the alternative operators, in the UK the existence of a widespread cable TV network (CATV) convinced OFCOM to opt for this alternative, that allowed, at least in theory, competition between those two independent infrastructures. Since 2005, as a result of the proven inadequacy of the traditional CATV networks to provide a quality broadband service, even in the UK it has been decided to focus on LLU, whose wholesale price, within a couple of years, has been aligned to the Italian one (see fig. 7).

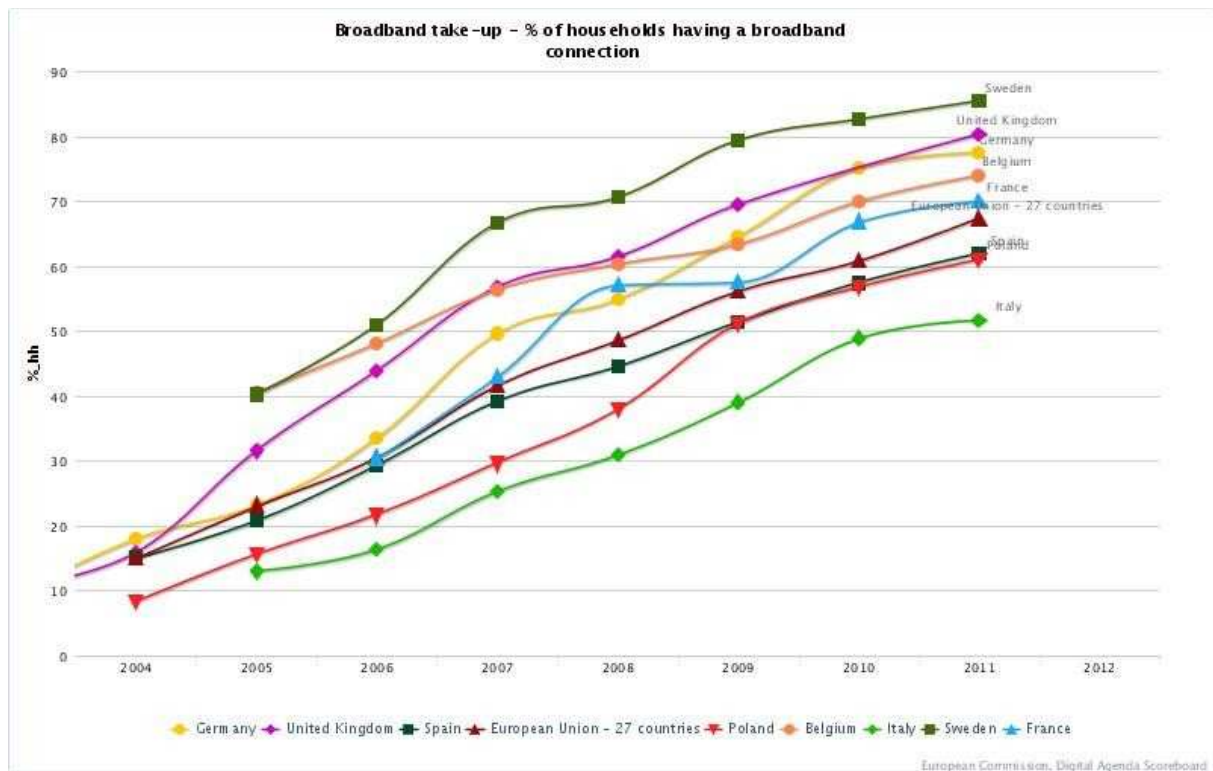
5. Broadband

Among the many indicators that can be taken into account to assess the evolution of the markets in the Electronic Communications, those measuring the development of broadband are among the most significant. Firstly the broadband services have been developed entirely in a regulatory context of full liberalization, both as regards the services and the infrastructure; therefore they allow to simply evaluate the effect of the rules drawn. Secondly, these services have been given special attention by the legislator, both at European and national level, as their development is widely considered an important factor in economic growth. The data relating to the adoption of these services, such as quality, penetration, etc, can therefore be considered indicative of the effectiveness of policies adopted by different countries, among which an important role is undoubtedly due to the regulation at the industry level. In this analysis it is useful to consider both the absolute values of the different parameters and their variations in Italy with respect to the other countries used as reference.

The four graphs which follow, sourced from the 2012 Digital Agenda Scoreboard of the European Commission, show in the order: the penetration of broadband at residential level (Figure 1), the number of lines with speeds above 10 Mb / sec (figure 2), the percentage of cell phone users who use their phone to access the Internet (figure 3) and the percentage of the population that uses the network to interact with the Public Administration (figure 4).

For all we can observe that Italy as a whole has not improved over the years its position, compared to other EU countries, and in some cases it went back in the rankings and increased its percentage gap. The picture that emerges is not comforting, both for the distance that separates us from the most virtuous countries, and also because now Italy is likely to be surpassed by the states that joined the EU only recently and have had to overcome in a few years huge infrastructure deficits and that, nevertheless, are able to exhibit growth rates of broadband services much higher than ours.

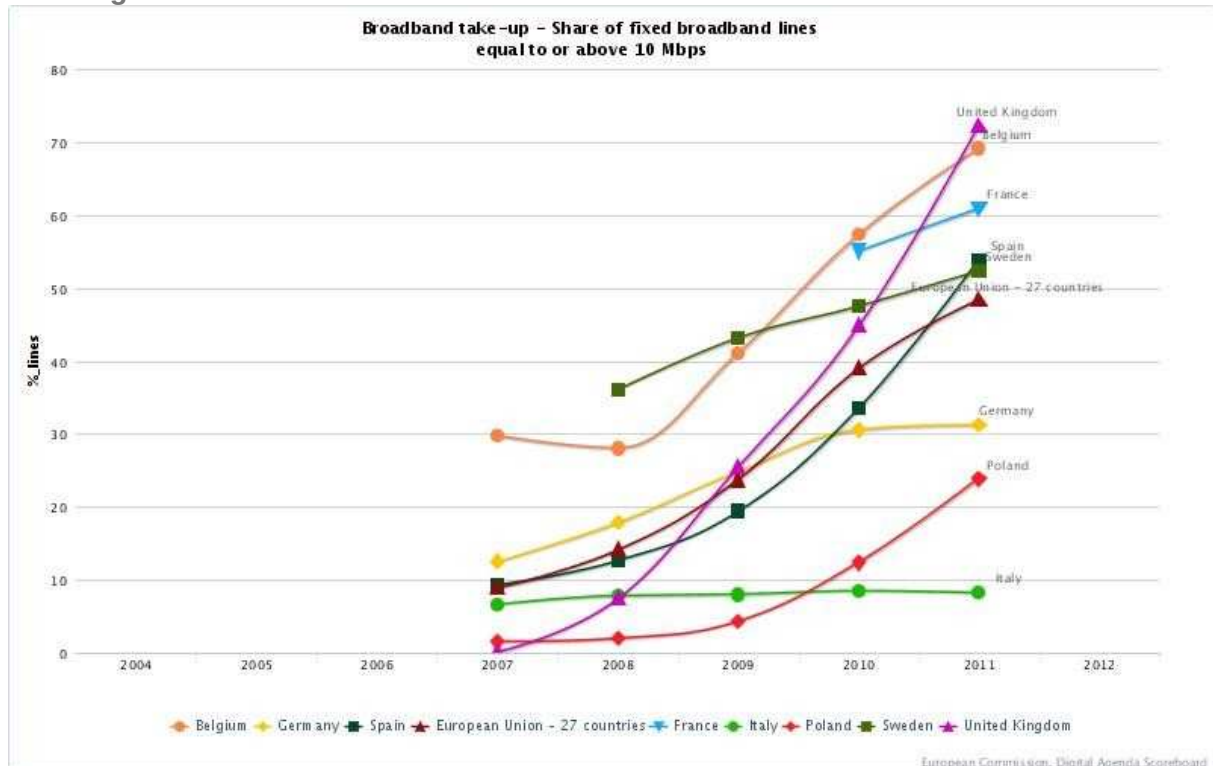
Figure 1.



Source: European Commission – Digital Agenda Scoreboard 2012

The percentage of households that have a fixed broadband connection in Italy is lower in percentage not only to the European average, but also to all the countries used as comparison. Since 2008 the gap is growing significantly.

Figure 2.

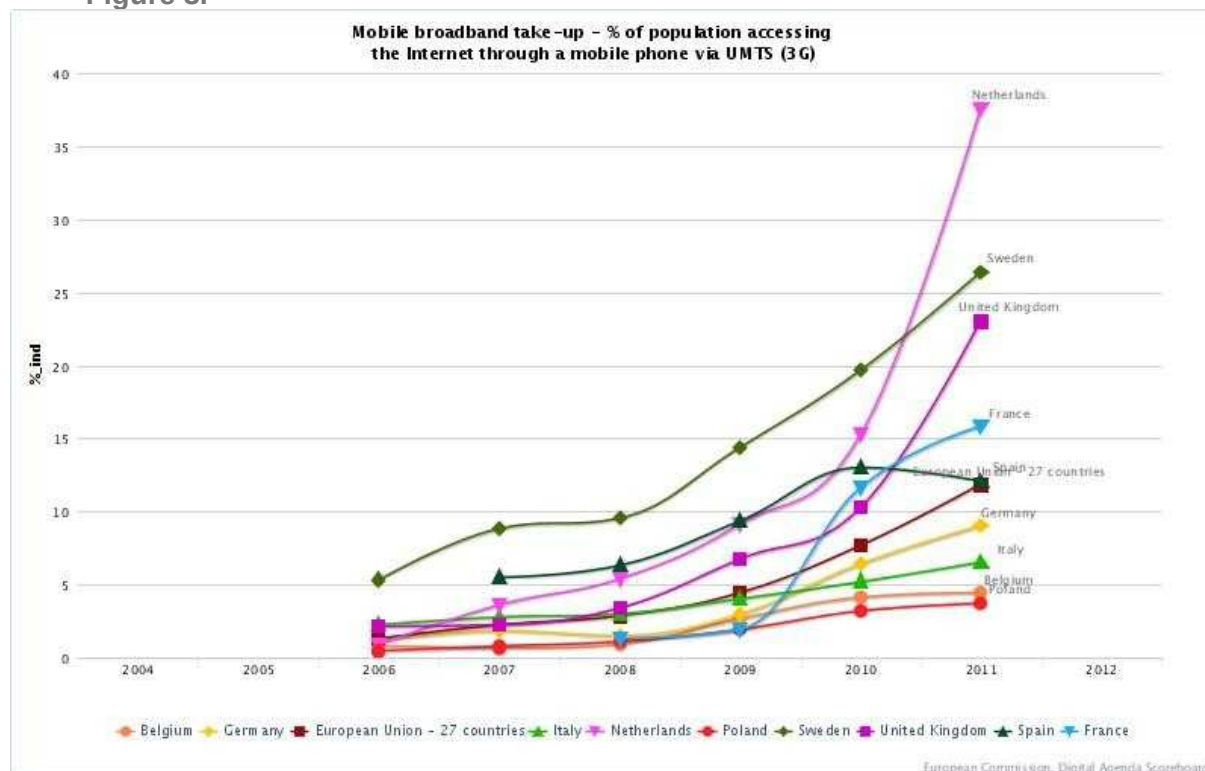


Source: European Commission – Digital Agenda Scoreboard 2012

The graph in figure 2 is important because it measures the growth in the years of the quality of fixed broadband services. While all the other countries show very significant increases in the percentage of lines with speeds greater than or equal to 10 Mb / sec in Italy

this figure remains practically constant. From a technical point of view, speeds above 10 Mb / sec can be supplied either with ADSL technologies (the variant commonly used, ADSL2 +, reaches a theoretical maximum of 24 Mb / sec download, while the VDSL can reach over 50 Mb / sec) or with the optical fiber. The availability of fast broadband connections is an essential prerequisite for the development of quality multimedia services.

Figure 3.

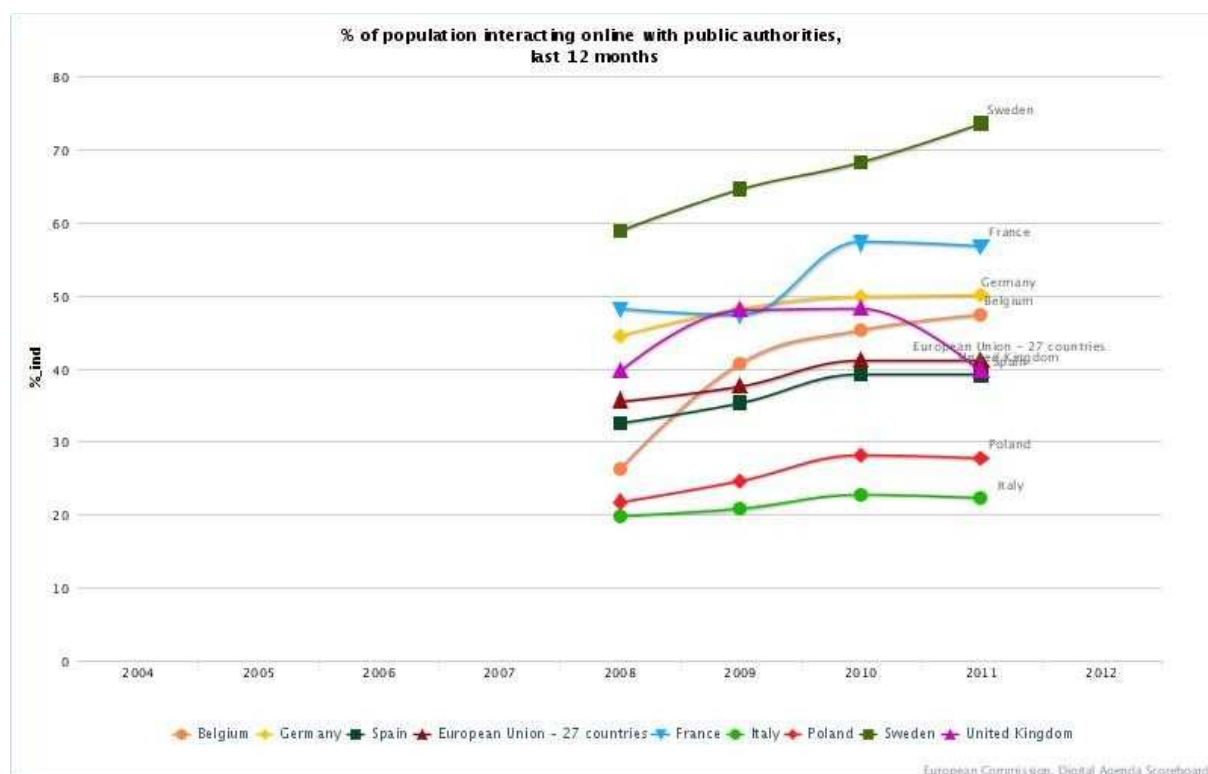


Source: European Commission – Digital Agenda Scoreboard 2012

The lack of connection to the network via fixed broadband services that characterizes our country is balanced only in part by the use of mobile devices (phones and tablets). Figure 3 shows in fact that Italy continues to exhibit a lower rate of use of the Internet through mobile devices than the European average, despite the penetration rate of mobile phones is the highest ever. This means that the majority of mobile users either don't have sufficiently evolved terminals or, also having them, do not use the most advanced capabilities.

The three previous graphs show the picture of a country in which the development of Internet-based services is still modest and, one might say, is inadequate to the level that Italy has among the Western economies. The effects of this delay affect the overall level of efficiency of the country. From this point of view, what emerges from the graph below (Figure 4) is fully consistent. The lack of widespread usage of the network, the inadequate level of online presence of the PA and the low level of IT literacy explain why Italy is in the last position among the EU countries, if you measure the use of the Internet by citizens to interact with the PA.

Figure 4.



As mentioned above, it would be not only ungenerous, but inherently wrong to attribute the responsibility of these results to a hypothetical insufficient action of AGCOM. For example, many share the belief that over the years appropriate policies were missing in Italy to support broadband services and, more generally, that it has not been accomplished the build-up of a context of a coherent industrial policy that would encourage the development of networks and services. As well as it cannot be underestimated that in Italy cable TV you was not developed.

A more accurate picture can be built, however, if you look at some indicators of the levels of competition in the markets for such services. In fact, they show that the competitive environment has changed over the years, even under the action of regulation, and suggest the correlations that may exist between these changes and the data on usage and on penetration of the services listed above.

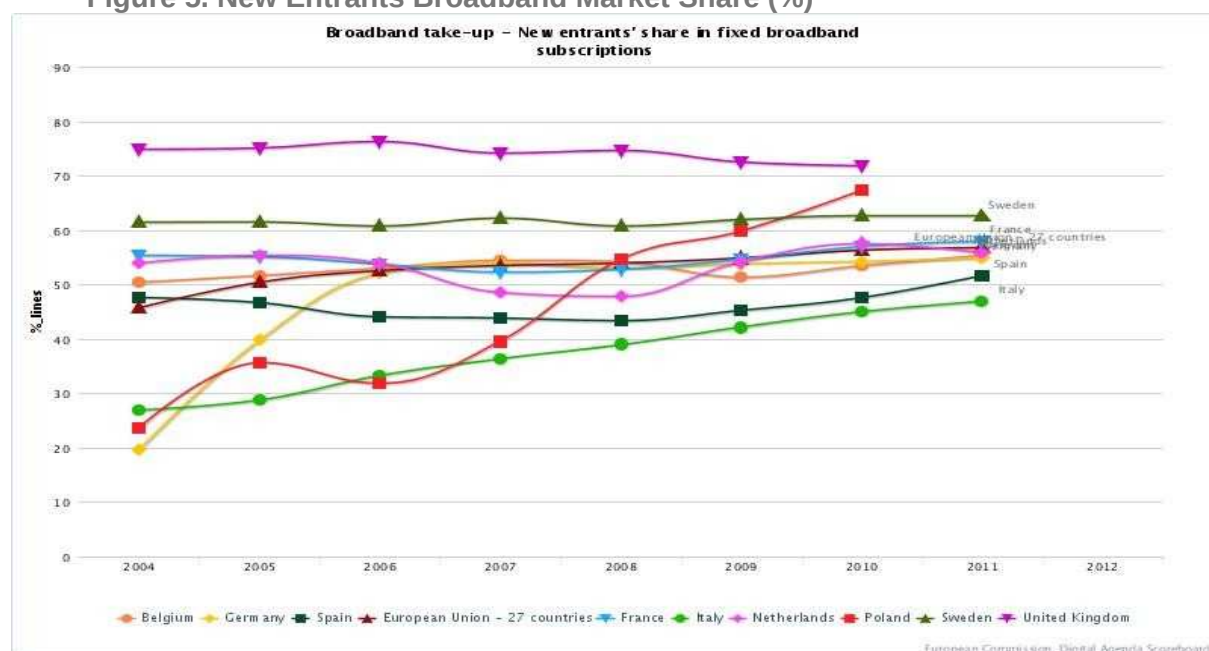
The fixed broadband service in Italy is based mainly on the ADSL technology, that limits the maximum speed to about 20 Mb / sin download and to about 1 Mb / sec in upload and shares the copper pair that previously was used for traditional telephony services. Obviously the owner of substantially all the copper infrastructure is the incumbent operator.

To enable the development of a competitive market in the provision to the public of broadband services, under the European and national regulation, to Telecom Italy, as an operator with significant market power, was imposed a double set of complementary obligations. On one hand, the obligation of unbundled access to its infrastructure (the Local Loop Unbundling - LLU or even, in the national literature, ULL) obliges the incumbent to rent the single copper loop to competitors, with cost-oriented prices, on the other hand, the obligation to sell wholesale (disaggregated) components of the broadband service (so-called Bitstream Access). The difference between the two is that, while in the first case (LLU) the alternative operator, through the installation of its own equipment within the sites of Telecom Italy, is in a position to provide the broadband access service in a completely independent way, in the second case (Bitstream Access) the physical management and service logic is performed by the incumbent operator, which collects the broadband traffic of the end customers on behalf of the alternative operator and delivers it in a point of interconnection agreed between the two operators.

It is clear that in case of LLU the alternative operator must have an investment capacity much greater than in the case of Bitstream Access, since the supply of the service to its final customers is performed via an infrastructure he owns and maintains directly (with the exception of the bare copper loop), which needs the establishment of thousands of points of presence throughout the country, co-located at the sites of the incumbent, while, in the other case, many network components are leased by the incumbent and the number of points of interconnection is relatively small.

In consideration of this imponent regulation put on Telecom Italia, to which it was added a further control mechanism on retail prices, aimed at preventing commercial offers that cannot be replicated by competitors, one would expect a rapid decrease in market share of incumbent operator and an equally rapid development of alternative operators. The following figure (5) shows instead that Italy is the only country, among those considered, in which the market share of new entrants is less than 50%.

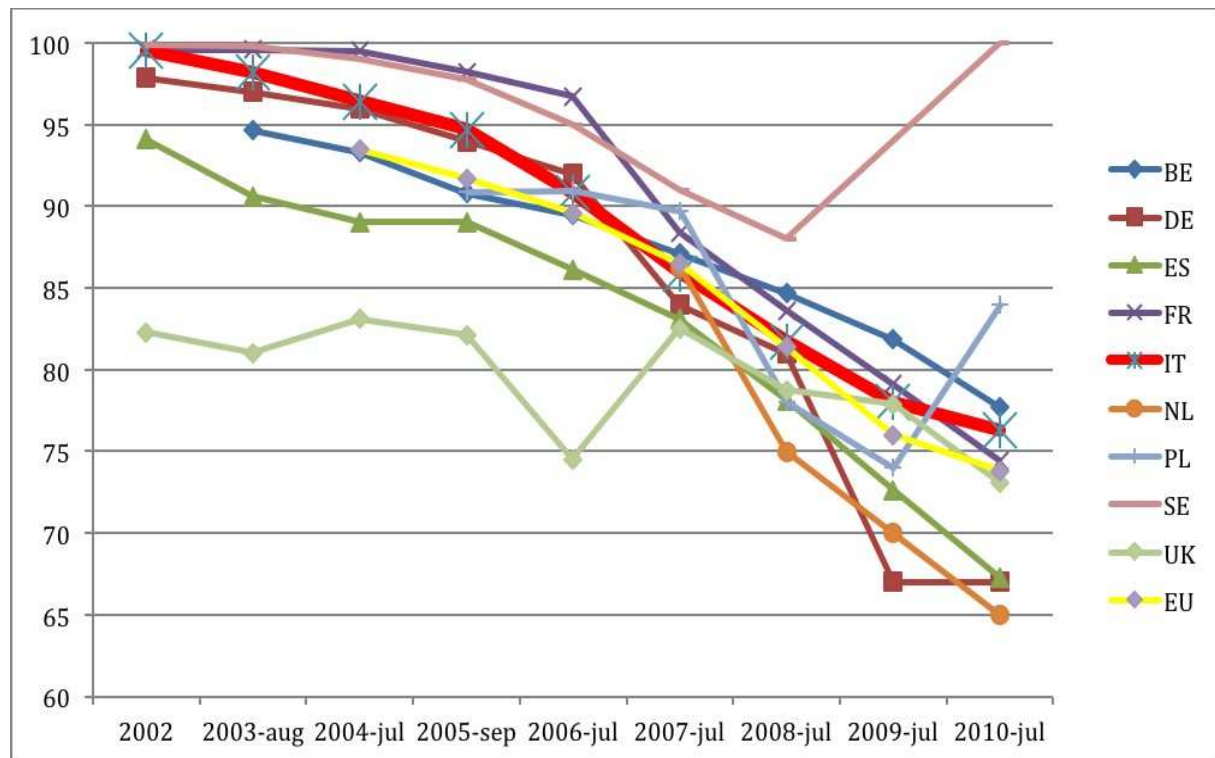
Figure 5. New Entrants Broadband Market Share (%)



Source: European Commission – Digital Agenda Scoreboard 2012

The following figure (6) shows the trend since 2002 of the share held by the incumbent in the access market. For countries like Italy, where don't exist significant access networks other than the one of the incumbent operator, it directly represents the impact of LLU on that market. It is to be noted that the percentage of fixed telephone lines still managed directly by Telecom Italy, more than 75%, remains among the highest among the countries studied in comparison. This could mean that the competitive context within that the LLU service was developed, to which the regulation belongs, was not able to stimulate sufficient investments by alternative operators.

Figura 6. Incumbent Access Market Share (%)

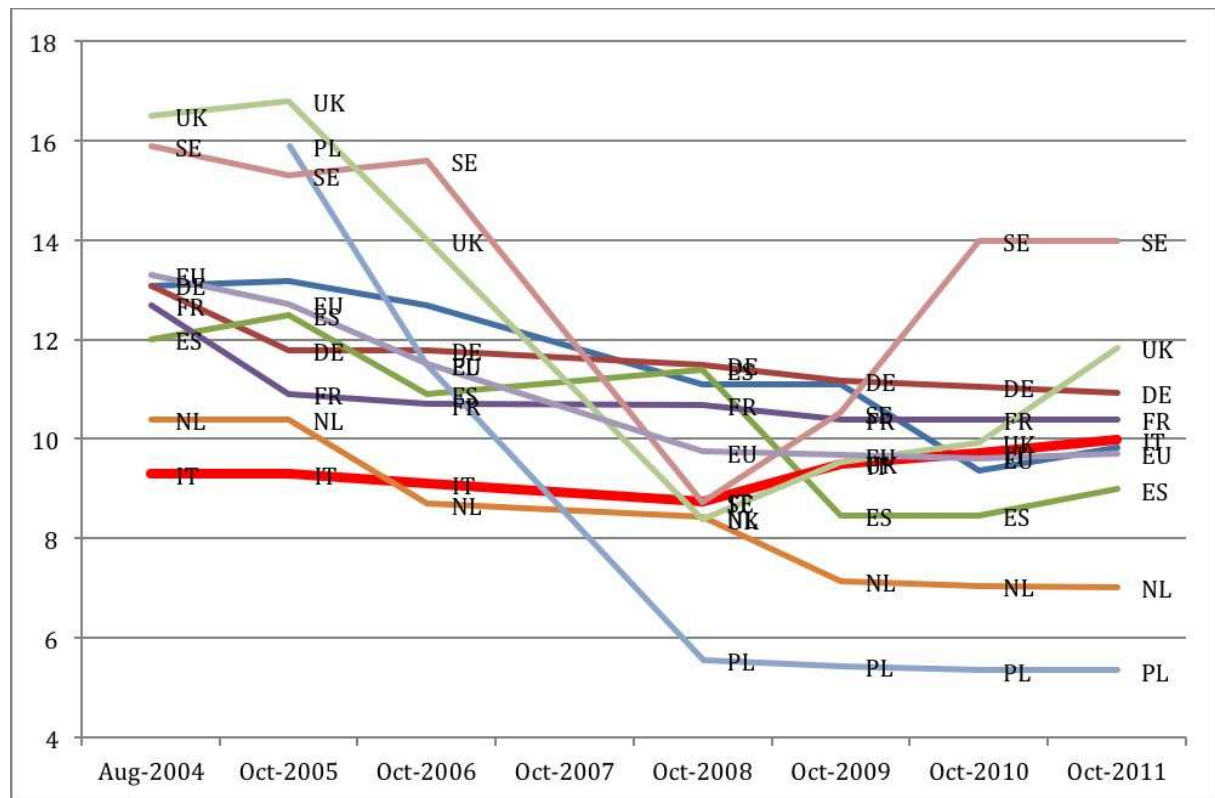


2012Fonte: Elaborazione su dati della Commissione Europea

Some explanations are needed to understand better some trends shown in the figure, concerning the specific situation of some countries, which exhibit apparently contradictory trends. The rise in market share of the former Swedish monopolist to 100% is due to a process of concentration, which covered the whole country, similar phenomena have occurred in Poland. Notwithstanding these anomalies, Belgium is the only one of the countries taken as a reference, in which the incumbent has a share in the market for more than the former monopolist Italian.

Finally, consider now the following figure (7), which shows the trend of monthly rent prices for a copper pair, that an alternative operator has to pay to the incumbent. The curve for Italy has initially a strong performance against the trend, compared to those for other countries. However, after having scored the lowest price from 2003 until 2008 and while other countries it fell rapidly, the Italian values begins to rise, as they do only in UK, and reach a level among the highest in the reference group. If you look in Figure 5 the market share acquired by the new entrants, you should noted that starting from 2009 the growth in Italy becomes less rapid.

Figure 7. LLU – Average Full Monthly Cost (€/month)



Source: Elaboration on European Commission data

6. Mobile Services

The development of mobile telephony in Italy took place at a speed and with such success that we do not even need to show data in this regard. With penetration rates since many years far more than 100% there is really very little to say.

However, it can be more interesting to compare the Italian situation with that of other countries with respect to other parameters that define the mobile market: as the number of operators, their market shares, the average final prices, and then to compare them with the performance of the main parameter defined at the regulatory level, which is the wholesale price of termination (Mobile Termination Rate - MTR).

With regard to Figure 8, we note how the situation in the countries taken as a reference is quite varied with regard to the number of mobile virtual network operators (MVNOs¹³), despite the number of operators with own infrastructure is practically constant (typically 4 in the largest countries, 3 in smaller ones, see Table 1). To be noted also that in three countries (Germany, Sweden and Poland) the supply of “fourth generation services”, based on the LTE (Long Term Evolution) technology, have already been started. With such technology, more bandwidth can be made available to mobile users than it is possible with existing 3G services. This phenomenon, in general, depends on several factors. As regards the infrastructured operators, their number has an upper limit in the minimum quantity of frequencies that is necessary to enable an operator to be able to provide the service (telephony, SMS and broadband) to a sufficient number of people (thus depends on the population of the country and on its concentration, since the penetration of the service has now reached 100%

¹³ A mobile virtual network operator (MVNO) is a mobile operator that, although it has its own numbering (then handles SIM cards with its brand) uses the access infrastructure of an infrastructured operator (Mobile Network Operator - MNO). Although European legislation provides that there may exist MVNOs that have the infrastructure needed to provide services autonomously, in particular data base network (HLR) and management information services (so-called Intelligent Network), almost all of them are reselling services provided “turnkey” by infrastructured operators.

everywhere) and a lower one given by the economies of scale of the service. Relatively large but sparsely populated countries may be an exception, such as Sweden and Poland. In these cases, it is determining the impact of national regulation, that defines what is the amount of electromagnetic spectrum for each operator. Because the basket of available frequencies is equal in all states, are these choices that determine the maximum number of operators.

It may be useful to make a little digression about the frequency allocation, regarding in particular the “quality” of different frequencies which, according to their intrinsic characteristics of propagation, determine a substantial part of the initial investment of an operator. This problem has been for years at the center of regulatory debate, when, after that the first two operators had obtained frequencies in the 900 MHz band, to the third and fourth entrants have been granted almost exclusively spectrum in 1800 MHz or 2100 MHz bands for third generation services (3G).

The physics teaches us that the radio waves, as frequency increases, tend to exhibit characteristics more similar to those of light. In other words, the indoor coverage at 900 MHz requires, for the same “field”, less power compared to 1800 MHz, because the permeability of the buildings at lower frequencies is much better. With higher frequencies also increases the sensitivity to weather conditions such as rain and fog. Furthermore, the operators, that entered first into the market, have had the chance, especially in cities, to grab the best sites. All this means that to obtain the so called “minimum coverage”, that an operator must ensure after obtaining the license to use the frequencies, there is a need for a higher number of base stations for an operator which only has higher frequencies, which means a proportionately greater investment, compared to the case where the same coverage must be obtained with lower frequencies.

This intrinsic difference in costs has led operators third and fourth entrants to ask for, on the one hand, a more equitable allocation of frequencies and, on the other hand, to obtain from regulators higher termination rates on their networks in order to compensate higher costs needed for coverage.

It must be said that, with the increase of the use of the service and the number of customers, the amount of base stations deployed tends to depend on the density of traffic rather than by the need to have a proper coverage: this means that the differences between operators, due to the different range of frequencies they have, tends to diminish considerably.

Table 1. Number of Mobile Operators (MNOs)

Country	MNOs	MNOs with LTE
BE	3	0
DE	4	3
ES	4	0
FR	4	0
IT	4	0
NL	3	0
PL	7	1
SE	5	3
UK	4	0

Source: European Commission – Digital Agenda Scoreboard 2012

Back to MVNOs, much has been discussed between the regulators if their number is or is not an indicator of the opening of the wholesale market of mobile services: the fact that the European Commission continues to collect and present this information clearly means that the discussion has not yet died down. Over the years, some stakeholders have proposed the idea that, in an area where there is competition between infrastructure operators, regulation should encourage also other forms of competition. Others, emphasizing the possible tendency to

oligopoly for markets with only (few) MNOs, have identified in the incentives to MVNOs the possible solution to this risk.

On this subject is then perhaps useful to make some further considerations. First of all, it should be noted that the vast majority of virtual mobile operators in Europe are pure resellers, which, in fact, sell to their customers a service they buy ready made by the infrastructured mobile operator (MNO). Their theoretical margin is therefore given by the difference between the retail price and the average price per wholesale minute that they pay to the infrastructured operators.

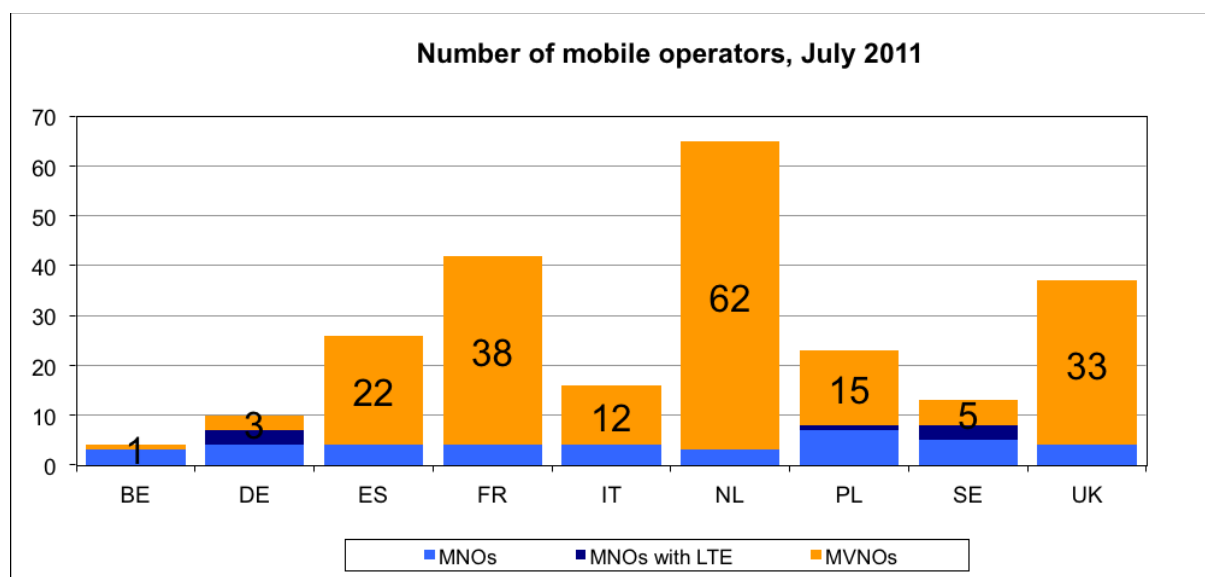
It seems therefore natural to conclude that, in a market where there is in place an effective competition that tends to reduce the margins for the MNOs, virtual operators would face increasing difficulties.

To this objection, in the MVNOs' camp, it has always said that the wholesale prices set by infrastructured operators were far from being fair and, therefore, very far from the real underlying costs. To this objection the MNOs, in addition to denying the insinuation on the incorrect orientation to the cost of their wholesale prices (which in some cases is certified by the NRA), have typically responded by emphasizing the costs incurred for the acquisition of frequencies and the need to rely on a margin sufficient to support the continuing investment that the evolution of technology imposes.

The two figures below show, respectively, the number of MVNOs in each country and the average price per minute of calls. Assuming, as a first approximation, that the costs of the networks for MNOs are more or less equivalent in the various countries, as just said, it should be noted the presence of a greater number of MVNOs where retail prices are higher. The analysis of the graphs does not confirm the hypothesis in a convincing way, even if in some cases this relationship exists. It is in any case an analysis very superficial, which does not take into account the specificities of each country, but that shows how the different structuring of markets could determine otherwise favorable conditions for the existence of certain types of operators.

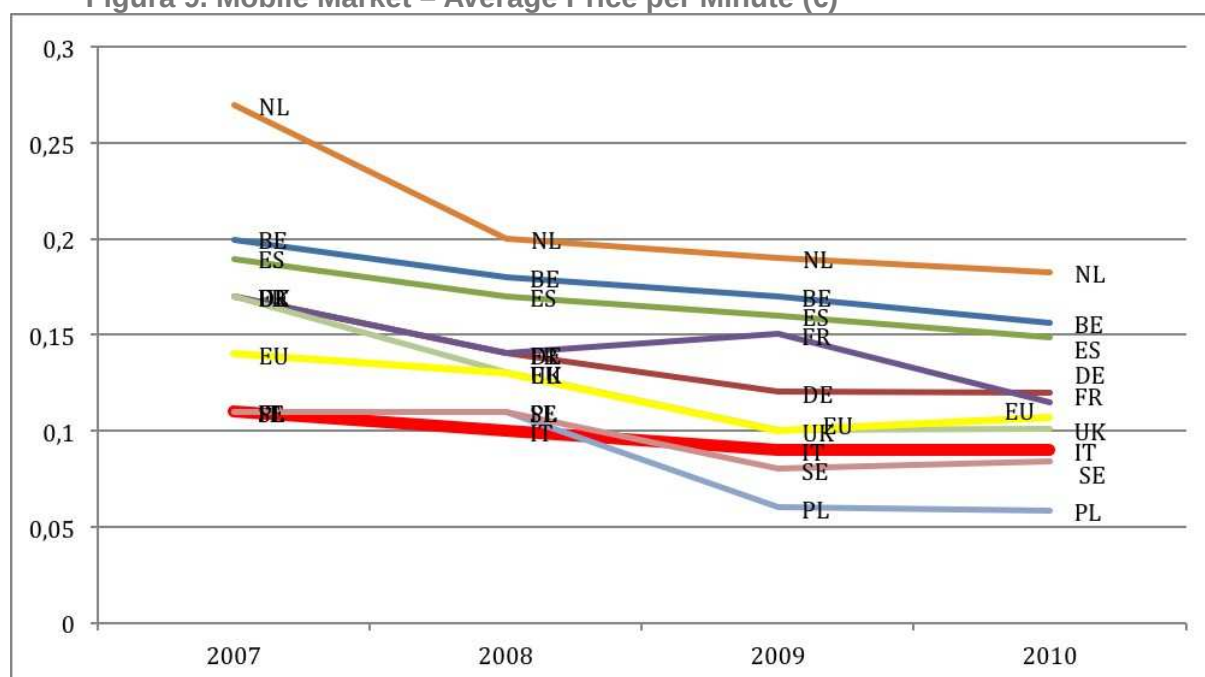
It must not be forgotten that many MVNOs are a direct manifestation of companies operating in other sectors (retail, fuel distribution networks, banks, etc.) where they act as completion of those offers or as a vehicle to develop specific synergies. The reference model is that of multi-sided markets, of which a typical example is the Italian operator Poste Mobile, through which the postal company offers to its customers mobile payment services and other specific features of the postal and financial sectors. The growing spread of mobile broadband services, in particular as a result of the installation of networks fourth generation (LTE), could result in a significant increase in the presence of MVNOs with characteristics of that type.

Figura 8.



Fonte: European Commission – Digital Agenda Scoreboard 2012

Figura 9. Mobile Market – Average Price per Minute (€)



Source: Elaboration on European Commission data

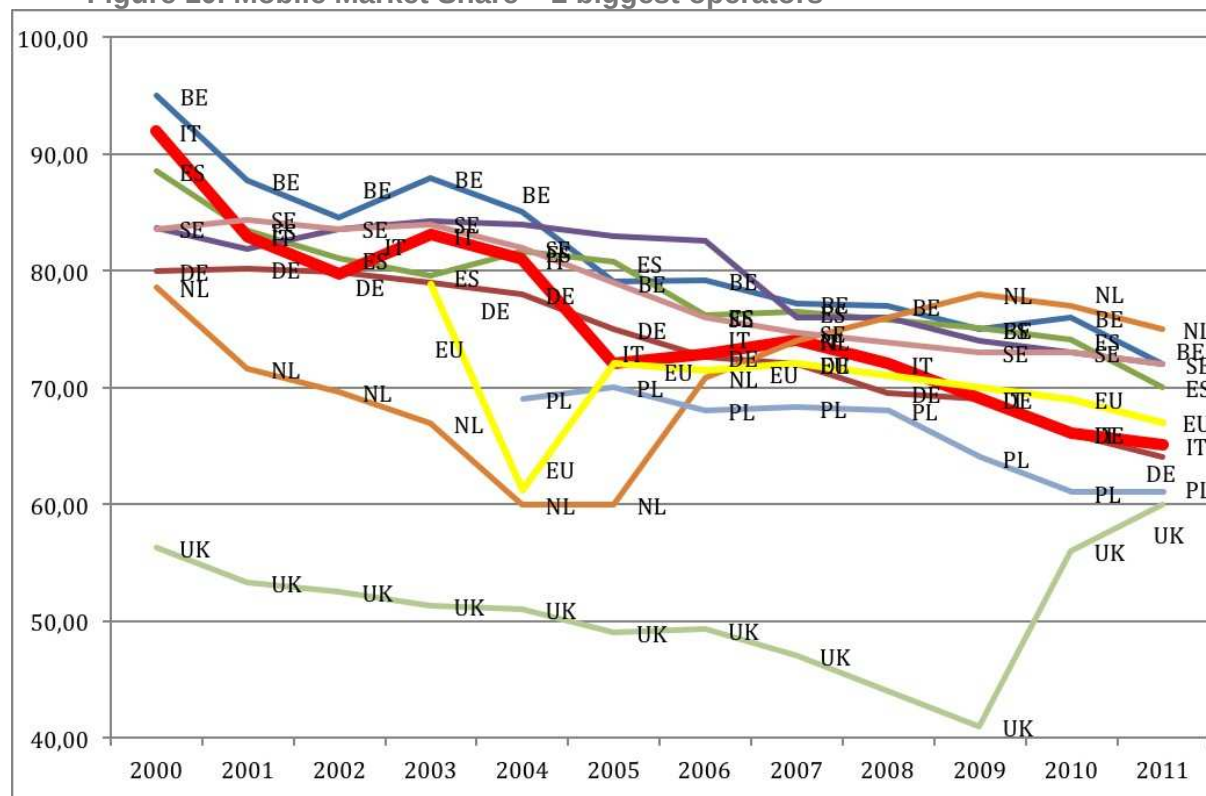
Regarding the structure of the mobile market is often used the representation of Figure 10, which indicates the market share of the first two operators with respect to the total. It has a justification in the history of the evolution of the mobile markets in Europe, which has seen almost everywhere the start, before 1998, of two operators, one of which often (typically the first) was a subsidiary of the national fixed incumbent. These two operators, that have enjoyed the advantage of starting as first, held together the 100% of the market and have received the “best” frequencies in allocation. The advance of the later entrants therefore gives a fairly accurate measure of the degree of market opening. Looking at the graph, the large fluctuations exhibited by some countries (UK and NL in particular) depend on M & A transactions during the period under review.

The Italy’s position is from this point of view very good. The regulatory elements that may have influenced this particular subject can be traced to the following two points:

1. Maintenance, longer than in other countries, of a significant asymmetry in termination rates that benefited the third and fourth entrants;

2. The rebalancing of the frequency allocation of the operators, which led to a progressive equalization (at least theoretical) of the network costs of each operator.

Figure 10. Mobile Market Share – 2 biggest operators

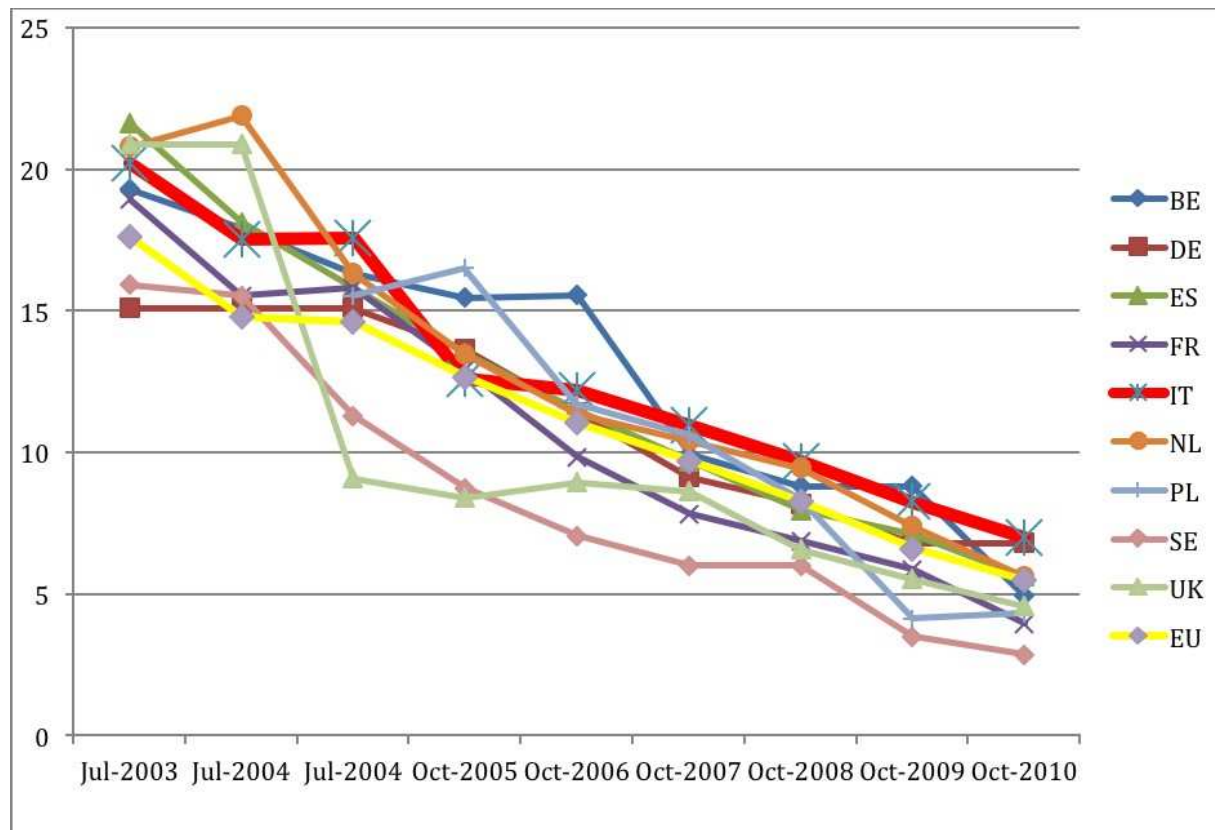


Source: Elaboration on European Commission data

The counterweight, if I may say so, of this favorable situation on the competitive plane is represented by the relatively higher rate of Italian termination compared to other countries (Figure 11). The negative effects of this phenomenon didn't not occur, however, in the mobile market (the levels of Italian retail prices are in line with those in Europe), but in the fixed network, as a high wholesale rate of the fixed to mobile service helps to keep an high retail prices and discourage the use of the fixed telephones to call mobile terminals. Many fixed operators have complained and still complain about a situation that objectively penalizes them.

Their position is strengthened, in this particular phase of development in the telecommunication services, by the fact that where large investments are needed in fixed networks to achieve ultra-fast broadband. It must be said, however, that in Italy the major fixed-line operators, except one, are also mobile operators.

Figure 11. Mobile Termination (€cent/min)



Source: Elaboration on European Commission data

7. Fixed Services

Although the telephone traffic generated from fixed networks has been surpassed in volume since a long time by that originated from mobile and despite the gradual decrease in the number of lines installed, the fixed telephony continues to represent an important test for the regulation of the TLC sector. Primarily for historical reasons. At 1 January 1998, when the liberalization of the fixed telephony began, the market was controlled in almost all EU countries, in a legal monopoly regime, by operators owned, wholly or in part, by the State. The first European regulatory measures, the aforementioned ONP Framework, were therefore an important test case for the whole EU to investigate the possibility to increase competition in markets where competition didn't exist at all.¹⁴ Second, for economic reasons, given the still considerable significance of the fixed telephony markets, especially in the business sector.

Before addressing an analysis of fixed-line services, it should be taken into account that we are dealing with a mature market: the basic telephone services (such as the ability to call any subscriber within a country without the intervention of an operator) and the so-called "supplemental services", such as the display of the caller's number, 3-party call, callback, etc. were defined in the early 80s and have become popular with the digitization of the telephone network. With the end of the 90s this process can be considered almost complete throughout the EU. The coincidence in time with the start date of liberalization is significant, since a high proportion of liberalized wholesale services could not be provided in a simple way, and not at all in some cases, by a network of electromechanical switches.

¹⁴ The only significant exception is constituted by the UK, where the liberalization process had begun in the mid-90s on the initiative of the national government. In Italy, starting more or less from the same period had begun a sort of process of approaching the fateful date of 1 January 1998, which led to a partial liberalization of telephone services to business customers. Based on that first timid opening, many companies began offering services to companies in alternative to those offered by Telecom Italy.

In a mature market, technological innovation is virtually absent and the competition between operators tends to focus on prices: in our case it is clear that a telephone call, given an acceptable level of quality, is essentially the same product, regardless of the operator that sells it. The customers, therefore, will be affected in the choice of an operator essentially by the price.

In addition, it should be noted that, as we have seen for broadband that shares with fixed telephony the end portion of the access network¹⁵, there are different types of alternative operators: those, with their own infrastructure, just rent the copper pair by the incumbent (LLU), those who sell carrier selection / preselection services collect the traffic generated by their customers in a variable number of points of interconnection with the network of the incumbent and route it to the termination operator network and the pure resellers who resell the fixed telephone service purchased wholesale. It should be noted that the infrastructure alternative operators usually offer the fixed telephone service only if purchased in conjunction with the broadband connection.

Immediately after 1 January 1998 a large number of operators tried to enter this market in competition with Telecom Italy; in the first two years their number increased dramatically and then decreased as a result of the unavoidable phase of market consolidation and the explosion of the “Internet bubble” in the early years of the last decade.

For the most part, they were operators of the second type among those listed: this is both because the ULL was not yet available,¹⁶ as well as the pure resale, and because the level of investment required was lower and the choice of a more capillary interconnection with the incumbent’s network can be decided in view of the results achieved by the company. To better understand this point it is appropriate to refer to the structure of the network of Telecom Italy and to the mechanism for interconnection. The switching network of Telecom Italy has two levels, the first of which is constituted by the local exchanges (i.e. those that provide the telephone service to the users), while the second is formed by the transit exchanges. Each transit exchange is connected to all the others and has “beneath him” a number of local exchanges.

In this way, the country is divided into “local areas”, in which one local exchange handles all traffic between its directly connected customers, and “regional areas”, in which one transit exchange handles all traffic that is carried out between the local exchanges connected with it. Phone calls that affect users of local exchanges connected to two different transit exchanges are managed by them due to their direct connection. In Italy, the National Numbering Plan (NNP) provides for the existence of 636 local exchanges (“Stadio di Gruppo Urbano” - SGU) and 33¹⁷ transit exchanges (“Stadio di Gruppo di Transito” - SGT).

The architecture of the network implicitly defines the levels at which operators can interconnect in order to collect or terminate traffic. So we speak of “local interconnection” (at the SGU level) when the traffic is collected / terminated within the local area and of “transit interconnection” when the traffic originates from a regional area managed by a single SGT.

The incumbent operator has the obligation to provide interconnection to other operators on the basis of cost-oriented prices. He, every year, publishes a document (the Reference Interconnection Offer - RIO), which, after approval NRA, sets the prices for interconnection services.

With this interconnection architecture an operator who want to reach the whole Italy should at least be interconnected in all 33 transit exchanges. For this reason, at the beginning

¹⁵ This is true both for the broadband services provided by means of technologies that use the copper line (ADSL, VDSL) and for those that use the optical fiber.

¹⁶ The decision that introduced LLU was in 2000, while that for WLR (Wholesale Line Rental) is in 2006 (Decision 33/06/CONS).

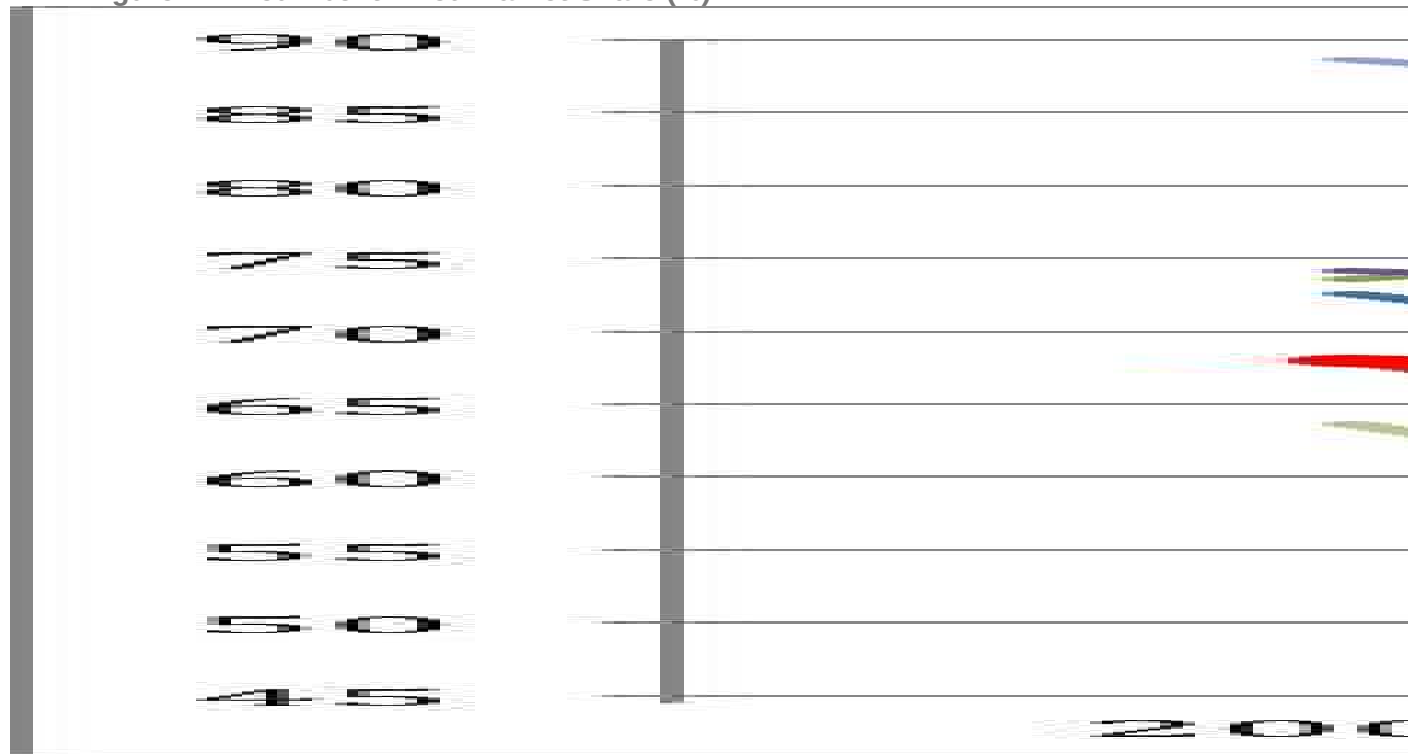
¹⁷ For reasons of reliability the transit exchanges are constituted by pairs of switches, in such a way that in the event of failure for one of them, the entire amount of traffic can be handled on the other.

of the liberalization, the so-called “double transit interconnection” was also provided, through that service an operator that was interconnected even at a single transit exchange was allowed to reach the whole country. At that time, in fact, the majority of alternative operators owned only a few telephone exchanges (often there were only two, one in Rome and one in Milan). Within a few years, the increase of the traffic that was run by the networks of alternative operators gave an incentive to use their own resources, the obligation to provide this specific interconnection service at cost-oriented prices was removed and operators who wanted to continue to use it would have to negotiate a commercial supply contract with Telecom Italy.

To evaluate the path of the liberalization it is appropriate to present two graphs. The first (Figure 12) shows the trend of the market share of the incumbents in Europe from 2003 to 2009. It shows, on the one hand, that the percentages are more or less aligned in a range between about 65% and 70%, on the other hand, that in the period considered the values have changed relatively little, after a drop in the order of 30% in the first 5 years of liberalization. An exception is the UK, where as mentioned, the liberalization process began long ago. In this case, however, it must be considered that most of the competitors of BT (British Telecom) are resellers, as you can see in the Figure 13, which represents what percentage of customers in 2011 used access services provided by alternative operators (via LLU or own infrastructure). It can be seen that while the market share of the incumbent in the UK is lower than those of Spain, the Netherlands and Germany, in those three countries a strong infrastructure competition has developed.

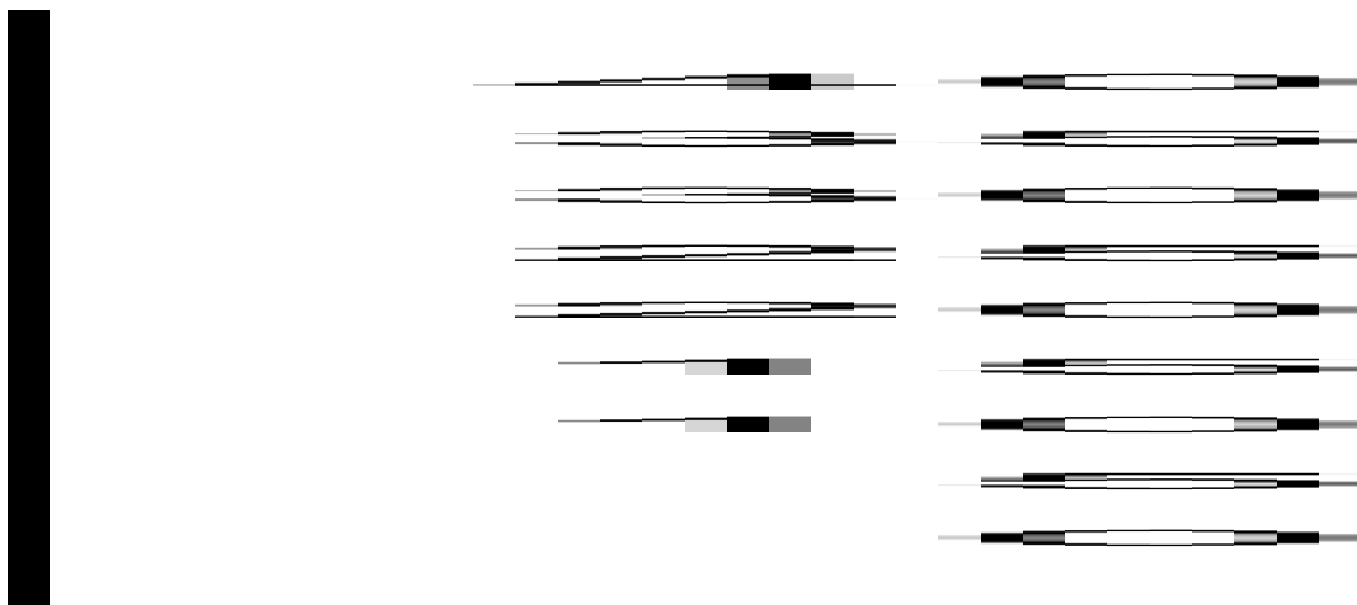
Note that the data for Germany after 2006 are no longer available, as the incumbent of that country (Deutsche Telekom - DT) considers them strictly confidential and not authorizes their publication, even in documents of the European Commission.

Figure 12. Incumbent Fixed Market Share (%)



Source: Elaboration on European Commission data

Figure 13.



Source: European Commission – Digital Agenda Scoreboard 2012

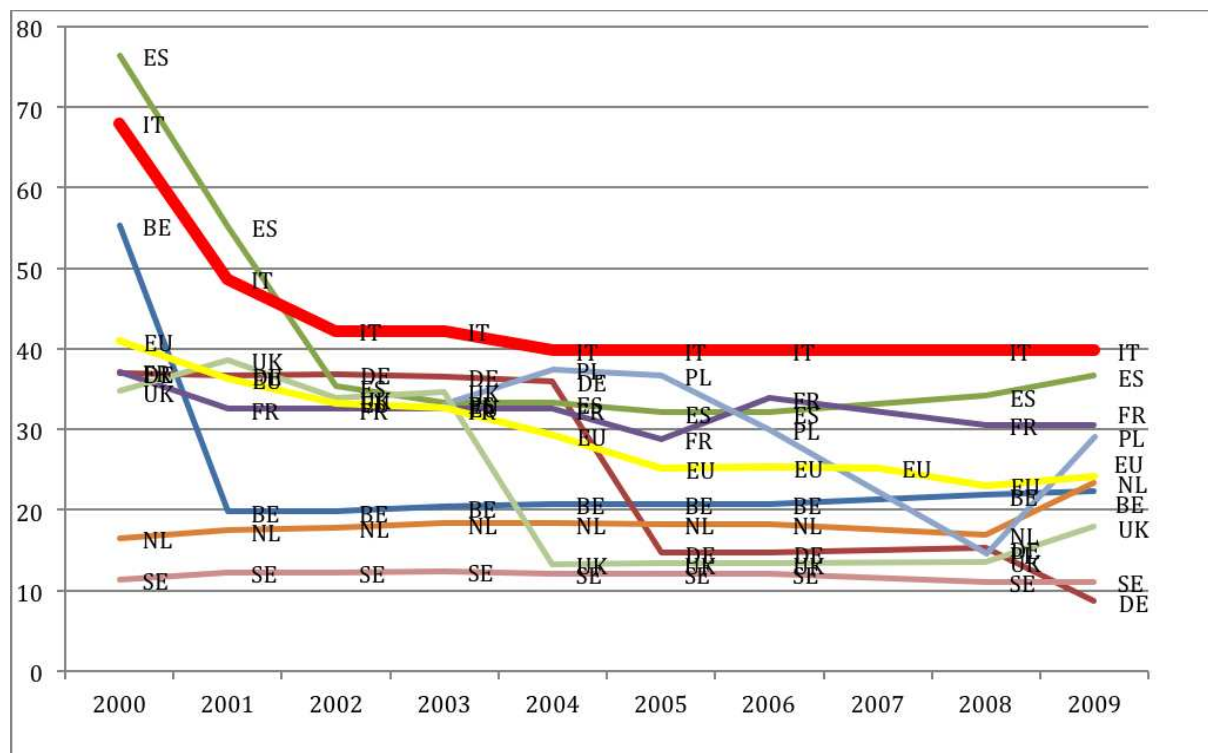
If the two previous graphs represent of the intensity of competition in the countries studied, and its type (infrastructured or not), the two that follow can help to assess its impact on the prices charged to end customers.

Here, too, a premise is a must. It has been discussed for a long time about which method is to be used to compare the prices of fixed telephone services. There are in fact many different tariff schemes on the market in different countries, characterized by variables that are not always directly comparable: the presence or the absence of the “connection fee”, the distinction between different types of calls based on distance (in Italy we had, for example, local calls, district calls and inter-district calls), rate of billing (for example a unit duration of 30 seconds or a minute), etc. All this without wanting to consider the different tariff packages, which were originally introduced by new entrants, only to be quickly endorsed also by the incumbents.

Many have opted for the definition of specific “baskets” calibrated to different classes of users (low-consuming, medium-consuming, high-consuming), others have preferred to use the basic tariff, eventually mediated between local calls and long distance on the basis of aggregate data for these types of calls. According to the first approach, OECD has developed the so-called “OECD baskets” that define precisely some service usage profiles (often criticized for not being very realistic). The European Commission has instead chosen the other approach and has compared the data related to calls on a national basis (interdistrict in Italy) lasting respectively 3 and 10 minutes (Figures 14 and 15). The prices used are those that incumbents charge to residential users.

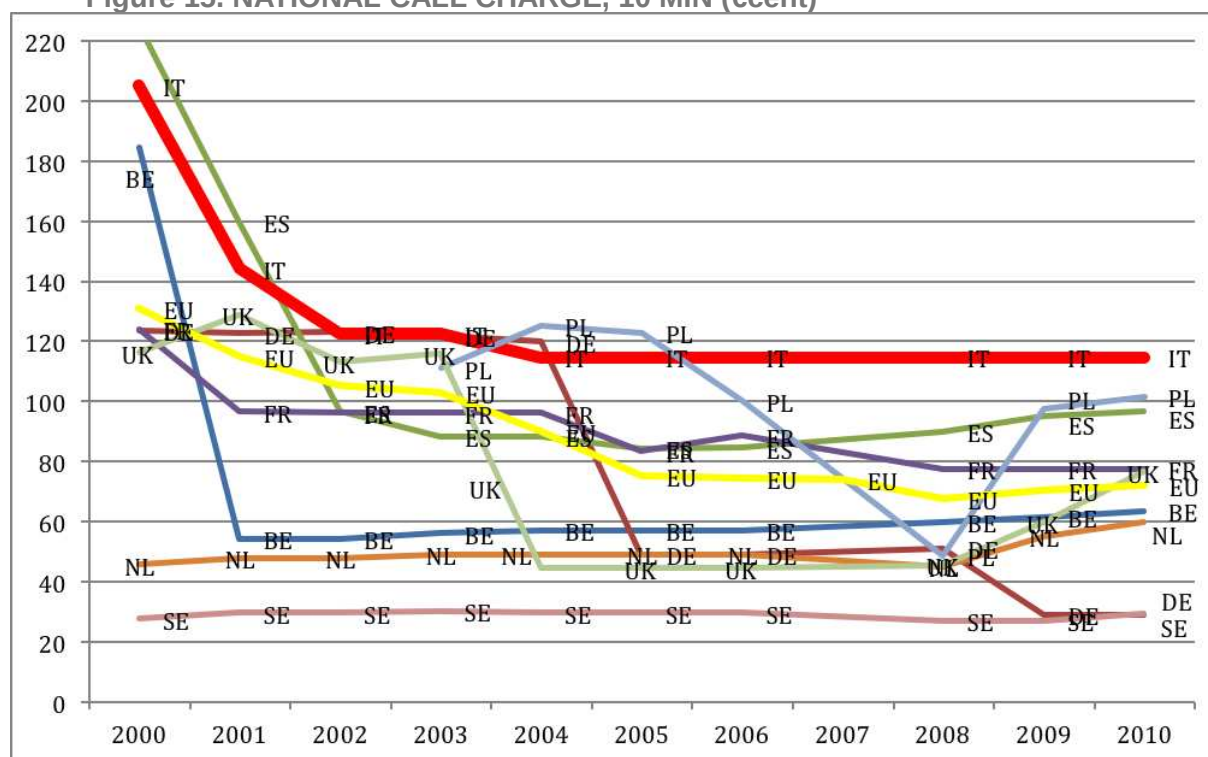
As you can see the prices in Italy are the highest for both durations, although, as mentioned, these figures do not take into account the double-play and triple-play offers (broadband plus the fixed line, and possibly IP-TV) which now involve a very large number of customers. In these packages often the cost of fixed-to-fixed calls is included in the monthly fee. There is to say, however, that this type of offers exists also in other countries.

Figure 14. NATIONAL CALL CHARGE, 3 MIN (€cent)



Source: Elaboration on European Commission data

Figure 15. NATIONAL CALL CHARGE, 10 MIN (€cent)



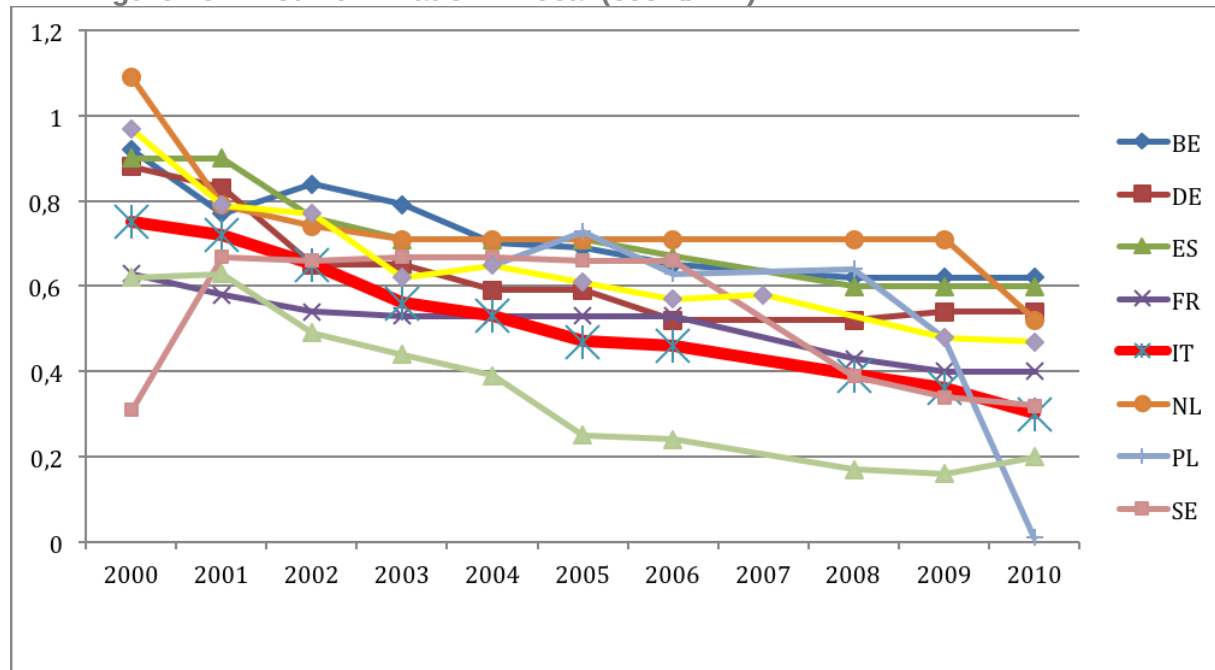
Source: Elaboration on European Commission data

If you consider, instead of the final prices, wholesale prices we can see that the Italian ones are among the lowest among those identified by the European Commission (the graph in Figure 16 shows those relating to fixed local termination).

In a competitive market, one explanation for the discrepancy between high retail prices and low wholesale prices can be found if we consider that for many years in Italy has been in force a system of asymmetric termination rates, which rewarded new entrant operators. This mechanism means that the incumbent operator has to pay a higher price for calls made toward

other fixed network operators than that these operators have to pay for calls terminated on his network. In the absence of regulatory constraints strong enough it can be assumed that this price difference in the rate of interconnection has been passed on final prices more than proportionally. Obviously the umbrella effect determined by the prices of the ex-monopolist operator also benefited the competitors, that were in turn able to charge higher prices.

Figure 16. Fixed Termination – Local (€cent/min)



Source: Elaboration on European Commission data

8. Final remarks

“But, I mean, this NRA, did well or not?” Is the question that at this point arises in the reader who has had the patience to get this far here. As with all complex issues, the too much simple answers are often misleading and can be suspected either of superficial analysis or of undue partisanship. Therefore I wouldn’t try one, as I said at the beginning, that the main purpose of this paper is to stimulate the reader to build up his own beliefs.

Some considerations, however, are appropriate. When you consider the number of litigations between the NRAs and the European Commission, which is responsible for the enforcement of the EU regulatory framework in the EU countries, the Italian NRA ranks pretty well, better than other NRAs of some other large countries (Germany, Spain, France), in which the interference of governments and the incumbent’s power of influence were in fact much higher.

But I think also that the NRA’s activity should be considered in the broader context of the whole country. If we think back to the last fifteen years and to the great turmoil that characterized them, it is difficult to imagine being able to assess the activities of any national institution in total isolation. This applies a fortiori to the NRA, which, due to of its attributions, operates in fields (particularly the television and the control of compliance of a level playing field for the different political parties) that have been at the center of a quite heated political clash, with many fallouts on many institutions. This has led, as it has been stated by many, and often for opposite reasons, that the attention of the politics on the NRA was quite strict, with numerous attempts at interference. The field of EC, even if it is relatively distant from all that, has been affected in various ways.

In addition to this, and always with reference to the general condition of the country, you can see that, often, the action of the Authority was not supplemented by important contextual

elements, that could have inspired its action. The failure to define comprehensive policies for the development of broadband services is an example, as well as the current persistent uncertainties on the development of the new optical fiber access network (NGA).

If it is true that the independent authorities are called “independent” because they should not receive operational guidance from the government and that it is not their task to define the elements of industrial policy in areas where they operate, it is equally true that in the absence of the latter, the overall consistency of the regulatory activity is at risk. The Directives, that define the European regulatory framework, recommend to NRAs to assess the development of regulated markets and to perform the interventions that could be necessary, using a forward-looking approach, being able to take into account of their possible evolutions that, in many cases, depend on the policies defined by the governments. It is, obviously, a complex equilibrium, which refers to an institutional context in which the various organs of a State, each within its own autonomy and its own role, act together as a single body.

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