MULTIPLATFORM COMPETITION AND STATE AID IN DIGITAL TELEVISION: THE ITALIAN CASE

Nicola Matteucci §

Abstract

Digital technologies and new communication platforms may enable a higher degree of market competition and consumer welfare in converging TLC and media markets; sometimes also pluralism. We analyse the recent Italian experience on digital television (DTV), focusing on the introduction of the terrestrial platform (DTT). The launch campaign was actively promoted by State intervention, and focused on consumer subsidies targeted at decoders embedding open standards: its purported ultimate rationale was to promote a fast switch-off of the terrestrial analogue signal (by 2006) and to reduce the digital divide, enabling citizens excluded by conventional Internet access to use interactive services via DTV. These outcomes, in turn, would have enabled new entry and a more pluralistic Information Society.

A few months later, the two main private broadcasters launched pay-per-view services on DTT, challenging the previous quasi-monopoly of Sky in pay-TV. So, at a first sight, DTT seems to have increased the overall level of competition in Italian TV, even without the achievement of the analogue switch-off, which was eventually postponed to 2012.

However, a deeper analysis considering jointly free-to-air and pay-TV markets yields a more problematic picture, and shows that the Italian TV landscape does not fulfil several important conditions established by the New EU Regulatory Framework on electronic communications. First, state intervention in DTT did not solve the chronic spectrum mismanagement and the highly chaotic and concentrated frequencies distribution; rather, it created a more intricate property rights regime. Second, the recent Decision of the EU Commission qualifying Italian decoder subsidies as illegal state aid brings into question the whole Italian DTV policy, which over time seems to have systematically hampered multiplatform competition and the roll-out of new communication platforms. In particular, the main point raised by the Commission is that the measure excludes satellite in a unnecessary and distortionary way, dampening its spontaneous take-off.

Considering that in Italy (coaxial) cable is absent and the roll-out of broadband networks (fibre optic) remains limited, these recent policy initiatives have compromised the digital dividend and restrained new entry in TV markets, thereby reinforcing the media concentration trend taking place world-wide. Finally, despite its centralist policy-induced process of catch-up, DTT remains technically troublesome and its diffusion stagnates. In short, the moral of DTT story appears to be that of a country entrenched in an inferior technological trajectory.

JEL Classification: K21, L13, L41, L51, L82

Keywords: Digital TV, multi-platform competition, analogue switch-off, consumer subsidy, state aid.

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This paper builds on earlier works on DTT and pay-TV in Italy, where more detailed evidence and complementary analysis on the Italian TV industry and the national DTV policy was presented. Given the focus and the space constraints of this paper, some points are here summarized; the interested reader needs to refer to Matteucci (2004,a,b, 2005 and 2007) for a fuller treatment.
1. Introduction

The year 2004 has been a landmark passage for digital TV in Italy: after a period of technical trials, incumbent Italian broadcasters have officially launched digital terrestrial TV services (DTT, henceforth). At the same time, the Italian policy-maker has been strongly supporting DTT, with a variety of means: normative and regulatory intervention, massive advertising campaigns and, above all, generalised consumer subsidies for the purchase of decoders.

In 2005, two other important events occurred. In January the two main private broadcasters, RTI (Mediaset Group) and La7 (Telecom Italia Group), have launched their pay-per-view services, offering Italian Premier League football matches: this ended the quasi-monopoly enjoyed in the pay-TV market by the satellite broadcaster Sky Italia (News Corp. Group). Later in the year, the same two operators undertook the first steps towards the launch of mobile TV services (via the standard DVB-H), which started in 2006.

Most of these facts have been generally interpreted as good news: digital platforms are thought to imply an higher potential of competition and pluralism, and should reshape the hyper concentrated and inertial Italian TV markets, both for free-to-air (FTA, henceforth) and pay-TV services. At the same time, the rapid and publicly-supported introduction of DTT services signals a catching-up effort of both Italian broadcasters and policy-maker with respect to other European countries – such as UK and Germany – which have been heading the early deployments of this platform.

At the same time, a deeper analysis of the Italian case uncover several critical characteristics of its DTT model, finding in it a very low potential for effective platform competition and diffusion of innovative services.

First, chronic spectrum mismanagement remains virtually untouched by the recent DTT policy, and are now challenged by a Commission infringement procedure under Art. 226 of the EU Treaty (see EC, 2006). Second, DTT developments appear to have increased competition on the pay-TV market, but have equally reinforced barriers to entry in the FTA TV, where Italy since the late-Eighties has been facing an analogue “blockaded duopoly” (see Gambaro, 2002), which is likely to transpose into its digital equivalent.

Third, the recent conclusion of a EU Commission procedure for state aid uncover several important shortcomings of the decoder subsidization campaign, which reinforces the fears about the inner lobby nature of the recent activity of the Italian policy-maker.

Likewise, the overall Italian DTT policy underlines a few critical passages of the EU normative framework on DTV and state aid. In particular, some of the provisions of the latter may legitimate member states’ attempts to continue to protect “national champions”, thereby jeopardising the internal market, the consumer welfare and technological innovation.

2. DTV, switch-off and regulation

Broadcasting has always been a sector heavily regulated, for a variety of reasons which often go beyond a pure economic rationale. Moreover, the transition from analogue to digital TV (from now on, respectively, ATV and DTV) and its national outcomes are deeply rooted in a complex set of forces, difficult to disentangle with mono-disciplinary approaches.

It follows that economic analysis needs to be coupled with insights from sociology and politics, such as socio-institutional habits, lobbying strategies and constitutional equilibria (such as power reallocation between member states and the EU). For example, Galperin (2004), from a perspective close to institutional economics, has proposed an articulated reconstruction of the DTV transition in US and UK, highlighting its common international drivers (decline of the Western countries electronics sectors, diffusion of the Information
Revolution policy agenda and new policy approaches to spectrum management), and the differing national outcomes\(^1\). Consequently, according to the different countries, the normatively-guided transition to DTV may easy or even impede entry of new operators, and thereby shape market competition.

In general, the influence of national policy-making remains higher in terrestrial broadcasting, compared to other DTV platforms, mainly due to the traditional national competence on spectrum policy. Differently from the other platforms, terrestrial TV is based on a rival and scarce resource – the electromagnetic spectrum – increasingly useful for value-added personal communication services\(^2\). Consequently, terrestrial broadcasting has been strongly subject to institutional barriers to entry and, since its birth, spectrum management policies (and related processes of private lobbying) have been strongly shaping its technological and market evolution.

These methodological caveats equally apply to the current evolution of terrestrial TV, from analogue to digital (so called “terrestrial switch-over”). In fact, the current policy focus on it is not justified by a superior technological performance, nor by its economic trade-offs\(^3\): here is sufficient to recall the huge costs of digitalization of the terrestrial network, the heavy burden of its operative costs\(^4\), its intrinsic national boundaries and the inferior transmission capacity\(^5\).

### Table 1 – Diffusion of TV platforms in EU households (End-2003, %)

<table>
<thead>
<tr>
<th></th>
<th>ATT (a)</th>
<th>DTT (b)</th>
<th>Cable (c)</th>
<th>Satellite (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>84,2</td>
<td>0</td>
<td>0,3</td>
<td>15,5</td>
</tr>
<tr>
<td>France</td>
<td>67,6</td>
<td>0</td>
<td>11,9</td>
<td>20,5</td>
</tr>
<tr>
<td>Germany</td>
<td>4,3</td>
<td>1,1</td>
<td>56,3</td>
<td>38,3</td>
</tr>
<tr>
<td>Spain</td>
<td>77,2</td>
<td>1,4</td>
<td>7,1</td>
<td>14,3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>41,6</td>
<td>11,5</td>
<td>15,6</td>
<td>31,3</td>
</tr>
<tr>
<td>EU average</td>
<td>43,0</td>
<td>2,5</td>
<td>30,3</td>
<td>24,2</td>
</tr>
</tbody>
</table>

Legend: (a) Households with analogue terrestrial TV (only). (b) Households with digital terrestrial TV. (c) Households with cable TV. (d) Households with satellite TV

Source: EC (2003a; tabb.1-2; sect.8)

Rather, the main advantage of the terrestrial platform stems from its position of incumbency or, in other words, its “first-mover” advantage, both in the market and in the political arena. Moreover, terrestrial TV is generally associate with universal and FTA TV services, so that general (and non-market) interests play a bigger role in the regulation of this platform. Still in

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\(^1\) The latter stem from country-specific factors, such as the organization of the state, the normative orientation of the media policy and the legacy of the analogue TV regime.

\(^2\) The spectrum assigned to terrestrial TV possesses technological characteristics enabling easily portable and mobile TV services (UMTS, DVB-H, etc.). In particular, the lower VHF and UHF spectrum bands, currently used for analogue FTA TV, are particularly valuable since they allow signal transmission to cross physical obstacles (mountains) and enable indoor reception.

\(^3\) A similar view emerges from third party EU commissioned studies: for example Analysis (2005).

\(^4\) A technical study for the EU Commission points that «[…] for the publishers of subscription-based channels or niche free-to-air channels, the fixed transmission cost of a nation-wide DTT broadcast is much higher than the satellite one. A typical budget for a thematic channel is in the range of 5 to 10 million euros, €20m for the top ones; a year of digital transmission through satellite typically costs 0.5 million euros, whereas the cost with nation-wide DTT transmission is about 5 million euros», cfr. BIPE (2002; p.80).

\(^5\) Concerning capacity, we recall that there is a huge gap between the 40-50 national channels (at standard definition) which can be transmitted on a “representative” terrestrial EU country (Italy, UK, France) and the hundreds (more than 1000) which are already broadcasted on the EU-directed satellite transponders. Only on the Eutelsat fleet (the incumbent satellite network operator in Italy), there are currently 415 channels broadcasted in Italian, beside the other hundreds available in other languages.
2003, 43% of the European households were receiving TV services uniquely by the terrestrial platform (see table 1). The same considerations apply to Italy, even in a reinforced way: at the end of 2003 – when DTT was first launched in Italy – the terrestrial platform was reaching a rate of diffusion of 84.2% - almost double with respect to the EU average.

Conversely, the national systems of “command and control” on terrestrial spectrum and the supranational status of satellite broadcasting could equally explain why the latter, despite its intrinsic transmission superiority, has never received a similar support. Nevertheless, satellite has achieved a good diffusion performance (24% on average in 2003, see table 1), and was the first platform to successfully complete the digitalization process, at the end of the Nineties. Moreover, this performance has been significantly hampered by the unviable business models chosen by most satellite pay-TV operators, which have been battling against each other in ruinous wars for premium rights acquisition and technical incompatibility, thereby lowering the platform diffusion.

Also in Italy, despite the strategic errors of the pay-TV satellite operators, the platform has always been popular, thanks to its pervasive national footprint, wide offer (thousands of FTA channels) and the lack of any real multi-channel alternative. However, due to the concentration of the TV advertising market and the absence of a correct and impartial system of audience measurement (see AGCM, 2004), satellite broadcasting has been rather surviving with scarce resources in a FTA market populated by giants. At the start of DTT – end of 2003 - 13.6% of Italian households (see table 1) was receiving TV services only by satellite, but the whole diffusion of the platform was estimated to be around 25%, while recent estimates point to a rate of more than 31%.

Cable TV, instead, can be more easily regulated at the national or local level, and diffused in most European countries as part of the network roll-out financed by the incumbent telecom operator; in particular, some densely populated countries – notably those of Benelux - and others as Germany, developed capillary coaxial networks. Being a wired network, cable does not suffer from tight spectrum constraints (and enjoys a lighter system of authorization), although it remains a natural monopoly expensive to duplicate as most physical networks are. However, cable TV in Italy displays a peculiar story, since it emerged spontaneously but was actively discouraged since the beginning by politics. In fact, the first local cable broadcaster, Tele Biella, was born in 1971 in a normative vacuum. Differently from local terrestrial broadcasting, cable was immediately contrasted by a series of “ad-hoc” Ministerial Decrees and Acts. Then, after some initial favourable Court decisions, a new Law passed in 1975 (n.103) imposed on cable TV a series of irrational conditions, which rendered this platform economically unviable. Moreover, despite being entrusted with the cable network roll-out by legislative reserve, the national TLC monopolist (SIP) refrained to invest on coaxial and fibre networks up to the mid-Nineties. At this point, an ambitious country-wide roll-out plan was launched, called “Socrates”; however, following the privatization of SIP (now Telecom Italia), the Socrate plan was first rescaled and then definitely frozen, while the incumbent and

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6 The rate of diffusion of the terrestrial platform is even higher if we consider that a large part of the remaining households, although having a set connected to cable or satellite, uses terrestrial reception for secondary or tertiary sets.

7 Matteucci (2004a,b) provides a comprehensive analysis of competition in the Italian satellite pay-TV market, from the Telepiù-Stream duopoly (respectively, Canal+ and News Corp.-Telecom Italia) to the merger to monopoly of Sky (News Corp.). Similar stories have characterised other EU countries, as France, with the recent merger between the duopolists CanalSatellite (Canal+ and Lagardere) and TPS (TF1 and M6).

8 Respectively, Audisat 2002 data and 2007 Eutelsat estimates. Data in table 1 focus on satellite as exclusive reception mean and are mainly based on Italian satellite pay-TV: they do not register correctly foreign pay-TV, FTA satellite, pirate pay-TV decoders – highly diffused in Italy – and residual analogue satellite.

9 Among these, at least 50% of programming had to be made internally, the served area needed not to exceed 150.000 inhabitants and each network needed not to carry more than one single channel!
new entrants’ investment plans switched to the cheaper DSL roll-out. As a result, coaxial
cable TV never developed in Italy, while fibre optic rings suitable for TV services still cover
a negligible portion of the country (mostly by the operator Fastweb); finally, ADSL offers,
despite their larger availability, in Italy do not generally guarantee the bandwidth necessary to
carry TV services.

Obviously, the presence of alternative platforms in a given country can ease the
transition to digital TV – especially that of terrestrial TV, since its switch-over involves a
complex planning and frequency harmonization between the two coexisting platforms, ATT
and DTT, which occupy contiguous portions of the spectrum (simulcasting). In fact,
additional coverage granted by satellite or cable can fulfil the task of transmitting in those
zones where the simulcasting is particularly problematic.

Moreover, in addition to multiplatform transmission, in Western countries frequency
coordination and interference problems have been minimized through a complex process of
planning and centralised spectrum management: typically, some spectrum bands have been
reserved to digital. For example, in USA incumbent analogue broadcasters have been
assigned for free an additional block of frequencies to transmit in digital, with the sole
obligation of returning the other analogue block once completed the switch-off\textsuperscript{10}.

Also in EU, spectrum planning, centralised management and band reserves for digital
transmission have been the main ingredients of national DTT policies, both in “non-terrestrial
countries” (such as Germany, Benelux and Scandinavian countries) - where the transition
proves easier - and especially in “terrestrial” countries (such as Spain, France and UK, see
again table 1).

Moreover, in most of these EU countries, since the analogue era there has been one
unique terrestrial network operator, private or publicly-owned, functionally distinct from
broadcasters. This solution has ensured a centralised and efficient spectrum management.

Italian terrestrial broadcasting presents a radically different situation, which renders
much more complex the achievement of an equitable and transparent switch-off. Its story is
effectively the opposite of that of cable: a rather peculiar case of chaotic and unregulated
evolution of the sector, rooted on strong political lobbying by broadcasters\textsuperscript{11}, tacit compliance
of political parties, permissive normative framework and lack of enforcement of the few
(insufficient) antitrust provisions in place\textsuperscript{12}.

The chaotic situation of the TV spectrum is coupled with a high degree of vertical
integration of the TV value chain, which features hundreds of integrated network operators-
broadcasters. In reality, the integration choice was implicit in the way Italian broadcasters
built their transmission networks; in fact, from the very beginning (mid-Seventy), they have
been struggling for occupying first as many frequencies as possible, and to build their
transmission towers in the most strategic positions – mostly without any formal authorization
and/or concern for the environmental and electromagnetic suitability of the transmission sites.
This unregulated process, also described as the “Far-West of the spectrum”, continued during
the Eighties: at the end of 1988 the Post and Telecom Ministry was registering 959 local
stations.

This critical situation was not solved by the first systematic intervention, the
“Mammi” Law (n.223 of 1990), which simply legitimised the status quo: as a result, 1376

\textsuperscript{10} Some authors have criticized this US choice as excessive generous, and have argued that it would give
incentive to the concerned broadcasters to delay the transition (see for example, Galperin, 2002, 2004).
\textsuperscript{11} An interesting anecdote is that in the Italian edition of Luis Cabral’ industrial organization textbook (2002;
p.28) the past relationship between the biggest broadcaster - Mediaset - and some Italian politicians is given as a
main example of rent seeking behaviour and institutionally reinforced market power.
\textsuperscript{12} A long run economic analysis of the sector is provided by Gambaro and Silva (1992), while the most recent
period and the DTT transition is studied by Matteucci (2005) and (2007). Works in English are scarce: an
historical and political science account is offered by Mazzoleni (2000).
licences applications for local broadcasting were presented. Later, every centralised spectrum management or frequency reallocation project failed to be implemented, such as the two Plans for analogue spectrum (elaborated in 1992 and 1998 and later abandoned). After a certain shack-out of the industry demography, between the mid-Eighties and the first-Nineties were also laid down the foundations of the duopoly between RAI (public operator) and Fininvest (private group, now financial holding of the Mediaset group). This virtually unrestrained duopoly, broadcasting three channels each, has accumulated an overwhelming advantage over the remaining national subjects, suffering from limited coverage of their networks and unable to resist the counter-programming strategies of the two larger incumbents. Beside that, the fragmented universe of local broadcasting underwent a process of economic marginalization, both for audience and revenues, remaining in the market even at loss. This apparent paradox can be explained with both non economic reasons (broadcasting as political influence on local communities and politics) and with the strategy of maintaining their unique valuable asset – frequencies (see Barca, 2007).

At the end of the Nineties, under the wrong pretext of the next arrival of DTT, analogue spectrum reassignment has been de facto cancelled by the political agenda, continuing the implicit favour to incumbent operators. Moreover, because of the unregulated analogue spectrum occupation, in Italy the planned spectrum reserves for DTT were unavailable.

Finally, the situation was aggravated with the approval of the Laws preparing the DTT launch. First, the Law n. 66/01 opted for a new dilatory solution: setting the guidelines for the introduction of DTT, it provisionally authorised incumbent broadcasters to trade their frequencies (so called private trading) in order to acquire the spectrum needed for experimenting and launching in simulcasting their DTT offer. An early date for the terrestrial switch-off - end-2006 - was also established. Second, the choice of private spectrum trading was confirmed and extended by the Law n.112/04 (“Gasparri” Law), as the sole and permanent instrument of spectrum reallocation for the construction of digital networks and the switch-off. Moreover, this Law has reserved frequency trading to existing analogue operators, and only for the construction of the digital networks, thereby allowing the reinforcement of the spectrum concentration. As a corollary, the same Law legitimized the current situation of TV spectrum usage - no matter how obtained – as valid title for obtaining the broadcasting licence.\textsuperscript{13}

Within this legal framework, due to the inner scarcity of the resource, frequency trading has ignited a speculative trend in spectrum prices. As a result, frequency trading did not significantly alter the asymmetric spectrum distribution (see table 2)\textsuperscript{14}, but rather reinforced it.\textsuperscript{15} At the end of 2005, RAI and Mediaset, after having played the “lion’s role” in frequency trading, do continue to possess a disproportionate share of the TV national spectrum (including analogue and digital): respectively 43% for RAI and 40% for Mediaset. As a corollary, the long expected “third national pole” (broadcaster) did not materialise, and most of the other national broadcasters behaved as spectrum sellers, rather than buyers.

\textsuperscript{13} Moreover, the spectrum accumulation and usage was left virtually unrestrained. In fact, Law 112/04 does not limit the number of frequencies that can be held, does not regulate the service destination of the spectrum, and – above all – does not explicitly impose the restitution of any spectrum portion before or after the switch-off: thereby, it legitimates a sort of private constitution of the public spectrum.

\textsuperscript{14} The situation depicted in table 2 has even worsened, due to the subsequent spectrum acquisitions for the launch of DVB-H.

\textsuperscript{15} During the first part of the spectrum trading campaign Mediaset increased its share and RAI lost. In fact, during 2004, the national analogue situation registered by AGCM (2004; p.124) was 45,8% for RAI, 35,5% for Mediaset and the remaining 18,7% of spectrum was belonging to the other 8 national chains (of which 8,3% owned by the two analogue chains of Telecom Italia). RAI management was limited in its frequency campaign, both for political reasons and budget constraints.
Finally, in local broadcasting, the expected rationalization did not occur; most stations, rather than joining consortia and becoming content suppliers, preferred to follow a conservative “low risk” strategy and keep their own spectrum, hoarding it (see also Barca, 2007).

Table 2 - Transmission sites/frequencies of Italian terrestrial broadcasters – analogue and digital

<table>
<thead>
<tr>
<th>Broadcasters</th>
<th>N.</th>
<th>% on (E)</th>
<th>% on (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAI</td>
<td>5,877</td>
<td>30.7</td>
<td>43.0</td>
</tr>
<tr>
<td>Mediaset</td>
<td>5,464</td>
<td>28.6</td>
<td>39.9</td>
</tr>
<tr>
<td>Telecom Italia Media</td>
<td>1,493</td>
<td>7.8</td>
<td>10.9</td>
</tr>
<tr>
<td>HCSC – TF1</td>
<td>261</td>
<td>1.4</td>
<td>1.9</td>
</tr>
<tr>
<td>Espresso Group</td>
<td>226</td>
<td>1.2</td>
<td>1.7</td>
</tr>
<tr>
<td>TBS (Rete Capri)</td>
<td>203</td>
<td>1.1</td>
<td>1.5</td>
</tr>
<tr>
<td>H3G</td>
<td>156</td>
<td>0.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Total analogue, national broadcasters (A)</td>
<td>12,572</td>
<td>91.9</td>
<td></td>
</tr>
<tr>
<td>Total digital, national broadcasters (B)</td>
<td>1,108</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td><strong>Total national broadcasters (A+B =C)</strong></td>
<td><strong>13,680</strong></td>
<td><strong>71.5</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Total local broadcasters (D)</td>
<td>5,456</td>
<td>28.5</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL TV SPECTRUM (C+D =E)</strong></td>
<td><strong>19,136</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: AGCM (2006a; table 1).  
Situation at the end of 2005, after the Mediaset acquisition of a branch of Europa TV.

Consequently, significant differences persist between the coverage of the networks of the duopolists and that of the other national broadcasters\(^{16}\). And the high concentration of the spectrum, in turn, mostly explains the distribution of the audience shares and advertising revenues (see table 3)\(^{17}\). In fact, the higher the coverage of the network, the stronger is the competitive capacity of the carried channels.

The dynamic of this phenomenon is rather complex, but can synthetically ascribed to joint working of network externalities\(^{18}\) and increasing returns enjoyed by two-sided markets (such as FTA TV), similar to what happens in systemic markets (such as pay-TV). In both cases, competition is subject to positive feedbacks (see Arthur, 1988), so that a “first mover” advantage acquired in a market side (or a segment) is likely to transfer to the other side or

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\(^{16}\) Regrettably, this situation was even sanctioned by the Law 112/04, which has adopted a rather inadequate definition of national operator: that reaching at least 50% of the national population. Previously, the Law 249/97 was requiring a minimal coverage of 80% of the national territory.

\(^{17}\) While the dichotomous distribution of the audience mirrors that of the spectrum, the distribution of the advertising revenues is more asymmetrical, due to the binding ceilings (set by law) limiting the RAI’s collection.

\(^{18}\) Network externalities materialize from the fact that the benefit from the marginal viewer joining the network exceeds its individual utility, raising the value of the whole network. This externality works differently, according to its direct or indirect nature.
parts of the TV chain, and become irreversible. In particular, in FTA TV strategic interdependencies take place between the two sides of the market – the audience generation and the advertising market: ceteris paribus, a larger audience enables an higher flow of advertising revenues; this flow can finance a richer and more attractive programming schedule\(^{19}\), which in turn feeds back into a larger audience\(^{20}\). Similarly, in pay-TV, thanks to indirect externalities, an early advantage in the platform diffusion enables a more aggressive content acquisition campaign, which in turn reinforces the initial platform advantage. In both cases, the positive feedbacks might be so strong to permanently foreclose the market.

### Table 3 – Audience and TV advertising market shares in Italian broadcasting

<table>
<thead>
<tr>
<th>Broadcasters</th>
<th>Average audience market share (%)</th>
<th>TV advertising market share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2004</td>
<td>2005</td>
</tr>
<tr>
<td>Mediaset</td>
<td>43.0</td>
<td>65.4</td>
</tr>
<tr>
<td>RAI</td>
<td>44.3</td>
<td>29.5</td>
</tr>
<tr>
<td>La 7 – Telecom Italia Media</td>
<td>2.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Others</td>
<td>10.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Legend: Advertising shares based on classical net advertising spending, excluding TV promotions e TV sales. Source: AGCOM (2005c; table 2.7) for audience shares (annual whole day average). AGCM (2006b; sect. 32), for TV advertising shares.

Turning to the spectrum situation, we want to stress that the most paradoxical unsolved aspect of the Italian chaos is that a significant share of the frequencies used by the biggest operators is redundant, while their centralised coordination would eliminate most of the reciprocal interference problems and sensibly increase the coverage of the neighbouring networks without compromising its own (see ACGM 2004; tab. 3.9) – definitely, a rather unique case of Pareto-optimality.

Further, the spectrum policy chosen for the DTT introduction has caused, once again, the definitive dismissal of the Digital Spectrum Plan (elaborated in 2003). In sum, the entire story reveals the Italian politics’ incapacity to solve the illegal concentration of the TV market and the lack of pluralism, repeatedly sanctioned by the Italian Supreme Court (cf. its verdicts n. 420/1994 and 466/2002). As in other cases, EU institutions have eventually tackled the Italian impasse, and recently initiated an infraction procedure against Italy under Art. 226 of the EU Treaty (see EC, 2006). In the opening decision, the Commission censures the asymmetric treatment in favour of incumbent analogue operators (basically the duopolists), as codified in the Italian DTT normative, and warns the country about the resulting possibility that the digital dividend for new entrants and digital services is nullified.

### 3) The launch of DTT in Italy

Since the experimentation and launch in Italy were not centrally managed, a series of technical and coordination problems have been hampering DTT services and audience’s take-off, both in transmission and households’ reception.

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\(^{19}\) Also, strategic accumulation of premium content might serve as exclusionary strategy both for FTA and pay-TV, especially when content is acquired under exclusivity clauses. For models addressing content competition in FTA, see Motta and Polo (2001), for pay-TV see Matteucci 2004b.

\(^{20}\) For a general explanation of competition in two-sided markets see Rochet and Tirole (2003). For an application to FTA, see Gabszewicz et al. (2004).
For transmission, the main problem has been the limited and uneven coverage of DTT multiplexes, particularly severe for smaller operators, which suffer the most from spectrum scarcity; this situation somehow continues, as indirectly showed by the stagnating FTA audience and advertising dynamic (see later table 4). Further, the geographical gaps existing in the coverage of the networks – rather physiological during the switch-over – in Italy have been exacerbated by the interferences caused by the analogue spectrum chaos and eventually by simulcasting. Again, interference reduction is easier for the big network operators (RAI and Mediaset), which detain redundant frequencies and had the financial strength to embark on costly spectrum trading.

Concerning households’ reception, compatibility problems have been frequently affecting antennas and other complementary domestic electronic devices, thereby requiring technical intervention. Moreover, while the generous subsidization campaign (see later) has boosted an imitative and convulsive process of adoption, it could not solve most of the learning processes implied by a new technology. As a result, various statistics have uncovered that a substantial rate of the installed decoder base has lain unused or technically troublesome, potentially undermining the social favour toward the new technology.

To summarise, in Italy the commercial launch has overlapped with the experimental phase, but this character was not adequately explained to prospective DTT viewers, as later sanctioned by AGCM. However, we believe that the most striking defect of the Italian DTT offer is not its critical technical profile, but the poor and unattractive content available in the FTA offer, evident both in itself and mostly when compared to the hundreds of channels freely available on FTA satellite. Matteucci (2005) observes that in the first months after the commercial launch, most of the few “new” channels available on DTT were already available on FTA satellite. Later, this deficit of attractiveness has continued to characterise the FTA offer, so that a different strategy based on FTA content was called for in mid-2006.

At this time an important change had to be registered, the successful introduction of the pay-per-view offer, which indeed has proved to be a powerful driver of the platform take-off. However, contrary to the FTA service, which is oriented to a mass public and thereby is legitimately worth the public support (because of the universal service remit), the pay-TV service does not possess the same social status. As we will see infra, the Italian DTT policy did not clearly operate this distinction. The decoder subsidization campaign is a case in point.

The Italian state, as part of the DTT planning and launch campaign, decided to subsidize decoders for DTV. The amount of the original subsidy was relevant: initially set at 150 € per household, and later reduced to 70 €, the subsidy was roughly half of the average market price of the representative decoder, as measured at the beginning of each of the two phases of the “first” campaign (February-October 2004 and December 2004-November).

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21 In the early phases of DTT diffusion (2004), Eurosatellite estimated that around 30% of single-household and 78% of multi-household DTT reception systems were requiring upgrading or changes. Two years later, the aggregate fault rate was estimated at 40% of total installed DTT decoders.

22 At the same time, given their pay-per-view business model, DTT operators could not organize and sustain efficient and pervasive help-desk services to assist the viewers.

23 Following the complaints of the consumer associations, AGCM uncovered various elements of misleading messages in the official advertising campaigns for DTT. See the AGCM decisions n. 13678/2004 and 14851/2005.

24 In April 2004, there were only 10 “new” TV channels available on DTT, but 8 were already broadcasted via satellite. The 2 “truly new” left, RAI Doc and RAI Utile, were still experimental.

25 The need for a different strategy based on FTA content is spelled out also in a DGTVi study (see DGTVi, 2006), presented in a meeting where the recently-formed Government illustrated its new development strategy for DTT re-launch.

26 The “first” campaign is that which was later judged as constituting an illegal state aid by the EU Commission (discussed infra, see EC, 2007a). A modified version of the campaign (for our purposes labelled as the “second”
At the end of 2004\textsuperscript{27}, a few big store chains were already offering the decoder for free (net of the subsidy). Thanks to the subsidy and the resulting economies of scale, during the first subsidization campaign, the average price of a MHP interactive decoder marketed in Italy fell from 350€ to 150€ - a price similar to that of zappers (simpler models without CAS e API modules, unsuitable for pay-per-view services).

Indeed, the strong price effect is the main reason why, despite the technical problems of the platform and the shortcomings of the FTA offer, the subsidization campaign was successful, financing roughly two millions decoders. However, the subsidy and the aggressive marketing campaigns (both private and public) can hardly explain why in the same period another similar number of decoders sold without subsidy, although being equally eligible. Probably, these decoders sold anyway because of the attractiveness of the pay-TV offer, since a rational viewer interested only in the poor FTA offer – even one evading the TV licence fee\textsuperscript{28} - would have bought the cheaper “zapper” version.

Our explanation is rooted on the literature on “indirect externalities” (see Katz and Shapiro, 1994, Gandal, 2002), studying diffusion and competition in markets for systemic goods. In particular, the existence of structural complementarities and the strategic linkages at work between the two segments of a systemic good (such as the technical platform and the content in pay-TV) tend to originate coordination problems (also known as chicken-and-egg dynamic)\textsuperscript{29} and multiple equilibria, sensitive to the expectations of both market players and viewers. In these cases, vertical integration and the adoption of proprietary technologies (such as in the pay-TV model) can ease the transition, since the operators can more easily internalise the indirect network externalities and appropriate the investment returns. Finally, oligopolistic competition in pay-TV typically runs through premium content acquisition, acquired under exclusivity terms. In most cases, dominant operators tend to over-invest in exclusive content earlier than rivals, to foreclose the market; this was the case of Mediaset, charged with abuse of dominant position in the AGCM (2006b) decision on DTT football rights\textsuperscript{30}.

An empirical confirmation for our hypothesis (pay-per-view as the main DTT driver) comes from the temporal distribution of the subsidies, which shows an atypical path with a few localised peaks (see graph 1). These peaks correspond to a series of events concerning the Premiere League football championship, offered since 2005 via pay-per-view on DTT; they witness the driving role of premium content on the subsidized diffusion of the platform.

In fact, notwithstanding the massive DTT marketing campaigns and the high media coverage of the “Gasparri Bill, during the first phase of the campaign (February-October 2004) the weekly allocations do not accelerate, except for the last two weeks (approaching the subsidiary campaign, see EC, 2007b), continued in 2006, and was reserved to two Italian regions, Sardinia and Aosta Valley.

\textsuperscript{27}More details on the subsidization campaign can be found in Matteucci (2005). Here it is sufficient to recall that, according to the consumer association Altroconsumo (see \url{http://www.altroconsumo.it/}) even under these “undercutting” conditions the concerned stores enjoyed a positive margin of around 10-15\%. This and other elements let to suppose that this type of subsidy campaign acted as a collusive device for decoder producers, maintaining artificially high decoder prices for the whole period of duration of each subsidization phase (2004 and 2005).

\textsuperscript{28}TV licence fee evasion is non negligible in Italy. Among the conditions for the DTT subsidies, it was required the regular payment of the annual household TV licence fee, equal to 100€ a year.

\textsuperscript{29}Gupta et al. (1999) simulate different scenarios of development of DTV in US, assuming that the two subjects-operators do not coincide (vertical disintegration).

\textsuperscript{30}For a comprehensive discussion on content exclusionary strategies in pay-TV, see Matteucci 2004a (on satellite), Nicita and Ramello (2005) and Geradin (2005) (on new platforms).
subsidies exhaustion\textsuperscript{31}). So, at this stage, despite the generous subsidy\textsuperscript{32}, DTT does not show a rising self-sustained dynamic of diffusion, typical of epidemic models\textsuperscript{33}.

Things change substantially with the second phase of the campaign (December 2004 - November 2005). December 2004 shows a steady progression, due both to the refinancing of the subsidy campaign and the Christmas period. However, the rising trend continues in January, when the Christmas shopping runs out. The main explanation here is the marketing campaign for the approaching launch of the pay-per-view of Mediaset and La7, coincident with the second round of the Premier and Second League football championship (2004-05)\textsuperscript{34}.

Should football acts as the main explanatory driver, we must expect that its impact decrease approaching the end of championship and increases before the new one. In fact, both things happen: first, the decreasing trend of subsidies attains its minimal levels in June\textsuperscript{35}; second, Summer 2005 displays an atypical uprising trend (cf. also Summer 2004), which becomes booming immediately before the start of the new football season\textsuperscript{36}.

**Graph 1. Weekly disbursements of public subsidies for DTT decoders in Italy – first campaign (thousands)**

\begin{figure}
\centering
\includegraphics[width=\textwidth]{graph1.png}
\caption{Weekly disbursements of public subsidies for DTT decoders in Italy – first campaign (thousands)}
\end{figure}

Source: our computations on unpublished data from the Italian Ministry of Communications

\textsuperscript{31} The number of subsidies still available was public knowledge, being displayed on Internet and on the stores. Data show that, two weeks and one week before the end, subsidy allocations increased by respectively 37\% and 86.6\% (on the previous week), touching 78,755 subsidies disbursed in the week “10 October 2004”.

\textsuperscript{32} Lack of interest for DTT also emerges from the fact that at the end of 2004, thanks to the 150\e subsidy, a representative decoder for DTT is cheaper than a satellite decoder.

\textsuperscript{33} Most epidemic models embed a typical S-shaped path of diffusion (so called logistic curve), which implies that the absolute diffusion grows at a growing pace (first and second derivatives are positive), up to the inflection point, from which the contagion dynamic slows down; for a survey on diffusion models, see Geroski (2000).

\textsuperscript{34} In the week containing the concerned televised week-end (22-23/01/2005) were disbursed 56,234 subsidies, a maximum which will be surpassed only at mid-August 2005, before the start of the new championship season.

\textsuperscript{35} In the season 2004-05 the two pay-per-view offers (by Mediaset and La7) were sold on pre-paid cards, including a fixed number of TV events to be consumed before the card deadline, set to the end of the football championship (end of May 2005).

\textsuperscript{36} Despite the core of the holiday period (August), when Italian metropolitan areas are depopulated and consumer electronics sales stagnating, in August 2005 the weekly threshold of 20,000 subsidies (untouched during Summer 2004) is constantly surpassed and at the start of the new football season (2005-06) a record number of subsidies is allocated (120,445).
4. The subsidy campaign

4.1. Subsidy as state aid

The Italian laws (2004 and 2005 Finance Acts) and implementing decrees containing the decoder subsidization campaign were immediately opposed by a FTA terrestrial broadcaster (Europa 7) and later by the satellite pay-TV operator (Sky Italia), claiming that they were illegal state aid. After a long investigation, the EU Commission (see EC, 2007a) declares that these subsidies (henceforth “first campaign”) did constitute a state aid incompatible with the common market, and must be recovered from the indirect beneficiaries; the latter are individuated in two terrestrial operators offering pay-TV services (Mediaset, La 7) and (the only) one cable pay-TV operator (Fastweb). Additional decoder subsidies, granted with the 2006 Finance Act and reserved for subscribers located in the two “early switch-off” regions (Sardinia and Aosta Valley), were declared compatible, given that the eligibility criteria had been changed and satellite decoders were no more excluded (henceforth “second campaign”, cf. EC, 2007b, not analysed here).

Initially, in 2003, only decoders for DTT (DVB-T) were considered eligible, but the measure was too early, since DTT services did not exist at that time. One year later, DTT services started to be offered on a national basis and digital decoders began to sell, with and without subsidy, and the campaign spanned the biennium 2004-05. This time, public subsidies were reserved to decoders able to receive terrestrial and cable digital services, possessing certain technical requisites of interactivity and interoperability which were later interpreted as meaning the inclusion of the (EU open standard) MHP as API.

Beneficiaries and advantages

According to the comments submitted by Italy and those broadcasters involved in the decision (see EC, 2007a), the subsidy was legitimate and justified, mostly because (see ibidem sect. 38-61): a) the beneficiaries (network operators and broadcasters) did not receive any advantage and b) there was no distortion of competition. Also, these subjects argue that, even in the case the subsidy were an aid, the 2004-05 campaign would have been compatible under the exceptions of Articles n. 87(2)(a), 87(3)(b), (c) and (d) of the EC Treaty on EU state aid; in fact – they continue - the eligible decoders were required to respond to strict criteria – being interactive and interoperable, and possessing an open API. Mediaset also adds that the

37 The measure was contained into 2003 Finance ACT, approved at end-2002. However, none profited from these subsidies, since DTT transmissions were still experimental and the first models of DTT decoders appeared on the shelves only in December 2003, date of the commercial launch of DTT in Italy.

38 In fact, the texts of the Finance Acts (and accompanying Decrees) were rather synthetic and cryptic. They were clearly requiring, as a condition to obtain the subsidy: 1) the regular payment of the annual TV licence fee, 2) the purchase or rental of a DVB-T decoder, or a DVB-C one retransmitting terrestrial services at no further costs for both viewers and content providers, 3) the presence of interactivity, without any further distinction between local or remote. See EC (2007a; sect.7).

39 Some of these exceptions legitimate national measures designed according to the criteria set by the EU policy for the promotion of digital switchover and the development of the Information Society.

40 However, the first formulation of the measure was rather synthetic and ambiguous, since it explicitly mentioned the sole criterion of interactivity: “for 2004, each user of the broadcasting service who has fulfilled his obligations regarding payment of the relevant subscription fee for the year in progress and who purchases or rents a device allowing the reception, free-to-air and at no cost to the user or to the content provider, of television signals transmitted using digital terrestrial technology (T-DVB/C-DVB) and the resulting interactivity shall be entitled to a public grant of €150” see EC (2007a; sect.7). Only in the second formulation, that of the 2006 campaign, was explicitly mentioned an interoperability requisite (see EC, 2007b, sect.5), to be reached via the inclusion of open API, among those published in the EU Official Journal.
selectivity bias of the measure arose from Sky’s choice to use a proprietary technology (NDS). The Commission, instead, rules that the Italian measure could not qualify for any of the exceptions provided for in the EC Treaty (see section 4.2).

The Commission’s analysis first points out that, although the direct beneficiaries were TV viewers, there also existed indirect advantages for broadcasters, network operators and decoder producers, which fall within Article 87(1) EC Treaty according to established case-law. The first main advantage (see ibidem, sect. 84) given to a few terrestrial broadcasters – those already transmitting in digital – consisted in the possibility to develop an audience in a new market (pay-per-view) through public funds. In fact, decoder subsidization is a widespread business practice in pay-TV, and the public subsidy had benefited some operators replacing its private cost. This monetary advantage is specifically related to terrestrial broadcasters offering pay-per-view (and cable operators with triple play services - basically Fastweb). The underlying rationale is that pay-per-view is a distinct market from FTA, and the type of decoders eligible was specifically conceived to offer a wide range of services, including pay-per-view and interactive ones. Contrary, if the subsidized decoders were consisting of simple zapper, the advantage would not have materialised in this form, since this case involves only an intra-market audience replacement.

Secondly, the Commission detects a “temporal advantage” given by the measure to incumbent terrestrial operators, in terms of image branding and customer retention (see ibidem, sect. 88); again, this mainly applies to pay-per-view, the only service new to the market.

Moreover, the Commission points out that these two subsidy-led advantages (public financing of audience creation and “first move” commercial advantage) added to and amplified the strong discriminatory and exclusionary effects of the current Italian spectrum allocation discipline, as set by law n. 112/2004. This discipline, as examined in section 2, blocks entry in digital transmission to new comers, and translate into DTT the concentrated and inefficient spectrum allocation of ATT, chronically characterised by a “blockaded duopoly”.

In other words, the Commission’s opinion that incumbent terrestrial operators offering pay-per-view would cumulate two mutually reinforcing temporal advantages - one arising from the transmission market and the other from the emerging pay-per-view broadcasting, can be interpreted according to the categories of positive feedbacks and indirect network externalities among contiguous and two-sided markets (cf. again section 2).

However, despite their implicit theoretical acceptance, the exclusionary consequences of these dynamic advantages appear to be practically understated, since the Commission forgets to consider that the public financing of the digital audience affects not only the profitability of pay-per-view, but also stimulates the take-off of advertising revenues from digital programming, be it pay or free: in fact, since broadcasting is a two-sided market, any advantage acquired on the audience side is easily transferred into the advertising one. In this respect, Mediaset appears to have already achieved a leading position, being marketing new forms of digital interactive advertising, for which it was the first operator to acquire the relevant content rights (for example in football matches, see AGCM, 2006b).

Finally, a potential advantage is also detected for terrestrial network operators: in fact, a broadcaster’s willingness to pay for transmission service depends also on the profitability of its presence on the concerned platform, which is in turn affected by the potential audience. Now, the subsidy stimulates DTT audience, which indirectly might affect the bargaining

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41 The directly discriminated operators would have been only those terrestrial operators unable to transmit in digital.
42 In fact, DTT FTA services in Italy are substantially similar to those of the analogue offer.
43 Its early financial break-even is discussed infra.
power of terrestrial network operators.

However, several considerations lead the Commission to take a more cautious approach on this point (see EC, 2007a, sect. 96-98). First, it considers difficult to ascertain whether the potential indirect advantage for network operators has yet materialised; and even if this was the case, it would be difficult to quantify the differential willingness to pay of broadcasters for terrestrial transmission services, as caused by the measure. Moreover, the Commission recognises that in Italy ownership links between the two subjects involved – broadcasters and terrestrial network operators are vertically integrated – render the distinction between the two types of advantages less meaningful. The Commission therefore concludes that only if the selective measure would be repeated, a systematic distortion of the relative prices of the different transmission services would arise; and this occurrence should have been ruled out, because the Italian Government agreed to change the measure, including satellite decoders in the new campaign (since 2006).

The analysis of the point in EC (2007a) is partly convincing, and can be challenged on different grounds. Here we explore fully the theoretical argument, even though we eventually reach the same practical conclusion of the Commission: the main advantage is to be found on broadcasters, rather than network operators.44

On one side, among the hundreds of Italian broadcasters (including local and regional ones, vertically integrated in terrestrial transmission), only two are possessing significant market power and are able to charge monopolistic tariffs for their transmission services: RAI-Way (RAI-controlled) and Elettronica Industriale (Mediaset group). This dominance position was certified for analogue transmissions by AGCM (2004), and has later strengthened, thanks to the acquisitions of new frequencies for DTT authorised by laws n. 66/2001 and 112/2004. In 2006, after several waves of frequency trading dominated by the duopolists, the analysis of “NRF market n. 18” (that of radio-TV transmission services) carried out by AGCOM (2006) registers that two operators (RAI and chiefly RTI-Mediaset) have acquired an advantage in digital transmissions (in terms of multiplexes, coverage and frequencies – see ibidem, tables 15 and 16), which is likely to become a dominant position once the operators will be free to convert their analogue frequencies into digital.

This concentrated spectrum market is conducive to market abuses, especially without an effective countervailing regulatory system: but this is what actually happens in Italy. In fact, for dominant network operators, Italian law has prescribed a regime of legal reserve (equal to 40% of their multiplex capacity), to be assigned by tender to independent content providers and broadcasters with insufficient network coverage. However, this guarantee system has been implemented with delay and under a complex procedure, so that it has never worked out effectively, as recently recognised even by the concerned regulator (see AGCOM, 2007; sect. Consideranda). As argued by Matteucci (2007), the wide degrees of freedom and discretionary power left to network operators in the design of the terms of the tender (especially for the access price) are the principal reason of its failure.

Despite the Commission’s neglect of this point, it is rather clear that Italian dominant operators do have incentive to restraint third party access to the DTT transmission market45, and face a regulatory framework so weak to empower them to carry out discriminatory conduct. So, any measure stimulating the terrestrial digital audience is likely to impact asymmetrically on network operators, reinforcing mostly the terrestrial and, among these, the

44 In fact, as we demonstrate infra, the methodological difficulties involved in assessing a possible indirect advantage for network operators, together with the peculiar vertical integration of the Italian TV, prevail on the theoretical argument.

45 As affirmed by the third Italian player (small compared to the duopolists) “La 7” during an AGCOM public consultation, each of the Italian duopolists has incentive to fill the legal reserve of 40% of its multiplexes with weak channels, to avoid the “business stealing” effect. In fact, transmission revenues are negligible compared to the potential lost of advertising revenues engendered by a successful competitor transmitted on its network.
dominant ones.

On the other side, the potential advantage for network operators is “more indirect” than that for broadcasters, so that it proves more difficult to be estimated. In fact, while the broadcaster’ advantage mainly works through the creation of digital audience and entry pre-emption, that of the network operator is estimated indirectly throughout the broadcaster’s differential willingness to pay for being on that platform. However, this differential willingness to pay is function of the platform diffusion, but also depends on a series of additional variables – \textit{in primis} the content attractiveness of that channel - which are controlled by broadcasters. So, the analytical setting becomes rather complex, and the short duration of the campaign does not allow any robust estimation strategy. On the light of these methodological difficulties and the vertical integration of Italian DTT operators\textsuperscript{46}, the Commission “solution” of considering proved only the advantage for broadcasters appears rather reasonable.

Moreover, additional data confirm that the main advantage of the public subsidization campaign effectively run through pay-per-view services, thereby confirming the final decision of the Commission on the subjectivity of the operators who must return the subsidy: Mediaset, Telecom Italia Media and Fastweb. In fact, table 4 confirms that pay-per-view revenues (mostly retail) represents the lion’ share of DTT revenues, while advertising revenues, because of the low diffusion of the DTT platform and the small FTA audience, has been practically negligible.

\textbf{Table 4 – Annual revenues of Italian DTT players}

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising (gross of agency)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediaset</td>
<td>\approx 0</td>
<td>3,700</td>
<td>4,500</td>
</tr>
<tr>
<td>Telecom Italia Media</td>
<td>0</td>
<td>\approx 0</td>
<td>\approx 0</td>
</tr>
<tr>
<td>(Other\textsuperscript{*}) national broadcasters</td>
<td>0</td>
<td>1,000</td>
<td>n.a</td>
</tr>
<tr>
<td>Independent producers</td>
<td>0</td>
<td>[200-300]</td>
<td>n.a</td>
</tr>
<tr>
<td>Pay-per-view (PPV)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediaset</td>
<td>n.e.</td>
<td>44,000</td>
<td>108,000</td>
</tr>
<tr>
<td>Wholesale of broadcasting rights (for DVB-H, etc.)</td>
<td>n.e</td>
<td>4,400</td>
<td>18,100</td>
</tr>
<tr>
<td>Telecom Italia Media</td>
<td>n.e</td>
<td>10,400</td>
<td>31,500</td>
</tr>
</tbody>
</table>

Legend: Thousands of €, rounded. n.e.= service not available; n.a. = data not available.
\textsuperscript{*} = Data includes Telecom Italia Media, RAI, HCSC Italia, Espresso Group.

\textit{Selectivity and distortion of competition}

Next, the measure appears critical also under the “selectivity” and the “distortion of competition” dimensions. Concerning the first, satellite broadcasters \textit{in toto} cannot profit from the increase in the digital audience brought about by the subsidy. The Commission also remarks (see EC, 2007a; sect. 110) that neither the current unavailability of MHP satellite

\textsuperscript{46} Additionally, for Italy this estimation exercise is made more complex by the shadow prices used in the group accounts for evaluating the intra-group transfers of transmission capacity.
decoders can justify the explicit exclusion of this platform from the measure, given that national policies must be technologically neutral and stimulate the spontaneous offer of TV services on whatever platform, without reflecting the status quo of the equipment market.

Concerning competition distortion (*ibidem*, sect. 102-112), several considerations apply. First, as with selectivity, the “distortion of competition” effect materializes against those operators (both broadcasters and network operators) using platforms other than DTT or unable to transmit at the moment (such as many terrestrial broadcasters lacking or excluded from digital frequencies).

Second, there is a distortionary effect of the measure specific to the pay-TV market. In its reasoning, the Commission first clarifies that pay-TV (characterised by monthly subscription) and pay-per-view services are substitute – although partly at the moment; this implies that the public subsidy modifies the relative terms (*in primis* the prices and margins) of the two services and thereby their competitive strength. After all, also the Italian antitrust authority has recently confirmed that different pay-TV offers constitute a single relevant market, independently from their delivery platforms (satellite, DTT, or IP-TV) (see AGCM, 2006c; sect.52).

Moreover, the Commission convincingly remembers that there is another connected distortionary effect influencing the platform choice in favour of DTT (acting via the reduction of the initial household set-up costs), and that this effect took place in a rather sensitive period (the digital switch-over), when the bulk of the viewers of analogue TV (in Italy mostly terrestrial) needs to choose which digital platform to switch to. On this point, the Commission also adds that, given the switching cost and inertia implied by any future change of platform, this second type of effect is likely to have a rather prolonged distortionary effect. According to us, there is reason to believe that this platform advantage is de facto permanent and self-enforcing, and cannot be recovered at any time by the discriminated competitors, who lost potential customer base. In fact, the standard remedies available under the EU state aid regime - recovery of the monetary subsidies – can not affect the installed customer base, neither compensate for the dynamic feedbacks enjoyed in the meanwhile by the privileged platforms (for example, in terms of positive network effects between platform diffusion and content acquisition).

At the same time, the distortionary influence of the subsidy on the platform choice translates almost automatically in the discrimination of competing delivery networks, which again sees the terrestrial platform favoured by the measure over satellite. This is because the subsidized decoders were almost entirely mono-platform, so that a direct causal link between subsidy, decoder, platform and network arises. However, for the same considerations previously made under the “advantage” test for network operators, the Commission does not consider proved the distortionary effect of the measure for network operators (see EC, 2007a; sect.112).

Obviously, while the Commission’s position on the point appears reasonable and should be evaluated solely on the grounds of its formal legitimacy, nevertheless the de facto preferential treatment given to the terrestrial platform qualifies as discretionary and economically inefficient. This treatment is at odds with the respective technical ability of the platforms to secure a quasi universal coverage. In fact, achieving the entire coverage of the national territory is impossible or uneconomical with terrestrial transmission (be it analogue or digital) – particularly in Italy, which is affected by serious interference problems (stemming from its chaotic distribution of the spectrum) and a difficult orography. Instead, digital satellites since the mid-Nineties have reached an EU-wide footprint, much larger than

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47 Indeed, the degree of substitution is going to become stronger, since recently Mediaset has declared the intention to extend its DTT services introducing the subscription formula, beginning with the TV season 2007/08.
national coverage, at affordable costs. Given this situation, should a preferential policy (for the best digital platform) be legitimate, it would surely be in favour of satellite.

To summarize, the Commission’s findings on the ability of the subsidy to distort inter-platform competition appear convincing; moreover, the actual distortion seems to be even more serious than that formally demonstrated by standard (mainly static) antitrust analysis. Moreover, this opinion is widely supported by empirical evidence, provided by both interested (Sky) and independent third parties. Even dismissing Sky’s estimates on the business stealing effect of the public subsidy as not neutral\textsuperscript{48}, a few financial reports were forecasting a positive impact of the measure on the PPV diffusion and company’s accounts. For example, at the beginning of 2005 Deutsche Bank (2005; p.26) argues that, thanks to the subsidies, «Mediaset can develop DTT as a low risk/low-cost way of entering the pay-TV market». One year later, the same institution revises its forecasts, upgrading its positive outlook on Mediaset PPV (see Deutsche Bank, 2006). First, it notices that, thanks to the subsidies, in 2005 DTT diffusion experienced a stellar growth, outpacing that of satellite and cable (IPTV): in particular, DTT attracted 82.3\% of the new DTV households (net additions), while Sky, despite its massive advertising campaign, got only 13.8\% of it (see table 5). Second, despite a lower-than-expected PPV customer base – we believe due to the permanent DTT reception problems – in 2005 Mediaset offer collected an higher cash revenue: the two facts imply that the actual ARPU (average revenue per user) in 2005 was more than double of what was forecasted (100€ instead of 40€). Another confirmation about the increasing power of attraction of the PPV offer comes from data on the rate of recharge of Mediaset smart cards – a rate which almost doubled between August 2005 and the first quarter of 2006 (see \textit{ibidem}, p. 21)\textsuperscript{49}.

\textbf{Table 5 - Italian DTV households: stocks and 2004-05 net additions}

<table>
<thead>
<tr>
<th>Platforms</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>Net add. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satellite pay-TV</td>
<td>2524</td>
<td>2492</td>
<td>2848</td>
<td>2000</td>
<td>3100</td>
<td>3604</td>
<td>13.8</td>
</tr>
<tr>
<td>IPTV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>85</td>
<td>227</td>
<td>3.9</td>
</tr>
<tr>
<td>DTT</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>875</td>
<td>3890</td>
<td>82.3</td>
</tr>
<tr>
<td>Cable</td>
<td>64</td>
<td>62</td>
<td>62</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>0</td>
</tr>
<tr>
<td>DTV homes</td>
<td>2588</td>
<td>2554</td>
<td>2910</td>
<td>2061</td>
<td>4121</td>
<td>7782</td>
<td>100</td>
</tr>
<tr>
<td>TV homes</td>
<td>22425</td>
<td>22426</td>
<td>22427</td>
<td>22428</td>
<td>22432</td>
<td>22433</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend: End of year data, in thousands, except last row and column, in %. “Net add.”: Platform’s % share on total net additions, between 2004-05.

\textsuperscript{48} Nonetheless, Sky’ estimates about a relevant “business stealing” effect seem to be more correct than Italy’s considerations. In fact, Sky considers the two directly competing products, pay-per-view on DTT and Sky sales of the “Premium Sports” package, finding a negative impact of the subsidy on the latter. Instead, the generic dynamic of the satellite pay-TV platform (+7.4\% of subscriptions during the first semester of 2005), cited by Italy as a proof of the not distortionary effect of the measure (see \textit{ibidem}, sect.46), appears to be not directly relevant, since in the first semester of 2005 pay-per-view on DTT was only made of football matches.

\textsuperscript{49} In this period, beside Premier League football matches, another fundamental premium content was added to the PPV offer: library and first release movies, priced at competitive levels (respectively 2-4 € each).
4.2. The compatibility assessment: between economics and politics

Once established that the measure constitutes state aid, the Commission further evaluates if the exceptions contained in Artt. 86 and 87 of the EC Treaty apply.

Art. 87(2)(a) provides a derogation for aid with social character granted to individual consumers. The Commission first notices that the Italian measure did not mention any social or income criterion of eligibility for the subsidy (see EC, 2007a; sect. 125): moreover, it points out that, being Art. 87(2)(a) an exception to a general rule, its requisite of “social character” cannot be extensively interpreted. Finally, it recalls the conclusions of the AGCOM survey on the diffusion of DTT (see AGCOM, 2004), according to which the decoder price – even without public subsidy – was affordable for a large part of Italian population since 2004: coherently, any aid with “social character” should have targeted the most disadvantaged share of the population. Consequently, the Commission rejects the Italian argument that the subsidy campaign was targeted at disadvantaged social classes.

We believe that the Italian measure was intentionally designed without any income criterion, at least for two main reasons:

a) Aid directed to socially disadvantaged classes becomes economically meaningful once DTT coverage has reached a quasi-universal level and analogue transmission is about to be switched off, since it prevents that low-income households are excluded from the reception of TV services. This was not the case of Italy, which still today lacks a credible switch-off date. The “social” rationale of the DTT aid, instead, was clearly stated in a similar Austrian measure (see EC, 2005a), which contemplates two kinds of consumer subsidy: those aimed at supporting the “early adopters” of DTT (see *ibidem*, sect. 4, category IV), and those reserved to low-income households (see *ibidem*, sect. 4, category V).\(^{50}\). According to the most influential economic theory\(^{51}\) (correctly reflected in the Austrian measure), their incentive mechanisms and eligibility rationales differ. The first type of subsidy, that for “early adopters”, is aimed at building the critical mass for the new technology and fuelling the subsequent imitative bandwagon: consequently, it should be limited to the early steps of the DTT market development, and be designed on regressive terms; however, it should not require additional eligibility conditions, other than verifying that the market price of the subsidized equipment represents a significant purchase barrier for potential consumers – including “innovators”. Conversely, the second type of subsidy, that for low-income and socially-disadvantaged classes, typically face innovation and risk-adverse recipients (“late comers” or “followers” consumers): therefore, according to the life-cycle of a new technology, this social subsidy should be allocated at a later stage, when the analogue switch-off is close and the technology standardised.

b) In the light of the pay-TV model soon adopted by most Italian DTT operators, the second type of subsidy would have been rather useless, since pay-TV services is a consumption of the wealthier social classes.

Definitely, a social subsidy was also economically useless for Italy, especially at that time. However, we want to stress that also the first type of DTT subsidy - which in principle better caters for an universal mass-audience and a FTA business model - might prove critical and yield unintended and perverse effects. In fact, if the subsidized early adopters remain unsatisfied by the low technological or entertainment performance of the new TV platform, they may turn in opposers, and even delay its adoption by their negative informative

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\(^{50}\) The provision of consumer subsidies for the socially disadvantaged has been foreseen in the switch-over plans of Germany and US.

\(^{51}\) Particularly, we refer to a large body of recent works from the economics of innovation, both mainstream and evolutionary. For a recent coverage, see Stoneman (2002).
spillovers. The Italian evidence on the point is mixed, and partly supportive (see also infra).

Second point. The Commission states that the Italian subsidy does not qualify for the derogation established for a project of common European interest, jointly planned by Member states – under Article 87(3)(b) - since the measure was designed as the initiative of a single Member, and was not coordinated with anyone other to avoid any possible adverse effect on trade and competition.

Third point. The Commission analyses if the measure can be deemed compatible under Art. 87(3)(c), stating an exception for measures that pursue an objective of common interest; additional qualifications are that the aid fulfils the criteria of necessity and proportionality (see EC, 2007a; sect. 132-171). This test implies the verification of three basic steps: 1) the objective of common interest is well-defined, 2) the design of the aid is appropriate to address the market failure or the social objective involved, and 3) the distortionary effects of the aid on competition and trade are limited, so that the final balance of the effects of the measure is positive.

The Commission argues that the first step is clearly met by the Italian measure. In fact, following several EU documents, both the promotion of the digital switch-over and the diffusion of open standards for interactivity qualify as a well-defined objectives of common interest. Concerning specifically interactivity and interoperability, the Commission recalls its Communication COM(2004)541 (see EC 2004), where it recognised the need to ensure the availability of interactive DTV services, portable on different transmission platforms and reception equipments (so called interoperability). Interactivity and interoperability in DTV, beside being favourable to competition and pluralism, also address the need of enabling all European citizens – even those with low ICT skills – to achieve digital connectivity and social inclusion. In EC (2004), the Commission also acknowledged the importance of open standard for API, which can facilitate interoperability; however, at that time the Commission did not consider necessary nor appropriate to mandate any open standard. Instead, the Commission found as a more suitable alternative that of inviting member states to consider the possibility of offering consumer subsidies for this kind of open decoders, due to the obstacles and additional costs involved in the adoption of a complex open standard such as the MHP. These points, considered per se, suggest that the EU policy would allow in principle a subsidy like that offered by Italy.

However, the Italian measure appears critical under the last two steps of the test, those verifying the appropriate design of the aid and its limited distortionary effects on competition and trade. Assessing the correct design of the aid involves three stages: the existence of the basic problem (be it a market failure or a social cohesion problem), the appropriateness of the aid as a remedy, and the parsimony of the measure with respect to the objective (“the minimum necessary” criterion). The Commission’ analysis of the possible market failures arising from digital switch-over in Italy pinpoints four possible types:

1) Coordination failures between market players.

53 The Framework Directive (by Art. 18(3)) requires the Commission to examine the effects of Art. 18, concerning interactive television services. If a sufficient degree of interoperability and freedom of choice for users has not been ensured in one or more member states, the Commission may act in order to make certain standards mandatory. At that time the only example of eligible open standard was the MHP (Multimedia Home Platform) developed by DVB consortium.
54 This analysis somehow resembles that carried out in the Berlin-Brandenburg decision (see EC, 2005b; sect.101-120) - the first German case on DTT to be settled. So, in exposing the Italian case, we make comparisons with the German one.
These can be of two types. First and foremost, due to the rival and scarce nature of the spectrum, and the additional costs of transmission implied by the simulcasting regime, broadcasters need to coordinate the spectrum blocks used and then to agree on common deadlines for the analogue switch-off. This type of coordination mainly affects the supply-side. Further, consumers might delay the DTV adoption until a sufficient number of broadcasters or varieties of channels is available on the new platform: this interdependence between hardware and content - technically, an indirect externality - requires coordination between demand and supply, but also interacts with the first type of coordination, which acts as a precondition. According to the Commission, both the German and the Italian measures (respectively, a transmission cost subsidy and a decoder subsidy), are technically inadequate to address these coordination failures (see respectively, sect. 102 in EC, 2005b and sect. 146 in EC, 2007a). In particular, in the case of Italy, the Commission affirms that a legislative deadline is a sufficient instrument for market coordination and an early analogue switch-off, and that, given the dominant position of the terrestrial platform in the Italian TV market, the second type of mis-coordination (that between demand and supply) is unlikely.

The Commission´ position appears plausible, although incomplete and potentially misleading. Undoubtedly, it is right in affirming that demand-side instruments such as subsidies are inappropriate to solve supply-side coordination problems. However, its reasoning is less rigorous when it comes to analyse effective alternatives, found in a legislative deadline for the analogue switch-off. This passage is rather simplistic, and fails to acknowledge the complexity of the Italian DTT coordination failures. First, Italian broadcasting policy has chronically lacked enforcement, so that any single drastic measure, such as a close legislative deadline for switch-off, fails to appear a credible commitment: the 2006 deadline was perceived as unrealistic by market players since its initial statement, before being postponed to 2008 and now to 2012, as in most EU “DTT followers” countries. Second, a legislative deadline alone does not remove the obstacles preventing a prompt networks’ roll-out: basically, the chronic spectrum chaos and the countervailing policy measures (based on decentralised private spectrum trading) do not guarantee any effective, country-wide and timely spectrum redistribution and coordination. After all, the same AGCM (2004; p. 137-9) had previously warned Italian Government and Parliament that centralised operations of spectrum reassignment were the unavoidable precondition for enabling the deployment of a sufficient number of national and local multiplexes in Italy. Finally, additional supply-side conditions – mainly antitrust measures - need to be guaranteed, before a smooth and pluralistic DTT take-off can occur.

2) Positive externalities from the switch-off.

Basically, total benefits from switch-off may largely surpass broadcasters’ private incentives to migrate to digital. This point is particularly complex for Italy, as shows its comparison to

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55 This coordination requires as a precondition a suitable nation spectrum management policy. Usually, Western countries created digital slots reserved to DTT experimentation and launch, and then assigned them to broadcasters. This did not happen in Italy, as illustrated supra.

56 “Chicken-egg” coordination problems in DTV have been studied by Adda and Ottaviani 2005, Mayer and Ottaviani (2006) for UK, and Gupta et al. (1999) for US.

57 Demand-side instruments typically address static distribution aims and consumer welfare targets; here their efficacy is generally proved.

58 The credibility of the policy is lowered in this particular sector by the public service nature of TV and its socio-political influence. Operators and TV viewers expect that analogue transmissions will not be switched off until a quasi-total share of the population is equipped to receive digital services. These expectations need to be counteracted with more powerful incentives, than simple decoder incentives.

59 Among these, Matteucci (2005) recalls the de-concentration of the advertising market (to enable other national broadcasters to finance the relevant DTT investment) and the break-up of some anticompetitive ties which link the private incumbent with some of the smaller players.
Germany. In EC (2005b, sect. 103-107), the Commission objects to the Federal Government’s argument that the German transmission subsidy is an appropriate instrument to stimulate a prompt switch-off and the release of analogue frequencies. First, it holds that direct spectrum regulation to be the most appropriate instrument, as, for example, to limit the validity of the analogue licences to the switch-off. Second, it argues that German incumbent broadcasters need not be further compensated for releasing analogue spectrum, since they were awarded DTT licences in exchange. Moreover, digital transmission is cheaper than analogue, and allow to carry more and improved services (pay-TV, interactive services, portable reception), so that broadcasters do internalise some of the positive externalities of the switch-off; this further reduces the need for their compensation with public funds. These considerations equally apply to the Italian case, in a reinforced way. The first reason is the preferential legislative treatment given (mostly by Law n. 112/04) to Italian analogue incumbents on spectrum, illustrated supra. In particular, contrary to the German ones, Italian broadcasters were left maintaining all their analogue spectrum (including that redundant!), without any limit or binding restitution obligation. This is also the main reason why Italy is likely to miss any digital dividend, and the Commission opened an infringement procedure under art. 226 of the EC Treaty (see supra). Similarly, while the analogue switch-off might potentially promote competition and reduce the oligopoly rents enjoyed by existing broadcasters, these potential pro-competitive effects do not entitle incumbent broadcasters to claim any public compensation; nor – adds the Commission - does the fact that the open technology subsidized by the Italian measure is prone to some free-riding by competing broadcasters, and therefore unattractive for strategies of private subsidization. More generally, the relation between multiplatform competition (as stemming from analogue switch-off) and state aid unfolds other aspects, worth to be further analysed.

3) Strengthening of competition between transmission platforms.
This point specifically addresses the influence of state aid on market power and multiplatform competition. Market power typically reduces consumer surplus, so that any state aid measure which reduces the former could be conducive to the latter; at least, this effect is likely in a static setting of analysis. However, the Commission (2007a, sect. 153-4) does not explore this point. It simply argues that the Italian measure cannot be considered legitimate on the basis of its pro-competitive effects in the pay-TV market; and remembers that pro-competitive conditions (mainly behavioural remedies) were already imposed as part of the clearance of the Sky’ merger case (see EC, 2003b). Then, it synthetically concludes that in general state aid is not an appropriate instrument to solve competition deficits. Indeed, while we cannot disagree with the last sentence, we believe that the relation between state aid, market power and competition would deserve a much deeper evaluation, so that the Commission’ reasoning appears superficial.

Paradoxically, a fuller treatment of the same point was provided by the Commission in the first German DTT case, where it would have been less compelling, due to the higher level of concentration.
of multiplatform competition existing in this country. In fact, in EC (2005b; sect.108-114) the Commission notices that in the Berlin-Brandenburg TV transmission market there is no evidence of a competition deficit: several platforms guarantee both intraplatform (within cable) and multiplatform (cable, satellite and IPTV via DSL) competition. Since there is no apparent market failure, the German transmission subsidy for DTT broadcasters appears not justified to the Commission. Moreover, it warns that any selective support to DTT might deter investment in competing networks (such as the emerging IPTV via DSL), thereby contradicting the general NRF principle of technological neutrality and its related goals of facility-based competition and investment: as effectively summarized by the relevant Commission’s Communication (see EC, 2003c; p.15), during the switchover “in principle, each network should compete on its own strengths”.

Traditionally, the neutrality principle admits a few exceptions. First, multiplatform (or intraplatform) competition may lack. As the Commission hypothesizes in the German case, if there were a competition problem at network level, specific state intervention could have been legitimate, but the measure should have targeted that level, with transparent measures aimed at the development of the concerned platform. Second, other well-defined general interest rationales may allow selective aid to a particular network. To summarize, also in these exceptions to the technological neutrality principle, state aid would be subject to the proportionality test.

Italy situation seems to be eligible for both exceptions, so that in principle appropriate state aid could have been called for. In fact:

a) Differently from Germany, in Italy at the launch of DTT multi-platform competition was negligible, because of the absence of cable, the merger to monopoly in satellite (Sky), the technological backwardness of DSL and the “blockaded duopoly” in terrestrial TV (RAI-Mediaset). Moreover, the high level of vertical integration existing in Italian TV (both in the pay-TV and FTA markets), enabling foreclosure of the downstream broadcasting markets, would have called for asymmetric measures favouring new entrants, as provided for by EU regulation in TLC.

b) Additionally, general interest would legitimate interventions aimed at rendering more pluralistic the Italian incumbent FTA platform - a necessity advocated by the Italian Supreme Court’s rulings, both in 1994 and 2002.

So, it seems to us that the Commission’s argument that state aid is not an appropriate mean of stimulating competition in not true for Italian TV, which is indeed plagued by several market failures, mainly attributable to market power and reinforced dominance.

Rather, a more appropriate argument – perhaps too politically sensitive to be spelled out - would have been that the Italian measure did not address at all multiplatform competition and vertical integration concerns; on the contrary, its actual design overtly favoured incumbent operators. First, the subsidy design was too simplistic, while the Italian market structure is far more complex than the representative European one, where the network is neither owned nor operated by the broadcaster. Further, the measure was not preceded by antitrust intervention, as instead recommended by several authoritative institutions. Specifically, demand side state aid instruments (subsidy and informative

\[64\] As an example, the Commission suggests that an open tender procedure for the award of the network licences could have determined the extent of the aid needed for the take-off of the terrestrial platform.

\[65\] As reminded in EC (2003c; p.15), “any public support for one particular option cannot be excluded but should be justified by well-defined general interests, and implemented in a proportionate way. Otherwise it would appear discriminatory and could jeopardise investments in other networks”. This provision also caters for the principle of subsidiarity permeating EU broadcasting policy.

\[66\] With vertical integration between broadcasters and network operators, any measure targeting the latter is immediately reflected into the former: so, the cautionary guideline of the Commission in the German case – that of conceiving a state aid measure targeting the network level, in Italy would be useless.
campaigns) should have been carefully prepared by supply side intervention: at least, centralised spectrum coordination and refarming could not be postponed, to avoid that the existing spectrum bottlenecks asymmetrically had channelled the benefits of state aid, directing them to the sole benefit of a few private incumbents (those eventually requested to reimburse the aid).

So, rather than merely dismissing the pro-competitive effect of the subsidy in pay-TV, the Commission should have compared it with the effect in the FTA market, where pluralism concerns have always been bigger. As explained supra, here the effects of the subsidy (and the overall DTT policy) have been perverse. In fact, in FTA dominant terrestrial broadcasters have been able to pre-empt the digital market – while waiting for its spontaneous take-off – and at the same time maintain an unchallenged dominant position in the analogue one, using its rents to cross-subsidize strategies in emerging markets (pay-TV). This unpleasant outcome, rather than de-legitimising state aid in toto, recalls the need for a more comprehensive test of state aid control, including efficiency criteria and the so-called “effect-on-rival” analysis (see Friederich et al., 2006).

To conclude, we believe that, once designed appropriately and accompanied by coherent regulatory policy (such as the “ladder of investment”, see Cave 2006), state aid intervention can effectively stimulate the roll-out of alternative and more performing platforms.

4) Promotion of innovation.
We believe that this point is crucial to understand DTT policy in EU. After having considered the intrinsic innovative potential of DTT, the Commission needs to assess if a market failure is preventing the platform deployment and thereby the diffusion of DTV; if this is the case, the Commission must allow state aid to legitimately and proportionally compensate for it, to avoid that innovation is stifled and the achievement of the social goals from Information Society prevented.

Again, the German case better highlights the Italian one. In the former, the Commission develops a rather harsh critique of the techno-economic profile of DTT (see EC, 2005b; sect.115-119). However, what is primarily at stake here is not the presence of a market failure (which is indeed not found), but the very innovative potential of DTT, which is severely belittled. First, the Commission argues that interactivity is not an intrinsic feature of DTT, since, as for satellite, it needs a separate TLC return channel. Moreover, the Commission questions the actual effectiveness of the other purported technological advantages of DTT; in fact, it notices that in Berlin-Brandenburg neither the market developments nor the subsidy’s conception are targeted to the introduction of the new media and telecom services, thereby reducing the DTT technological novelty. However, the most striking sentence is found in section 119, where the Commission, after having affirmed that the delay in the DTT roll-out is not hindered by market failures (but rather by its mediocre technological profile), concludes that «public support of DTT […] may hamper the roll-out of other platforms, e.g. DSL, which might have other advantages in terms of innovation and technology and are capable of developing autonomously». The moral of the German case, indeed, is rather clear and drastic: the low diffusion of DTT is not the by-product of a failure of the market (which cannot provide a better alternative), but quite the opposite: is the normal outcome of the market functioning, which marginalises an inferior platform. In this context, asymmetric public support to DTT would be distorting, since it creates an artificial advantage that hinders the better performance of competing platforms (mostly DSL and digital cable), and channels consumers to a second best alternative (DTT).

Since the technology of the concerned platform is identical (being based on the same European standard DVB-T), one would expect a similar conclusion in the Italian case too.
Instead, in EC (2007a; sect. 161-65) the Commission does not tackle at all the intrinsic technological features of Italian DTT (interactivity, interoperability, new media and TLC services, mobility), neither assesses if these technical features are really worth the subsidy they got from the Government. It only argues that the raisons adduced by Italy to justify the satellite exclusion are flawed, since interactive and interoperable satellite decoders were technically available (at least for FTA services).

So, the Commission avoids examining the many technical criticalities displayed by Italian DTT - mostly the patent failure of the interactive and interoperable services via DTT, which was the core original justification for its public support. Interactive services – both private and public – should have been developed and delivered via the DTT platform, despite the substantial immaturity of the technological platform and the tentative nature of the business model. Nor the Commission discusses the strong ambiguity intrinsic to the multidimensional “standard openness” criterion (see West, 2003), on which Italy has based the interoperability requisite.

In time, there has been a mounting evidence witnessing the unrealistic ambitions surrounding the various T-government and T-business projects, most of which are now frozen. The Commission’s neglect of this point is quite surprising, and irreconcilable with the increasing evidence on the poor performance of DTT interactivity and its negligible use by TV viewers.

Finally - and more important - the Commission refrains from applying in Italy the same reasoning applied in Germany about the distortionary impact of state intervention on alternative network roll-out; as we saw in section 2, Italy stands as an exemplary case of captured and distortionary policy-making, which largely accounts for the protected and abnormal supremacy of the terrestrial platform. Missing the opportunity offered by the digital switch-over, equals to miss an historical opportunity - perhaps the last one - offered for the restructuring of the communication industry, and a move towards a superior technological trajectory.

To summarize, the Commission’s position appears rather ambiguous and perhaps too deferential to the traditional member state’s competence in TV policy. As a result, in a few member states – in primis Italy - the NRF priority of establishing a level playing field among communication platforms may result impracticable. Consequently, the lack of an enforced level playing field hampers the possibility to achieve a fast analogue switch-off, and thereby

67 In reality, truly interactive services (not MHP based) were already available at the end of Nineties also in satellite pay-TV, as part of the Stream bouquet. They were later discontinued by Sky, after the merger. Moreover, the Commission’s satellite-DTT comparison appears rather superficial, since there are other techno-economic elements (beside interactivity and interoperability) that contribute to qualify satellite as a superior digital platform, with respect to DTT (see also Matteucci, 2004a; chp.4).

68 Concerning the first: narrowband of the TLC return channel, insufficient memory of the decoder, absence of shared standards and solutions for the delivery of T-government services. Concerning the second: lack of complementary technical services, lack of consumer’ skill for e-commerce and e-government via DTT, unsuitable marketing strategies; on these points, see also Matteucci (2007).

69 Recently, a DGTVi (2006; p.88) study has remarked that the role of interactivity in DTT was overstated. A small share of decoder holders keeps connected the decoder to the telephone socket, and fewer use interactive services. Most of the services accessed qualify as local interactivity: quizzes, games and reality-shows. They work as traditional TV-text, for which a MHP module for remote interactivity is redundant. Similar conclusions regarding T-government initiatives have been drawn by the CNIPA President at a recent Parliamentary hearing on DTT (see CNIPA, 2007).

70 The EU DTV policy clearly favours the objective of a fast switchover on the platform operator’s private interest to keep its position of incumbency. In fact, EC (2003c; p.15) says that: « […] each individual network should not necessarily enjoy the same position in the digital landscape as in the analogue landscape.»

71 The relation between a fast switch-off and multiplatform competition is clearly spelled out in the EU DTV policy. In fact, EC (2003c; p.14-5) says that: «In order to promote the fast and efficient achievement of this objective, all transmission networks should be taken into account (primarily cable, satellite or terrestrial). This
the ultimate achievement of the “e-Europe” goals.

4. Conclusions

Italian broadcasting has been mainly terrestrial since the analogue era. In time, this mono-platform communication landscape has been plagued by a “blockaded” national duopoly and a fragmented and stifling local broadcasting offer, economically marginal. Most of these characters are rooted in broadcasters’ lobbying, discriminatory and un-enforced rules and regulatory capture: the story of cable TV in the Seventies was paradigmatic.

In this critical situation, the DTT launch should have signed a radical change in the policy-maker’s attitude, but the actual policy, once again, has not come up with expectations. First, the recent introduction of private trading of TV spectrum has worsened the pre-existing chaos affecting the latter; then, simulcasting and transmission interferences have undermined the technical reliability and attractiveness of the new DTT services – especially the FTA ones. Moreover, this choice has not solved the asymmetric, inefficient and concentrated spectrum allocation. Beside that, the chronic concentration of the advertising market has been left ignored, thereby allowing its gradual reinforcement.

Because of the indirect network externalities and the positive feedbacks existing in the TV value chain, these concentrative trends are now extending to DTT. Face to this difficult situation, the whole Italian DTT policy has been called into question, mainly by European authorities. Beside opening an infringement procedure on Italian spectrum regulations, the EU Commission has declared the DTT subsidy campaign – perhaps Italy’s chief claim to fame in Europe - as an illegal state aid to be reimbursed by the concerned pay-TV operators.

First, this paper shows how successful was the subsidization campaign; its strong price effect, together with the attractive and exclusive pay-per-view content offered on the DTT platform, boosted DTT decoders diffusion, which has eventually caught up with that of satellite (excluded from the subsidy campaign), challenging the previous quasi-monopoly of Sky. At the same time, the paper argues that the low attractiveness of the FTA offer deprives the DTT platform of a self-sustained dynamic of adoption, able to support a fast switch-over and an universal diffusion.

Second, the paper analyses the main passages of the EU Commission decision. A first noticeable point is the logical link made by the Commission between the spectrum regulation and the subsidization campaign. In fact, after having demonstrated the indirect advantages for the pay-per-view operators (in primis, the public financing of audience creation in a new market and the “temporal advantage” in it), the Commission connects these to the exclusionary rules on spectrum: the latter, blocking entry of new comers into DTT, automatically reinforces the selectivity of state aid, channelling its benefits to a restricted set of incumbent operators. Further, the selectivity and the distortion of the measure also dampen those operators using satellite, without any justifiable rationale. Moreover, the paper argues that the Commission’s analysis, although logically correct, suffers from a static bias which leads to understate the magnitude of DTV foreclosure. Finally, the paper remembers that the standard remedies available under state aid control do not allow the Commission to re-establish a playing level field. To summarise, these points confirm the “selectivity” and the “distortion of competition” bias of the Italian measure, and its neglect of the principle of technological neutrality stated by the NRF.

Another main point is the Commission’s analysis of the applicability of the exceptions for legal state aid, particularly that under Article 87(3)(c), addressing measures that pursue an approach recognises that network competition contributes to the roll-out process. […] It encourages facilities-based competition and investment, thus contributing to the multi-platform approach of eEurope.
objective of common interest. On one side, the Commission recognises that the promotion of the digital switch-over and the diffusion of open standards for interactivity qualify as objectives of common interest. However, the Italian measure does not meet the additional qualifications of necessity and proportionality, minimizing the resulting competition and trade distortions. In particular, the Commission stresses that the risk of coordination failure during the switch-over is not appropriately addressed by monetary subsidies, as previously stated in the literature; moreover, this calls for supply-side measures, such as a centralised spectrum policy, which instead were neglected. Further, the Commission clarifies that the pro-competitive effects displayed by the measure in the Italian pay-TV market cannot legitimate state aid as an appropriate instrument to solve competition deficits. While this position can be generally accepted, its application to the Italian case differs from that given in the German one. In particular, we argue that Italian larger deficit in multiplatform competition would legitimately call for a more interventionist policy favouring alternative networks roll-out.

A final point concerns the technological assessment of DTT, in comparison to the alternative platforms. Also in this case, we notice a diverging attitude of the EU Commission, which refrains from the same harsh criticism expressed judging the technological potential of DTT in Germany. Moreover, its overall assessment of the platform in Italy does not tackle at all the strong ambiguity, neither discusses the virtual failure, of the interactivity and the interoperability of DTT, which were the main original justifications for its public support.

Indeed, the Italian DTT policy - and in particular its subsidization campaign - represents a peculiar and unique case of state aid control, difficult to tackle because of its inner complexity, but also for its uncommon mixture of lobbying dynamic, flawed regulation and institutional conflicts. While the first type of difficulty may find solutions in a more rigorous economic approach to state aid control in media markets (for example, widening the consumer welfare standard to include further criteria, such as the “effect-on-rivals”), the second type of phenomena directs our attention to sociological and political science disciplines.

On overall, the central message of the paper is that Italian DTV policy continues to dampen multiplatform competition. Particularly, there is a certain risk that the country is already entrenched in an inferior technological trajectory.

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