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Catch me if you can: The interplay between the incumbent and the regulator in the Italian telecommunications market

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CATCH ME IF YOU CAN: THE INTERPLAY BETWEEN THE INCUMBENT AND THE REGULATOR IN THE ITALIAN TELECOMMUNICATIONS MARKET

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Abstract

In Italy, fixed telecommunications were liberalised 15 years ago, but the incumbent is still the dominant operator. The Italian antitrust authority has recently fined Telecom Italia for margin squeeze and technical sabotage, proving that the incumbent still has the incentive and the power to deploy anticompetitive conducts. This research studies Telecom Italia's anticompetitive behaviours and regulatory interventions from 2004 to 2012, in order to understand and assess how the incumbent's strategies are affected by regulation. Four wholesale markets (local loop unbundling, colocation, wholesale broadband access, wholesale line rental) and two retail markets (directories and non-geographic numbers) have been considered. For each market, both Telecom Italia's strategies and NRA's actions have been analysed and tracked in a timeline to show the interplay between the incumbent and the regulator and to assess the regulation effectiveness in preventing and discouraging anticompetitive conducts.

Keywords

Anticompetitive conducts, market foreclosure, vertical integration, ex-ante regulation, ex-post regulation, price discrimination, non-price discrimination.

1. INTRODUCTION

According to the structure-conduct-performance theory (Bain, 1951), market performance is determined by market structure, through the conducts of firms. Hence the regulator may enhance the market performance by addressing and affecting market structure and firms' conducts. This study is focused on the impact of regulation upon the incumbent's conducts in the fixed telecommunications market, where the incumbent is an upstream monopolist of an essential facility (the access network) and competes in the downstream market with its upstream customers. Due to vertical integration, the incumbent has an incentive to deploy anticompetitive strategies, by leveraging its power in the upstream market to foreclose competitors from the downstream market.

Ex-ante regulation is expected to hinder and prevent anticompetitive conducts by shaping the market structure and the incumbent incentives, while ex-post regulation is aimed to stop and punish these behaviours. Accordingly, the effectiveness of regulation may be assessed in relation to its ability in preventing and deterring anticompetitive conducts.

This analysis focuses on Italian fixed telecommunications and, considering the evolution of regulation, it provides an insight into the misuse of market power over a period of nine years (2004-2012). Italy is underperforming Europe in terms of both broadband penetration and market openness: the incumbent is still dominant in the downstream market and monopolist in the upstream market. This encourages the abuse of market power, thereby anticompetitive conducts are expected to be more intense than in other countries. As a matter of fact, the antitrust authority has recently fined the incumbent for margin squeeze and technical boycott, proving that it still has the incentives and the power to deploy anticompetitive strategies.

2. THE REGULATION OF FIXED TELECOMMUNICATIONS IN THE EUROPEAN UNION

Until 1990s, in Europe, both the access network and the voice services were provided by national public-owned monopolists. To avoid extra-profits, prices were regulated by the government (Noam, 1992).

However, the technological change (especially IP networks and mobile telecommunications) has reduced the scope of monopoly to the local access network¹, whose replication is still neither economically viable nor efficient. Accordingly, the market has been liberalised and alternative operators (OLOs) can provide backbone and retail services, accessing the incumbent's essential facility. National regulatory authorities (NRAs) have been established to rule the market and prevent discrimination against competitors by the vertically integrated incumbents.

The liberalisation was completed in 1998 and the EU regulatory framework for telecommunications was outlined in 2002 (Directive 2002/21/EC) to ensure efficiency in the telecommunications market, by stimulating competition and safeguarding consumers' rights. Ex-ante regulation is considered a temporary remedy when an operator still holds significant market power: once a sound competition is established in the market, antitrust law alone will

¹ The access network is that part of a telecommunications network, which links the end users to the core network (backbone).

safeguard competition. Consistently, in 2003 the European Commission identified 18 relevant markets (Recommendation 2003/311/EC), where *ex-ante* regulation was needed. In 2007, the list of such markets was reduced to seven (Recommendation 2007/879/EC) and a further reduction is expected by the third review currently under discussion.

3. THE EVOLUTION OF FIXED TELECOMMUNICATIONS IN ITALY

Until liberalisation, in Italy, fixed telecommunications were provided by the public-owned monopolist SIP (privatised and renamed Telecom Italia in 1996). AGCom, the Italian NRA, was established in 1998 to rule both the telecommunications and the media markets (OECD, 2001).

Fixed telecommunications are provided over Telecom Italia's legacy copper network. Currently, there are three main national alternative operators (Fastweb, Vodafone Italia and Wind) and many local and niche operators. However, Telecom Italia is still monopolist in the access network, since no cable has been deployed. Alternative operators are currently investing in Fiber-to-the-cabinet (FTTC) networks, which require the access to Telecom Italia's sub-loop (Caio et al., 2013). Therefore, in the near future access regulation is expected to keep its relevance.

The access to Telecom Italia's infrastructure has been enforced by AGCom, consistently with the EU regulatory framework and the ladder-of-investment principle (Cave, 2006). The competitors may choose among three different wholesale access services, which require a different investment. The wholesale line rental (WLR) does not need any relevant investment, since the OLO buying WLR just resells the voice services entirely managed by the incumbent. Likewise, the OLO buying bitstream (wholesale broadband access or WBA) does not need to invest in a capillary network. Instead, local loop unbundling (LLU) requires larger investments, since the OLO needs to deploy its own infrastructure up to the Telecom Italia's local exchange, where to collocate its own equipment. Telecom Italia also provides the OLOs with ancillary services such as the activation and the maintenance of retail lines.

Since 1998, AGCom has imposed on Telecom Italia (as the SMP operator) the following obligations: transparency, non-discrimination, accounting separation, third-party access and price control. AGCom defines the procedures and the fees for wholesale access and ancillary services, rules the disputes between competitors and safeguards consumers, by penalising the operators for unfair conducts (Trovato, 2012).

AGCom's first mandate (1998-2005) was focused on establishing a set of rules to promote entry in the market. Competition was mainly based on carrier selection and carrier pre-selection: the local loop unbundling has been developed since 2004. During the second mandate (2005-2012), AGCom promoted competition and investments. In 2005, bitstream was introduced to provide wholesale broadband access to OLOs and, since 2006, Telecom Italia must provide wholesale line rental (WLR) in the local exchanges, where no LLU operators have invested. Finally, in order to foster infrastructure-based competition, different services have been charged consistently with the ladder-of-investment principle. Up to now, AGCom is committed to the promotion of NGA investments.

The fixed telecommunications market is also under the jurisdiction of AGCM, the national antitrust authority. AGCM has identified eleven infringements of antitrust law by Telecom Italia, mainly related to market foreclosure and market pre-emption. In 2013, AGCM fined Telecom Italia for technical boycott and predatory pricing.

4. ANTICOMPETITIVE CONDUCTS IN LITERATURE

Many authors have studied the anticompetitive conducts from a theoretical perspective. For Salop et al. (1983) and Economides (1998) the incumbent has an incentive to raise rival's costs and downgrade its quality. Rubinfeld et al. (2001) described how a vertically integrated ISP could block or worsen the quality of contents provided by its competitors in the downstream market. Kim et al. (2006) analysed the anticompetitive effects of bundles, in the fixed-mobile convergence. Moreover, Brito et al. (2012) stated that vertical integration leads to discrimination against retail entrants, while vertical separation does not guarantee its elimination.

Few studies have focused on anticompetitive conducts from an empirical perspective. Globerman (1985) analysed the policy alternatives to address anticompetitive behaviours comparing their costs and benefits. Squire Sanders et al. (2002), using a survey among 250 entrants in the local loop sector, analysed various anticompetitive behaviours and their effects on competitors. Two classes were identified: behavioural impediments (refusal to supply, unjustifiable delays, discriminatory terms, tying) and cost-related issues (discriminatory prices, excessive prices and predatory prices). A further classification was outlined by ERG (2003), where eighteen anticompetitive conducts were grouped in four different market constellations (Figure 1). Siotis (2010) studied the Spanish incumbent's

strategies in the directories market, focusing on the estimation of damages. Pontarollo et al. (2004) analysed the Italian incumbent's anticompetitive strategies to identify and model its reaction to ex-ante regulation in the period 1998-2003: the anticompetitive behaviours changed according to the competition and regulation evolution.

Figure 1: anticompetitive conducts by market constellation

Market constellation	Competition problems
Case 1: vertical leveraging	1.1. refusal to deal/denial of access 1.2. discriminatory use or withholding of information 1.3. delaying tactics 1.4. bundling/tying 1.5. undue requirements 1.6. quality discrimination 1.7. strategic design of product 1.8. undue use of information about competitors 1.9. price discrimination 1.10. cross-subsidisation 1.11. predatory pricing
Case 2: horizontal leveraging	2.1. bundling/tying 2.2. cross-subsidisation
Case 3: single market dominance	3.1. strategic design of product to raise consumers' switching costs 3.2. contract terms to raise consumers' switching costs 3.3. exclusive dealing 3.4. over-investment 3.5. predatory pricing 3.6. excessive pricing 3.7. price discrimination 3.8. lack of investment 3.9. excessive costs/inefficiency 3.10. low quality
Case 4: termination	4.1. tacit collusion 4.2. excessive pricing 4.3. price discrimination 4.4. refusal to deal/denial to interconnect

Source: ERG (2003), p. 31.

5. METHODOLOGY

The data on anticompetitive strategies in Italian fixed telecommunications have been collected across AGCom and AGCM resolutions issued between 2004 and 2012, concerning the following topics: market analysis, reference offers, litigations between operators, antitrust inquiries.

A conduct has been considered anticompetitive if at least one of these conditions is met:

- It infringes competition law and it has been fined by the Antitrust Authority;
- It either infringes or misapplies the incumbent's obligations leading to NRA interventions.

Six markets have been analysed: four wholesale markets (local loop unbundling, colocation, wholesale broadband access, wholesale line rental) and two retail markets (directories and non-geographic numbers). For each market, both the incumbent's behaviours and the regulators' actions have been tracked in a timeline to display the chronological evolution of their interplay (Annex 1). The relationship between anticompetitive conducts and regulation has been analysed both within and across the markets. An overall analysis about the distribution of anticompetitive conducts has been developed, in order to assess the regulation impact on the incumbent's incentive and ability to exert market power.

6. THE EVOLUTION OF ANTICOMPETITIVE CONDUCTS FROM 2004 TO 2012

Telecom Italia anticompetitive behaviours from 2004 to 2012 have been listed in Table 1 and then grouped by tools and targets.

Five anticompetitive tools have been identified:

- Timing: the incumbent controls the pace of regulation and competitors operations;
- Price: the incumbent charges discriminatory fees to raise the competitors' costs and squeeze their profit;
- Quality: the incumbent provides the upstream customers with low quality, to harm their reputation and retain the downstream customers;
- Vertical Leverage: the incumbent provides the downstream customers with offers, which are not replicated to the upstream customers and/or cannot be replicated by them;
- Information: the incumbent discloses suboptimal information to mislead regulation and obstacle competition.

Anticompetitive conducts may be targeted to either the competitors or the regulator. The former impact directly upon the OLOs profitability, increasing their costs or harming their reputation in the retail market. The latter stifle competition indirectly, by misleading the regulatory process into suboptimal regulation reinforcing the incumbent power.

By matching the anticompetitive tools and the targets, the anticompetitive behaviours from 2004 to 2012 may be classified in the matrix displayed in Table 2.

Table 1: anticompetitive conducts in Italian fixed telecommunications (2004-2012)

Cross subsidisation
Delaying tactics
Excessive pricing
Inefficiency
Lack of investment
Low quality
Predatory pricing
Price discrimination
Quality discrimination
Refusal to deal
Undue charges
Undue requirements
Withholding of information

Table 2: the matrix of anticompetitive tools and targets

Tools \ Target	COMPETITORS	REGULATOR
PRICE	Excessive pricing Undue charges Predatory pricing	
QUALITY	Quality discrimination Lack of investment Inefficiency	
MARKET LEVERAGE	Price discrimination Cross subsidisation	
INFORMATION	Withholding of information	Withholding of information
TIMING	Refusal to deal Undue requirements	Delaying tactics

Once identified the origin of anticompetitive strategies, their trend has been analysed over time and across markets. The timing of anticompetitive conducts is summarized in Table 3 and Table 4.

Quality results to be the most frequently applied tool, followed by price and information. Both price and quality are mostly applied to the ancillary services, rather than in the network segment. Information is mostly used to interfere with regulation, given that most of the fees are based on the incumbent's costs. Even if the incumbent is forced to disclose its regulatory accounting, it still can take advantage of asymmetric information. Timing is used when either a new remedy is introduced or a new service is liberalised, to delay entry and competition in certain areas or certain markets. The incumbent may also apply this tool to influence the new technology adoption path.

By analysing the distribution of anticompetitive behaviours over nine years, they are less common in 2004 and 2005, while they increase from 2006 to 2012, with a peak in 2007. As reported in Table 6, the strategies mainly concern the wholesale access markets. As colocation is a complementary service to LLU, we can conclude that LLU operators are the main targets of such strategies as they are the most effective threat to the incumbent's dominance.

In summary, by analysing the anticompetitive behaviours of Telecom Italia from 2004 to 2012, the following findings can be gathered:

- The incumbent still has the incentive and the ability to deploy anticompetitive strategies;
- The incumbent mainly focuses its anticompetitive behaviours on the wholesale markets and particularly on LLU operators;
- Compared to the early stage of liberalisation, the focus of anticompetitive strategies has shifted from price to quality tools, from the network to the ancillary services;
- Since the strategy of denying access to the infrastructure is no longer feasible, timing is mainly applied to delay the implementation of new remedies;
- Information is mainly used to distort and sabotage regulation, which still relies upon the incumbent's information about the network and its costs.

Table 3: distribution of tools per year²

Tools Target/ Scope	PRICE		QUALITY		LEVERAGE	TIME		INFORMATION			
	competition		competition		competition	competition	regulation	competition		regulation	
	network	services	network	services				network	services	accounting	
2004	0	0	0	0	0	1	1	0	1	0	3
2005	0	1	0	0	1	0	0	0	0	0	2
2006	2	3	1	1	1	1	1	1	0	2	13
2007	2	1	0	5	2	3	0	2	1	0	16
2008	2	2	1	4	0	0	0	1	0	1	11
2009	3	3	2	3	1	0	0	1	0	0	13
2010	3	3	1	4	0	1	0	0	0	2	14
2011	2	1	3	3	0	2	0	0	1	0	12
2012	0	1	2	4	0	0	0	0	1	1	9
Target /scope	14	15	10	24	5	8	2	5	4	6	
TOTAL	29		34				10		15		

² Conducts related to reference offers (such as excessive fees and undue fees) are reported in the year which the reference offer is applied to. For instance: the excessive fee for service of relocation in the reference offer for 2008 is reported as a anticompetitive conduct in 2008, as it would be applied in 2008 (even if the RO was issued in 2007). On the contrary, conducts reported in the ROs but related to previous time (such as disruptions in the activation of lines) are reported to the year of issue, unless the specific period is not specified.

Table 4: the distribution of anticompetitive conducts per year and across the markets

	2004	2005	2006	2007	2008	2009	2010	2011	2012	
LLU	0	0	3	4	1	5	4	4	0	21
WLR	0	0	0	8	3	1	3	3	3	21
WBA	0	0	4	1	3	4	3	2	4	21
COLOCATION	0	0	3	1	4	2	3	3	2	18
NNG	2	0	1	0	0	1	1	0	0	5
12XY	1	2	2	2	0	0	0	0	0	7
total	3	2	13	16	11	13	14	12	9	93

Table 5: the distribution of tools across the markets

Tools	PRICE		QUALITY		LEVERAGE	TIME		INFORMATION			
	competition		competition		competition	competition	regulation	competition		regulation	
	network	services	network	services				network	services	accounting	
LLU	2	3	2	8	3	1	0	0	1	1	21
WLR	3	2	0	9	1	2	0	2	2	0	21
WBA	3	1	5	4	0	2	1	2	0	3	21
COLOCATION	5	5	3	2	0	1	0	1	0	1	18
NNG	1	0	0	1	0	2	0	0	1	0	5
12XY	0	4	0	0	1	0	1	0	1	0	7

Table 6: distribution of anticompetitive tools by market

	PRICE	LEVERAGE	QUALITY	TIME	INFORMATION	
LLU	5	3	10	1	2	21
WLR	5	1	9	2	4	21
WBA	4	0	9	3	5	21
COL	10	0	5	1	2	18
NNG	1	0	1	2	1	5
12XY	4	1	0	1	1	7
	29	5	34	10	15	

7. THE EVOLUTION OF REGULATION FROM 2004 TO 2012

A summary of ex-ante and ex-post regulation milestones from 2004 to 2012 is outlined in Table 7.

In this period, Telecom Italia has been fined by AGCM three times. The first AGCM intervention (against conducts deployed from 2001 to 2003) impacted upon the incumbent's incentive to deploy anticompetitive conducts: in 2004 and 2005, anticompetitive behaviours were negligible. The antitrust action was effective in promoting the enforcement of access regulation, as Telecom Italia had committed to enforce the local loop unbundling since 2004. The second sentence had a smaller impact, since the slight decline of anticompetitive strategies in the WBA market had been offset by the increase in the WLR market. In fact, WBA and WLR are provided in the same areas (where LLU is not available) and bought by the same operators (those who buy shared bitstream to provide broadband services and WLR to provide voice services). Finally, a third conviction was issued 4 years later to punish the ongoing technical boycott in the wholesale markets.

The latest sentence by AGCM confirms that anticompetitive conducts are increasingly related to the provision of ancillary services, while in the early stage of liberalisation they were focused on the provision of network access. Ex-ante regulation has proved to be effective in granting the access to the incumbent's network: Telecom Italia is no longer able to deny the access to its infrastructure. The regulation has in fact modified the range of foreclosure strategies an incumbent may deploy: from deny-delay-detail to delay-detail-downgrade.

Instead of denying the access to its infrastructure, now the incumbent downgrades the quality of network facilities and ancillary services provided to its competitors.

The low quality of ancillary services (mainly for the activation and migration of lines) has been reported by AGCom every year since 2008. A set of procedures, KPIs and SLAs has been defined, to prevent such discriminatory conducts, but the presence of asymmetric information largely hindered the expected results. As long as the incumbent entirely manages these services, it can dupe ex-ante regulation, because both the regulator and the OLOs have suboptimal information and cannot monitor the quality and costs of these processes.

Table 7: regulatory milestones from 2004 to 2012

	EX-ANTE REGULATION		EX-POST REGULATION
	Access regulation	Price regulation	
2004			TI is fined 152 mln € for price discrimination and predatory pricing in the business market from 2001 to 2003
2005			
2006	Introduction of WBA	Price cap (LLU) Retail minus (WBA) Cost-oriented (COL)	
2007	Introduction of WLR	Price cap (LLU) Retail minus (WBA-WLR) Cost-oriented (COL)	Antitrust enquiry about TI's retention strategies in retail market
2008	TI's undertakings are defined and implemented	Cost-oriented (LLU-COL) Retail minus (WBA-WLR)	TI's undertakings are accepted by AGCM
2009	Market analysis	Cost-oriented (LLU-COL) Retail minus (WBA-WLR)	Telecom Italia is fined for the disruptions in WBA activation process
2010	Market analysis	Since 1 st June: Price cap (LLU- WBA-WLR)	
2011		Price cap (LLU-WBA-WLR)	
2012		Price cap (LLU- WBA-WLR)	
2013		Cost-oriented (LLU-WBA-WLR-COL)	TI is fined 100 mln € for technical boycott and predatory pricing (in 2009 and 2010)

The relationship between price regulation and conducts cannot be outlined clearly, but obviously when price caps are applied, prices cannot be largely used strategically. However Telecom Italia is always able to influence price regulation through its information advantage. As a matter of fact, this tool was mostly deployed during the period of price review: in 2006

(AGCom was defining the price cap for 2006-2007), in 2008 (the access price was cost oriented, because the previous price cap had expired) and in 2010 (AGCom was defining the new price cap for 2010-2012). The price strategy is more frequently applied to colocation and ancillary services, whose prices are based on the costs reported in the incumbent's regulatory accounting. Due to asymmetric information, the incumbent may still transfer its inefficiencies to the competitors through the wholesale fees.

Moreover, the timing of regulation directly affects the timing of competition, because it shapes the incentive to enter the market and affects the investment payback period. By tracking the anticompetitive conducts and the regulatory actions, it is possible to measure the promptness of regulatory interventions in counteracting the incumbent's behaviours.

The timeliness of ex-ante regulation may be assessed relative to the implementation of remedies and to the approval of reference offers. From 2004 to 2012, one retail market (directories) was liberalised and two remedies in the wholesale markets were introduced (bitstream and WLR). The directories liberalisation was expected on 1st January 2005, but it was actually completed on 1st October 2005. AGCom forecasted 290 days to liberalise the market, but it was effectively implemented in 563 days³. Likewise, it took 435 days⁴ to implement the bitstream services, because the NRA was not effective in counteracting Telecom Italia delaying strategies. Instead, the WLR was implemented in 314 days⁵, since no delaying tactics were deployed by Telecom Italia in this stage. However, the process to manage the synchronised activation of WLR and bitstream on the same line was definitely outlined only in February 2012, namely 3 years (1219 days) since this flaw in the activation process was identified.

By analysing the timing of price regulation, similar conclusions may be gathered.

The average time to approve a reference offer (by its release date and its effective date) is summarised in Table 8. Since 2008, Telecom Italia releases the reference offers in October, as imposed by the NRA. However, AGCom usually approves the offers in more than eight months: accordingly the OLOs run their business for eight months ignoring the wholesale inputs prices for their retail services. These delays increase market uncertainty, thereby deterring OLOs

³ On 17th March 2004, the resolution 01/04/CIR set the deadline for directories liberalisation on 1st January 2005. The alternative directories were effectively launched on 1st October 2005.

⁴ A technical committee was set by resolution 11/06/SG on 14th March 2006 to design the bitstream services. The technical specifications were definitely set by resolution 249/07/CONS on 23rd May 2007.

⁵ The WLR provision was imposed to Telecom Italia by resolution 33/06/CONS on 19th January 2006. The service was defined by resolution 694/06/CONS on 29th November 2006.

from investing and encouraging the incumbent to deploy anticompetitive conducts to reinforce its first-mover advantage.

Table 8: average time to approve a reference offer

	Days from the release date	Days from the effective date
LLU	252	226
COLOCATION	264	261
WBA	301	351
WLR	240	197

8. CONCLUSIONS: SOME TIPS FOR NEXT REGULATION

By analysing the interplay between the incumbent and the regulator in the Italian fixed telecommunications, it is possible to point out the following weaknesses of ex-ante regulation:

- Ex-ante regulation has proved to be effective in granting access to the incumbent infrastructure, but it has not been able to prevent and discourage discrimination in the provision of ancillary services, such as the activation and migration of lines;
- Asymmetric information is still a key issue. It affects the efficiency of price regulation, mainly when it is related to the incumbent's costs;
- A delay in the implementation of pro-competitive remedies undermines their expected beneficial effect: ex-ante regulation needs to be reactive and timely to discourage anticompetitive behaviours and ensure a level playing field.

The quality of ancillary services should be a priority in the regulatory agenda. They are offered in bundle with network access even if they are not a natural monopoly and they are partially outsourced. On the one hand, vertical integration of network and ancillary services is expected to reduce transaction costs but, on the other hand, it encourages discrimination against competitors to retain retail customers. By providing low quality ancillary services to its competitors, the incumbent may retain customers from migrating. In a NGA scenario, the provision of ancillary services may help the incumbent to pre-empt the NGA market.

Nowadays, the ancillary services provision may be implemented according to two different models (BEREC, 2010): the equivalence of input (EOI) or the equivalence of output (EEO). The former involves the same processes and informative systems to deliver the services both to competitors and the incumbent's retail division. The latter implies comparable services for competitors and for the retail division in terms of price and functionality, despite they are delivered through different processes and systems. The EEO implemented by AGCom has proved to be ineffective in preventing discriminatory conducts. As stated in Recommendation 2013/466/EU, the application of EOI is the surest way to achieve effective non-discrimination, but its imposition is not always proportioned, due to high implementation costs. A third way to prevent discrimination may be the unbundling of ancillary services, as implemented by the Belgian NRA. In this country OLOs may decide to have their lines activated by a certified technician rather than by the incumbent workforce (IBPT, 2011). As a consequence, the OLOs can directly negotiate the service quality and differentiate the retail services to better address consumers' needs. In spite of any implemented model, the regulator needs to prevent the incumbent from extending its market power from the network access to the ancillary services.

Nevertheless, a new approach is needed to reduce asymmetric information and improve regulation. Transparency obligations set in the early stage of liberalisation have been effective to grant access to the incumbent's infrastructure. On the other hand, the incumbent is still able to mislead price regulation and transfer its inefficiencies to its competitors. To prevent this regulatory capture, the transparency obligations should be better enforced and price regulation should not rely so much on the incumbent's information. As a matter of fact, in fifteen years the NRAs have gathered enough knowledge and data to develop a price regulation independently from the incumbent's information. The European institutions may play a crucial role in this process by collecting the best practices across Europe and defining a target benchmark which NRAs may adopt. Given some countries differences, the timing for technical activities, the mark-up for indirect costs and the technologies performance are standardised and should be assumed homogeneous in the European single market. Hence, the fees for cost-oriented services could be defined on European standards, rather than on the performances and costs disclosed by the incumbent. This would also force the incumbent to adopt the best practises and increase its efficiency.

Finally, a timely regulation is needed to discourage anticompetitive conducts and reduce the market uncertainty. This goal is strictly related to the ones previously outlined. The delays in

regulation are mainly due to asymmetric information, as the regulator lacking information is unable to make prompt decisions. Nevertheless, quality and service regulation is more complex than price and access regulation, since to measure quality is more difficult and services cannot be easily monitored. Hence, reducing the scope for a strategic behaviour in the provision of ancillary services and in the regulatory process would reduce the burden for the regulator and speed up ex-ante regulation. It may also reduce the litigations between the incumbent and the operators, which increase the uncertainty in the market.

In conclusion, the end and the means overlap: to promote competition and prevent anticompetitive conducts, the regulator needs to limit the scope of the incumbent for exerting its power both in the market and in the regulatory process.

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LIST OF ACRONYMS AND ABBREVIATIONS

AGCM	Autorità Garante della Concorrenza e del Mercato
AGCom	Autorità per le Garanzie nelle Comunicazioni
BEREC	Body of European Regulators for Electronic Communications
BOBO	Billing on Behalf of
COL	Colocation
EOI	Equivalence of Input
EOO	Equivalence of Output
ERG	European Regulatory Group
FTTC	Fiber to the Cabinet
IBPT	Institut Belge des Services Postaux et des Télécommunications
OLO	Other licensed operator
OTA	Office of the Telecoms Adjudicator
NNG	Non Geographic Number
NRA	National Regulatory Authority
IP	Internet Protocol
LLU	Local Loop Unbundling
SMP	Significant Market Power
TI	Telecom Italia
WBA	Wholesale Broadband Access
WLR	Wholesale Line Rental

ANNEX - TIMELINES OF ANTICOMPETITIVE CONDUCTS AND REGULATION IN THE FIXED TELECOMMUNICATIONS (2004-2012)

1. LOCAL LOOP UNBUNDLING

ANTICOMPETITIVE CONDUCTS		REGULATION		days
		12/01/06	04/06/CONS (AGCom) Two-year price cap (CPI - 4,75%) from 1 st Jan 06	
RO 2006 • Fees are computed on the wrong basis • Excessive fault rate of splitter	03/03/06	20/12/06	83/06/CIR (AGCom) • The fault rate of splitter must decrease • Retail discounts must be applied also to the wholesale customers (within 30 days from the launch of the offers in the retail market)	292
Retail offers cannot be replicated by OLOs: • monthly fee is set at LLU price, • retail discounts are not applied to the wholesale customers.				
RO 2007 • The service of relocation is not provided to OLOs' customers • The timing of fault repair is not consistent with previous regulation • Frequent disruptions in the migration process from LLU data to full LLU	21/03/07	02/08/07	107/07/CIR (AGCom) • The service of relocation must be provided also to OLOs customers • Fault repair must be provided according to previous regulation • Apply the ongoing regulation about migration also to LLU data	134
OLOs are not informed about the postponement of discounts related to the installation of new lines	05/04/07	25/09/07	487/07/CONS (AGCom) TI is fined for delayed communication about retail discounts	173
RO 2008 • Frequent disruptions in the migration process from LLU data to full LLU • Excessive fees for the service of relocation	31/10/07	16/10/08	69/08/CIR (AGCom) • The ongoing regulation about migration must be applied also to LLU data • The fee for relocation is reduced by 40%	351
RO 2009 • The monthly rental and the non recurring fees for LLU and SLU are increased by 22% • The fee for migration from SA to LLU increase by 50% • An additional fee is introduced for NTE reactivation	23/10/08	24/03/09	14/09/CIR (AGCom) • The monthly rental and non recurring fees can increase only by 11% • The monthly rental and the non recurring fees for SLU cannot increase • The fee for migration from SA to LLU can increase only by 21% • The fee for NTE reactivation must be excluded from RO	152
A high percentage of line activations and migrations to OLOs is rejected	2009/2010	23/06/10	RESOLUTION 21277 (AGCM) Antitrust enquiry into Telecom Italia for violating art. 102 TFUE	

Predatory pricing for business services in LLU areas, subsidized by non LLU areas (where competition is weaker)			(price discrimination and technical boycott)	
RO 2010 <ul style="list-style-type: none"> An accounting appreciation is applied to the hourly cost of labour An excessive fee is set for NTE reactivation Activations of OLOs customers are rejected if extra works are required 	30/10/09	22/07/10	53/10/CIR (AGCom) <ul style="list-style-type: none"> The fee for NTE reactivation is reduced by 25% The hourly cost of labour is reduced by 7% Extra works must be provided also to OLOs customers 	265
RO 2011 SHDSL is provided only on a single pair	29/10/10	11/11/11	148/11/CIR (AGCom) <ul style="list-style-type: none"> SHDSL must be provided also on two pairs 	378
RO 2012 <ul style="list-style-type: none"> Inefficient management of downgrades A high % of activation orders is either postponed or rejected without reason 	27/10/11	07/5/12	93/12/CIR (AGCom) <ul style="list-style-type: none"> Penalties are set in case of undue Kos 	193
In case of new lines activations, TI often bills works in the distribution network without providing the information required by previous regulation (89/11/CIR)			36/12/CIR (AGCom) In case of new lines requiring works in the distribution network, TI must display detailed information about the technical interventions	

2. COLOCATION

ANTICOMPETITIVE CONDUCTS		REGULATION		days
RO 2006 <ul style="list-style-type: none"> Regulatory accounting is not updated The increase in cost per m² is not justified by technological changes and is inconsistent with previous regulation The price per kWh is excessive Power supply is provided only on a forfeit basis (1 KW): pricing is not linked to actual consumption. 	03/03/06	20/12/06	83/06/CIR (AGCom) <ul style="list-style-type: none"> Colocation accounting must be displayed in a specific section of regulatory accounting The price per kWh is set at 0,095 €/KWh (instead of 0,1373 €/KWh) Power supply must be diversified to address the different amount of KW consumed by OLOs (0,25 KW, 0,5 KW, 0,75 KW) 	292
RO 2007 Co-mingling is provided only in new opening LLU local exchanges.	21/03/07	02/08/08	107/07/CIR (AGCom) Co-mingling must be provided in any LLU exchange.	500

<p>RO 2008</p> <ul style="list-style-type: none"> •Prices are increased in average by 10% •The price per m² is increased due to dismissal and rent of local exchanges; •Inefficiencies in feasibility studies: excessive timing and prices, •Lack of detailed information about overstocked local exchanges. 	31/10/07	16/10/08	<p>69/08/CIR (AGCom)</p> <ul style="list-style-type: none"> • The price per m² and the price per kWh are reduced; • The process for feasibility studies must be improved; • TI must inform OLOs trimonthly about the requests of access by OLOs and TI retail rejected over the total number of requests 	351
<p>RO 2009</p> <ul style="list-style-type: none"> •The prices of power supply and air-conditioning increase by 30% •The prices of feasibility studies increase by 6%; 	23/10/08	24/03/09	<p>14/09/CIR (AGCom)</p> <p>The price per kWh is reduced by 7%.</p> <p>The price of feasibility studies is reduced by 6%.</p>	152
<p>RO 2010</p> <ul style="list-style-type: none"> •The price per m² increases by 6%; •Increases in power supply and air conditioning fees, especially for OLOs' equipment •Dissipation factor is set at an inefficient level (despite the Resolution n° 14/09/CIR required a review of this parameter) 	30/10/09	22/07/10	<p>53/10/CIR (AGCom)</p> <ul style="list-style-type: none"> •Yearly fees are reduced by 4% in average •The fees of power supply are reduced (up to - 19%) •Dissipation factor must be reduced 	265
<p>RO 2011</p> <ul style="list-style-type: none"> •Power supply and air conditioning fees increase up to +40%, mainly due to an increase in the assurance costs; •Yearly fees increases by 3%; •OLOs are not allowed to sublet their area in the local exchanges (this would lead to a better allocation of space and prevent local exchange from saturation). 	11/04/11	13/07/11	<p>148/11/CIR (AGCom)</p> <ul style="list-style-type: none"> •Yearly fees are reduced by 8%; •The fees of power supply and air conditioning are reduced (up to - 40%) •OLOs are allowed to sublet their areas 	93
<p>RO 2012</p> <ul style="list-style-type: none"> •The price per kWh increases by +12,48%, in spite of the opposite trend in the market; •Feasibility studies are priced according to the timing defined in 2000; •OLOs are not allowed to choose different power supply and air conditioning services in the same local exchange 	27/10/11	07/05/12	<p>93/12/CIR (AGCom)</p> <ul style="list-style-type: none"> •The price per kWh is reduced by 2%; •The timing of feasibility studies is reduced by 30%; •OLOs are allowed to diversify their purchasing of power supply and air conditioning in the same local exchange 	193

3. BITSTREAM

ANTICOMPETITIVE CONDUCTS		REGULATION		days
		14/03/06	11/06/SG (AGCom) A technical committee is set to define the specifications of bitstream services	
In the first proposal by TI, Ethernet/IP services are not included	07/03/06	06/06/06	Note by AGCom Ethernet/IP services must be included in the RO	91
The second proposal includes Ethernet/IP services, but the fees are not displayed	10/07/06	23/05/07	249/07/CONS (AGCom) Economic and technical features of bitstream services are set	317
In the third proposal: <ul style="list-style-type: none"> • SLAs are not consistent with those defined by previous AGCom resolutions, • the specifications of Ethernet/IP services do not guarantee a high quality standard; • No detailed accounting is provided 	04/08/06			
RO 2007 Excessive prices for the band and symmetric bitstream lines	13/06/07	21/12/07	133/07/CIR (AGCom) <ul style="list-style-type: none"> • The monthly fees for symmetric lines are reduced by 10% • The fees for band configurations are reduced by 33% in average 	191
RO 2008 <ul style="list-style-type: none"> • Excessive fee for the migration from ATM to Ethernet • Excessive prices for Ethernet services 	01/02/08	24/03/09	13/09/CIR (AGCom) <ul style="list-style-type: none"> • The migration fee is reduced by 61% • The prices for Ethernet services are reduced by 40% in average 	417
68% of activations is either rejected or delayed.	Jan2008-mar 2009	18/06/09	Resolution 20121 (AGCM) TI is fined for the disruptions in the activation and migration process	
RO 2009 The charges for some symmetric line increase sharply, because they require an additional link to be deployed. Detailed information about these lines will be available only in November 2009.	22/07/09	26/11/09	71/09/CIR (AGCom) An average price is set for symmetric lines	127
Neither TI nor OLOs can provide new lines in the retail markets because local exchange are overfilled. In addition, downgrades are increasing.	2010	09/12/10	105/10/CIR (AGCom) <ul style="list-style-type: none"> • Ethernet services with CoS=3 must be included in the RO • The monthly rental for the termination equipment is reduced by 30% 	308

RO 2010 <ul style="list-style-type: none"> • Inefficient equipment is provided to the OLOs • Accounting data about transportation are not provided • Ethernet services with CoS = 3 are not provided 	04/02/10		<ul style="list-style-type: none"> • Specific SLAs are defined to reduce the downgrades • Telecom Italia must inform the OLOs about overfilled local exchange 	
RO 2011 <ul style="list-style-type: none"> • OLOs are not allowed to share the costs of Ethernet equipment 	29/10/10	20/12/11	158/11/CIR (AGCom) <ul style="list-style-type: none"> • A price per port is set for Ethernet equipment • The ATM services end of sales is postponed to 31/12/13. • A technical committee is set to manage the migration from ATM to Ethernet 	417
TI announces that ATM services will reach end of sales on 1 st January 2012	30/06/11			173
RO 2012 <ul style="list-style-type: none"> • Accounting data about the band are not available • OLOs are not allowed to migrate to Ethernet more than 20 lines per local exchange • Technical constraints are imposed to OLOs in the band management and in the usage of active equipment • The provisioning of VLAN is inefficient • High % of activations either rejected or postponed 	27/10/11	04/10/12	94/12/CIR (AGCom) <ul style="list-style-type: none"> • Any technical limitation in the band management is removed • The SLAs and penalties about the provisioning process must be updated • The limit of 20 lines in the migration process is removed 	343

4. WLR

ANTICOMPETITIVE CONDUCTS		REGULATION		days
		19/01/06	33/06/CONS (AGCom) TI is obliged to provide WLR by December 2007	
RO 2007 <ul style="list-style-type: none"> • WLR is not provided in those LLU local exchanges, where LLU is not available due to technical reasons • Information about WLR local exchanges are displayed only upon signing the contract • Traffic bonus are not applied to wholesale costumers • If a line is deactivated within a year from its activation, the remaining monthly rentals are billed 	15/01/07	09/10/07	14/07/CIR (AGCom) <ul style="list-style-type: none"> • WLR must be provided also in those LLU local exchanges, where LLU is not available due to technical reasons • The list of WLR local exchanges must be publicly disclosed • The traffic bonus must be applied also to wholesale costumers • TI must stop the billing of rentals as soon as the line has been deactivated 	267

RO 2008 <ul style="list-style-type: none"> Information about WLR lines are provided only to tender bid winners The provision of WLR is interrupted once LLU is available in the local exchange SLA premium are not available for WLR assurance Disruptions in ISDN migration from TI to OLO 	30/11/07	02/07/08	48/08/CIR (AGCom) <ul style="list-style-type: none"> Information about WLR lines must be displayed to any OLO who committed to purchase WLR services WLR must be provided until the contract expires SLA premium must be applied also to WLR New rules are set for ISDN migration 	215
WLR and shared bitstream cannot be activated on the same line in syncr	28/10/08	29/02/12	The process to activate WLR and bitstream in syncr is set by the OTA	1219
TI does not inform OLOs about planned service interruptions or general breakdown. OLOs are then charged for undue assurance interventions.	2009	29/07/09	35/09/CIR (AGCom) Detailed information about undue interventions must be provided	
High % of WLR activation rejected without reason	2008/2009	23/06/10	Resolution 21277 (AGCM) Antitrust enquiry into Telecom Italia for violating art. 102 TFUE (technical boycott)	
RO 2010 <ul style="list-style-type: none"> Set-up fee is set at 20€ per line WLR activation fee on a naked bitstream line is set at 70€ An additional fee is introduced for lines transfer 	30/10/09	22/07/10	54/10/CIR (AGCom) <ul style="list-style-type: none"> The set-up fee is set at 5,25 € per line The WLR activation fee on a naked bitstream line is set at 55 € The transfer of line can be replicated by OLOs, then the fee is undue 	265
RO 2011 <ul style="list-style-type: none"> OLOs are always charged for 15 ISDN PRA lines instead of the effective number of lines purchased Migration from naked bitstream to WLR is simultaneous only in case of migration from TI The provisioning and assurance process are not consistent with the previous regulation 	27/10/10	13/07/11	88/11/CIR (AGCom) <ul style="list-style-type: none"> The ISDN PRA monthly rental must be linked to the number of lines purchased The number portability must be provided independently from the donating operator TI must update its provisioning and assurance process consistently with regulation 	259
RO 2012 <ul style="list-style-type: none"> SLA for business users are applied only to 15% of POTS lines The list of KOs justifications is not complete Penalties are not consistent with regulation 	27/10/11	07/05/12	59/12/CIR <ul style="list-style-type: none"> SLA for business users must be applied without limitations All KOs justifications must be reported and described in the RO Penalty must be computed according to previous regulation 	193

5. NON GEOGRAPHIC NUMBERS

ANTICOMPETITIVE CONDUCTS		REGULATION		days
RO 2004 <ul style="list-style-type: none"> • 90 days are required by TI to set up NNGs, while TI's NNGs are set up in 15 days. • OLOs are required to provide detailed information about the retail services provided over the NNGs 	31/10/03	14/04/04	03/04/CIR (AGCom) <ul style="list-style-type: none"> • Any NNG must be set up by 30 days from the OLOs' request • TI is not allowed to request information about the retail services provided over the NNGs 	166
The activation of TI's NNGs is notified at short notice (10 days)		30/05/06	19/06/CIR (AGCom) TI must notify the activation of its NNGs by 15 days before the activation	
RO 2009 The invoicing process is defined so that the invoicing cycle time increases by 46 days	30/10/08	24/07/09	42/09/CIR (AGCom) The invoicing process must be modified to reduce the invoicing cycle time	267
The fee for voice collection from mobile users is set at 14 €cent/min.	01/11/10	21/09/11	111/11/CIR (AGCom) The fee for voice collection from mobile users is set at 10,09 €cent/min.	324

6. DIRECTORIES

ANTICOMPETITIVE CONDUCTS		REGULATION		days
		17/03/04	01/04/CIR (AGCom) Directories (12XY) are liberalised since 1 st January 2005	
TI asks AGCom for postponing the launch of alternative directories.	14/05/04	03/11/04	15/04/CIR (AGCom) The launch of alternative directories is postponed to 1 st July 2005. In the meanwhile, TI must inform its customers about the activation of alternative directories.	173
RO 2005 The fee for Billing on Behalf of (BOBO) is increased by 255% (from 2,9% to 10,3%)	29/10/04	09/05/05	1/05/CIR (AGCom) The fee for BOBO is set at 2,9%	192
Customers calling the TI's directories (12) are not informed about the forthcoming launch of alternative directories	March 2005 - June 2005	16/06/05	21/05/CIR (AGCom) TI is fined for having infringed the disclosure obligations defined by 15/04/CIR	

RO 2006 The fee for Billing on Behalf of (BOBO) is increased by 214% (from 2,9% to 9,1%)	28/10/05	30/05/06	19/06/CIR (AGCom) The BOBO fee is set at 3,1%	214
TI does not apply the fee set by Resolution 19/06/CIR	1/1/06 – 25/07/06	06/09/06	Note (AGCom) TI must apply the fee set by 19/06/CIR since 1 st January 2006	43
		28/06/07	59/07/CIR – 60/07/CIR TI must refund the OLOs for the excessive fees charged until 25/07/06	338
RO 2007 The fee for Billing on Behalf of (BOBO) is set at 9,1%	30/10/06	02/08/07	107/07/CIR <ul style="list-style-type: none"> • The fee for BOBO is set at 0,81 € per call. • TI must include directories in the list of NNGs 	276
The list of NNGs does not include the alternative directories				