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EU-TURKEY ACCESSION NEGOTIATIONS

IMPACT ASSESSMENT OF CHAPTER 10 ON INFORMATION SOCIETY AND MEDIA

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EU-TURKEY ACCESSION NEGOTIATIONS

IMPACT ASSESSMENT OF CHAPTER 10 ON INFORMATION SOCIETY AND MEDIA

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CEPS SPECIAL REPORT/3 JULY 2009

EXECUTIVE SUMMARY

On 18 December 2008, the EU opened a new chapter in its accession negotiations with Turkey on Chapter 10 on Information Society and Media. In its common position of 18 December 2008, benchmarks were established as regards the alignment of primary legislation with the EU *acquis*, remedies and authorisations, the administrative capacity and independence of the telecoms regulator, the reform of legislation on audiovisual policy and the launch of an extensive public consultation with stakeholders. Against this background, the Turkish government has undertaken a number of initiatives that promise to bridge the gap with the EU *acquis*. These include the enactment of a new law on electronic communications, No. 5809; a redefinition of the institutional framework that led to the creation of a new integrated regulator (ITCA); and important steps towards a more dynamic and effective spectrum policy, which include the award of long-awaited 3G licenses and upcoming WiMax and MVNO (mobile virtual network operator) licenses.

More in detail, in the telecoms field the latest progress report published by the European Commission in November 2008 acknowledged that Turkey is progressing in its gradual alignment with the EU *acquis*. However, outstanding concerns remain on several issues such as universal service, licensing, and the need to promote competition in the fixed sector, especially in the ISP market. In addition, there is a need to reduce communications taxes imposed on operators, which have proven detrimental to market entry, penetration and usage intensity, especially in the mobile sector. Finally, the relative independence of the sectoral regulator was found to be detrimental for Turkey's growth in this field.

Compared to the telecoms sector, the area of audiovisual services is certainly the one where the most significant discrepancies still exist between the EU *acquis* and the Turkish framework. This is particularly important since, with over 14 million television-owning households, the Turkish broadcasting market is one of the largest in Europe. The yardstick for assessing the situation in Turkey is the EU Television without Frontiers (TVWF) directive. Major divergences are found in many areas, including definitions, jurisdiction, freedom of reception, promotion of European and independent works, advertising and tele-shopping, protection of minors, restrictions on the share of foreign capital in radio and television companies, funding of the

public service broadcaster, independence of the regulatory authority (RTÜK) and the targets set for digital switchover (2014 v. 2012).

In November 2008, the new Turkish law on electronic communications was finally passed. One of the main purposes of Law No. 5809 is to align the Turkish regulatory framework with the EU *acquis*. However, this objective was only partially achieved. The new law can be significantly improved: provisions on universal service, spectrum planning, tariff regulation and general provisions on the competencies of the NRA (national regulatory authority) give the impression that the NRA could act as market regulator, planner and supervisor, taking over also the responsibilities of the NCA in scrutinising operators' conduct *ex post*. Provisions on tariff regulation are often not linked to the performance of a market analysis, and some articles suggest that SMP notification will not be needed in order for the NRA to apply a plethora of rather intrusive remedies. Finally, legal certainty is hampered by other provisions, including provisions on the revocation of spectrum.

Moreover, the law itself seems to introduce an element of complexity into the system, and thus fails to provide the long-awaited (and strongly requested at EU level) streamlining and simplification of the regulatory framework. This is due to the very long set of transitional measures ('Final Provisions'), and – more generally – to the choice made by the Turkish legislature to enact a law that amends previous legislation, rather than a brand new law. In this respect, developing and enacting a **consolidated text** would have been far more preferable.

Looking forward: Regulatory alternatives and policy scenarios

This report addresses a number of issues that are likely to come under the spotlight in the negotiations of Chapter 10 in the months to come. These include universal service, licensing and authorisations, spectrum policy, number portability, mobile termination, MVNO licensing, taxation of e-communications services and available options to open up the fixed-line sector to competition. For each of those issues, we identify a number of regulatory options and provide an analysis of the strengths, weaknesses, opportunities and threats of the option at hand. Table 1 below contains a summary of all the options considered for each of the issues analysed.

Options were combined into four different scenarios, in order to identify the combination likely to bring the highest net benefits for Turkish citizens. Each scenario was then subject to a cost-benefit analysis. Costs are expressed in terms of, *i.a.* opportunity costs, inefficiencies in policy formulation and implementation, low-quality business environment and administrative costs. Benefits are expressed in terms of reduced price, increased competition, innovation and growth, availability of products and services and choice for consumers, regulatory certainty, more efficient governance, etc.

Table ES1. Regulatory options

Option	Description	Costs	Benefits
UNIVERSAL SERVICE			
1.1.0	No policy change	☻	☻
1.1.1.	More transparency in the allocation of the USF	☻☻	☻☻
1.1.2.	More transparency and transfer of USF to the Telecom authority	☻☻☻	☻☻☻
1.1.3.	**Alignment with the *acquis* through a new USO regulation**	☻☻☻	☻☻☻☻
LICENSING AND AUTHORISATIONS			
1.2.0.	Maintain the wording of Law No. 5809	☻☻	☻☻☻
1.2.1.	**Full alignment with the EU *acquis***	☻☻	☻☻☻☻
1.2.2.	General authorisations for all services	☻☻☻	☻☻
1.2.3.	A hybrid system	☻☻☻	☻
SPECTRUM POLICY			
1.3.0.	No policy change	☻☻☻☻	☻☻
1.3.1	Introduction of service and technology neutrality in specific bands	☻☻☻	☻☻☻
1.3.2.	**Clustering of digital dividend in line with COM(2007)700**	☻☻☻	☻☻☻☻
NUMBER PORTABILITY			
1.4.0	**Implementing current plans**	☻☻☻	☻☻☻☻
1.4.1.	**Reduction of switching time to less than 5 days**	☻☻☻☻	☻☻☻
TERMINATION RATES			
1.5.0.	No policy change	☻☻☻	☻
1.5.1.	'Glide path'	☻☻	☻☻☻
1.5.2.	'Glide path' towards 'single efficient MTR'	☻☻☻	☻☻☻
1.5.3.	**'Glide path' + no internal non-discrimination obligation**	☻☻	☻☻☻☻
MVNOS			
1.6.0.	No action on MVNOs	☻	☻
1.6.1.	**Authorisation of MVNOs**	☻☻	☻☻☻☻
1.6.2	Mandated entry of MVNOs	☻☻☻☻	☻☻
PROMOTING COMPETITION IN THE FIXED-LINE AND BROADBAND SECTOR			
1.7.0	No policy change	☻☻☻☻	
1.7.1	**Investment ladder**	☻☻	☻☻☻
1.7.2	Regulatory holidays	☻☻	☻
1.7.3	Functional separation	☻☻☻☻	☻☻☻
TAXATION			
1.8.0.	No policy change	☻☻☻☻	
1.8.1.	**Elimination of Treasure Share and SCT**	☻☻	☻☻☻☻
AUDIOVISUAL POLICY			
2.1.0.	No policy change	☻☻	
2.1.1.	Alignment with the EU AVMS Directive	☻☻	☻☻
2.1.2.	Alignment with the AVMS Directive + spectrum reform	☻☻☻	☻☻
2.1.3.	**Alignment with AVMS Directive + spectrum + improved governance**	☻☻☻	☻☻☻☻
NRA INDEPENDENCE AND ADMINISTRATIVE CAPACITY			
3.1.0.	No policy change	☻☻	☻
3.1.1.	Better delineation of competences in broadcasting, spectrum, licensing	☻☻	☻☻☻
3.1.2.	**Cooperation with NCA, reduced state ownership, transparency, RIA**	☻☻	☻☻☻☻

1. NO POLICY CHANGE

Under this scenario, Turkey would not introduce additional policy measures compared to laws and regulations that are currently being adopted (such as the licensing of 3G). In this situation, alignment with the *acquis* will of course remain insufficient, and one of the most important consequences for Turkey would be that negotiations on Chapter 10 would fail.

Overall, there are very little benefits that would accrue to Turkish citizens from preserving the current situation in the e-communications and media sectors. Without new legislation, Turkey would virtually remain outside of the EU; in addition, absent the streamlining of licensing and authorisations, very little competition would emerge in the fixed-line and broadband sector, due to difficulties in entering the local calls market. Moreover, rather rigid spectrum policy and the absence of a pro-competitive spectrum plan for the digital dividend will leave Turkish citizens with a rather limited possibility of entering the digital age from the front door. This situation would be worsened by the rigidities in the current audiovisual policy framework and consequently by the limited access to (foreign) premium content featured by the current framework. Recent changes in legislation to enable wholesale broadband access would not be sufficiently enforced due to limited capacity and independence of the NRA, both in the e-communications and (most notably) in the media sectors.

2. IMPLEMENTATION OF THE 2008 NPAA

The most important measures announced in the NPAA are related to:

i) Implementation of the Universal Service Directive (2002/22/EC) and access to emergency services (the so-called 112 emergence number) within 2 years;

ii) Adoption and implementation of the Authorisation Directive in line with Law No. 5809;

iii) Opening up the market to MVNOs in 2009 through general authorisations;

iv) Amendment of Law No. 3984 within 2 years to align it with the AVMS Directive as regards broadcasting principles, legal framework for digital broadcasting and its licensing, the transmission/re-transmission rights and the frequency allotment – i.e. licensing, authorisation and bidding – procedures; and

v) Improvement in the administrative capacity of the NRA.

3. 'FULL ALIGNMENT' WITH THE ACQUIS

This scenario includes currently proposed rules and policies at EU level and would require, compared to scenario 2, the following measures:

i) New rules are introduced to clarify the assignment of rights of way;

ii) Full alignment with the EU *acquis* on authorisation and licensing, through the removal of ambiguous provisions contained in Art. 9 of Law No. 5809;

iii) Introduction of service and technology neutrality in specific spectrum bands;

iv) Reduction of the porting time to one working day;

v) Glide path to eliminate the asymmetry in mobile termination rates and gradual convergence towards the 'single efficient MTR';

vi) Licensing of new operators for local calls and implementation of 'investment ladder' model; and

vii) The independence and effectiveness of the NRA are strengthened in order to ensure the effective implementation of already available remedies, especially in wholesale fixed-line and broadband access.

4. 'ALIGNMENT' PLUS PROACTIVE POLICY MEASURES

In addition to scenario 3, in this case Turkey would:

i) Adopt a spectrum plan based on the clustering of the UHF band proposed in the recent communication on the digital dividend;

ii) Implement current plans on mobile portability;

iii) Adopt a glide path to eliminate the asymmetry in mobile termination rates and refrain from adopting the internal non-discrimination obligation on one SMP player proposed in the analysis of market 16;

iv) Adopt the AVMS Directive, align with EU spectrum reform objectives and improve governance of spectrum by reorganising competences; and

v) Strengthen NRA-NCA cooperation, plan a reduction of state ownership of incumbents, increase transparency and adopt RIA.

Comparison of scenarios assessed

The table below summarises our scorecard analysis of the four scenarios, where each option has been scored from 1 (low) to 5 (high).

Table ES2. Summary scorecard analysis of the four scenarios

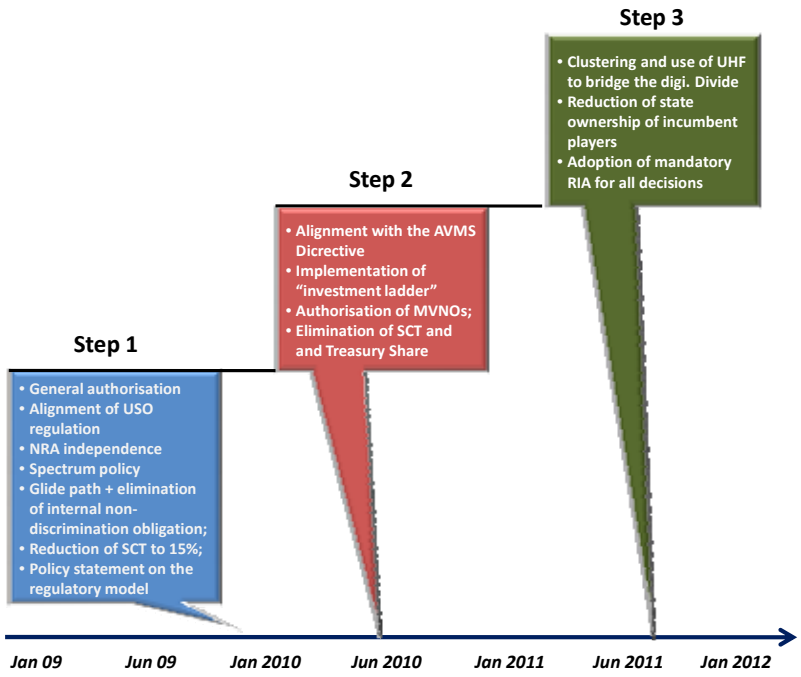
	Scenarios assessed			
Benefits	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**
Investment (foreign and domestic)	2	2	3	5
Competition	1	2	3	5
Benefits to end users	1	2	3	4
Harmonisation with EU *acquis*	2	3	5	4
Macroeconomic benefits	1	2	3	5
Average score	1.4	2.2	3.4	4.6
Costs				
Costs to industry players	3	3	4	2
Costs to end users	5	3	2	1
Switching/harmonisation costs	1	3	4	5
Employment costs	4	2	1	1
Administrative burdens	3	1	1	4
Average score	3.2	2.4	2.4	2.6
Benefit/Cost	0.44	0.92	1.42	1.77

The preferred scenario for Turkey is thus Scenario 4, in which the current debate on future EU rules (including rules on termination and portability) is not fully mirrored by the Turkish framework, and more time is left for operators to close the gap with the EU27 in sectors that have been affected by delays (e.g. in 3G services). Our conclusion is that Turkey may profit significantly from a set of targeted reforms, aimed at solving existing problems that have been highlighted, i.a., by the European Commission and also by the recent ECTA Scorecard 2008. These include:

- *The streamlining of primary legislation* – possibly through a consolidated text, which clarifies the currently confusing framework created by the enactment of a law (No. 5809) that overlaps and co-exists with previous laws and by-laws.
- *A more proactive approach towards the liberalisation of the fixed-line and broadband sectors*, possibly by implementing the investment ladder model (due to a lack of alternative infrastructures) and, in the medium-term, by addressing the problems of limited access to the local loops, concentration of all infrastructures in the hands of the same player, spectrum liberalisation and the optimal choice of the band used for WiMAX.
- *Efforts to bring the regulatory framework in line with the EU framework*, especially in the areas of Universal Service, spectrum policy and mobile termination rates.
- *A clear and reliable plan to drastically reduce taxation in the area of mobile and internet services*, thus boosting usage (also in terms of MoU) and penetration.
- *Striving for 'better regulation'*, by prioritising the clear delineation of roles and responsibilities between the various authorities active in the field, from ITCA to RTÜK, the Competition Authority, the Ministry of Transport, etc.; and also by providing for systematic use of impact assessment and public consultation.

Finally, we also explore the potential timing and sequencing issues that can lead Turkey towards the implementation of a welfare-enhancing policy strategy in the e-communications and media sectors. The graph below illustrates the proposed stages of reform.

Figure ES1. Proposed timing of steps



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1. INTRODUCTION

On 18 December 2008, the EU decided to open two new chapters in its accession negotiations with Turkey, namely Chapter 4 on the Free Movement of Capital and Chapter 10 on Information Society and Media. In this report, we focus on Chapter 10 and on the available options for Turkey in negotiating its provisions. In doing this, we follow the Impact Assessment methodology as developed in the EU and contained in the 2005 IA guidelines. In addition, we tailor this methodology to the specific features of the task to be accomplished, i.e. the appraisal of regulatory and strategic options available to the Turkish government from a cost-benefit perspective.

From many viewpoints, the Turkish e-communications sector is vibrant and fast-moving. With a population of 70 million of whom a majority are youngsters, Turkey has an enormous potential, which however can be unleashed only within a regulatory environment that is conducive to investment and competition. Against this background, some features of the Turkish regulatory framework have been often considered to represent an obstacle to the development of the sector. In earlier studies, Burnham (2006), Akdemir *et al.* (2007) and Atiyas and Renda (2007) have observed that modernising the Turkish telecommunications sector could boost lower prices, better choice of services, innovation and growth. For example, Akdemir *et al.* (2007) estimate that the potential contribution from Turkey's alignment with the EU *acquis* and implementation of a UK-like or Finland-like telecoms policy could be an increase in Turkish GDP of 0.428% yearly.

As regards regulatory reform, an important factor for Turkey is represented by the prospect of joining the European Union. Against this background, the European Commission has issued rather satisfactory statements on the state of alignment of Turkey with the EU *acquis* in the field of telecommunications services, although progress is still expected in a number of areas. By contrast, as highlighted by the European Commission in its 2006 Progress Report, Turkey was found not to be aligned with EU standards on e-commerce; likewise, concerns were expressed as regards the alignment of Turkish legislation with the EU *acquis* on audiovisual services and European standards, where progress "on most of the related priorities of the Accession Partnership is lagging behind considerably". Also in the latest progress report on EU-Turkey accession negotiations, the European Commission reported

that "Turkey has made some progress in the area of electronic communications, in particular regarding the secondary legislation"; however, the Commission also noted that "the country is only partially aligned with the EU framework", and in particular that "Turkey's level of alignment with the audiovisual *acquis* remains limited".

In its common position of 18 December 2008, the following benchmarks have been set for Chapter 10[1]:

1. *Alignment of primary legislation with the acquis*. Turkey must complete the legislative alignment with the *acquis* on electronic communications, and with the *acquis* on information society services[2].
2. *Remedies (secondary legislation) and authorisations*. Turkey should secure the implementation of competitive safeguard measures against operators with significant market power following market analyses, and the general authorisation regime in line with the *acquis*.
3. *Administrative capacity*. Turkey must ensure sufficient administrative capacity to enforce the acquis in the field of electronic communications, as well as the transparency, predictability and independence of the telecommunications regulator.
4. *Audiovisual policy*. Turkey should adopt legislation aimed at transposing the *acquis* in the field of audiovisual policy, including measures to ensure that the national legal framework complies with the principle of freedom of reception and retransmission of television broadcasts.
5. *Public consultation*. Turkey should complete a *public consultation* with the relevant stakeholders as regards the impact of the measures adopted in view of enhancing the transparency of the audiovisual regulatory process and the independence of the competent regulatory body.

These five benchmarks appear rather challenging and open to different interpretations. In many cases, there are several different options available to the Turkish government in reaching the benchmark. This is true especially for some of the benchmarks: for example, what constitutes "effective implementation" of competitive safeguards is open to interpretation, as are the concept of "sufficient" administrative capacity and independence of the regulator.

In the next sections, we briefly summarise the basic features of Turkey's information society and media sectors and the areas in which alignment with the EU framework is still missing. Section 3 will explore the options available

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[1] These benchmarks are intended as complements to the provisions already set in the Additional Protocol to the Association Agreement, which contain some provisions on both e-communications and audiovisual services. These, however, mostly overlap with the ones illustrated here in the text.

[2] As will be clarified in the next sections, in November 2008 Turkey finally passed its new Law on electronic communications (Law No. 5809), which will be analysed in detail In Section 2.5 below.

to the Turkish government in meeting the benchmarks, whereas Section 4 will combine those options into scenarios and discusses the timing of preferred measures. Section 5 offers some concluding remarks and comments on the need for monitoring and evaluation of the chosen policy options.

1.1 Methodological issues: a brief concept note

An impact assessment (IA) exercise implies standardised steps, such as problem definition, identification and assessment of alternative options, selection of the preferred option. For the purposes of this report, however, we have added some steps to reflect the complex nature of the exercise to be undertaken, which encompasses a number of different policy options. Accordingly, our methodology is articulated along the following steps:

- *Problem definition*. In this phase, the *status quo* is analysed. Normally, the specific aim is identifying market failures or regulatory gaps that could be filled by government intervention. In our case, the problem is already specified – Turkey needs to align with the EU framework along the benchmarks set in the Council common position in reopening Chapter 10. In addition, since our aim is to assess the most efficient and effective way to comply with the benchmarks set, it is useful to describe the current market developments, so to fully describe the *status quo* and establish a counterfactual for any assumed future legislative or regulatory change.
- *Definition of alternative regulatory options*. For the purposes of this IA report, regulatory alternatives are mostly related to the benchmarks set by the European Commission. Looking at the benchmarks, different sets of alternatives can be found in the enactment of new legislation/amendment of existing legislation; but also in different options to implement and enforce existing legislation; and in the provision of new capacity and a more independent status to the sectoral regulator. Accordingly, various sets of alternative options are likely to be found in such a complex process, and each of them has to be analysed in isolation.
- *Assessment of the pros and cons of each alternative option*. This phase involves an assessment of the expected risks and opportunities of each option identified in the main areas covered by the negotiation table. Where possible, the impact in the short to medium-term is quantified. For all issues covered, we develop a SWOT analysis, *i.e.* a detailed analysis of strengths, weaknesses, opportunities and threats.
- *Building and assessing "bundles of options"*. Once each of the major pending issues in EU-Turkey Chapter 10 negotiations has been analysed in isolation, we proceed to an analysis of available combinations of options, which we term "scenarios". Since they provide a comprehensive picture of the selected options, scenarios account also for possible interrelations between different regulatory options, and as such represent the most effective and meaningful way to assess the expected impact of Chapter 10 negotiations. Each option will be assessed by accounting for potential benefits

(investment, competition, end users, harmonisation with EU *acquis*, macroeconomic benefits such as growth and jobs); and costs (switching/harmonisation costs, costs for end users, industry costs, administrative burdens, etc.). For policy scenarios, we diversify options in terms of degree of alignment ("full", "partial", "none"); and timing of alignment (*e.g.* "big bang" v. "gradual").

- *Identification of the preferred policy option*. After the pros and cons of policy scenarios have been compared, an indication of the preferred alternative becomes possible. In most IAs, it is hard to identify one precise set of options that clearly dwarf all others in terms of costs and benefits. Moreover, the IA final outcome is only to be intended as a support to the government choice, not as a replacement for the political decision to be taken by policymakers. Section 4 of this report contains an identification of the suggested set of regulatory initiatives to be undertaken in Turkey, with an indication of the timing.
- *Monitoring and evaluation*. Once a set of options has been highlighted as preferable, it is useful to pinpoint which indicators and other tools or actions could be considered useful for monitoring the performance of the regulatory option and evaluating on an *interim* or *ex post* basis the achievement of the desired results. We do this in section 5 of this IA report.

2. PROBLEM DEFINITION ("ZERO OPTION"): TURKEY'S MARKET DEVELOPMENT AND ALIGNMENT WITH THE EU *ACQUIS*

We define the problem at hand in two different ways: the current state of play in the regulation of e-communications in Turkey (regardless of the EU *acquis*); and the lack of alignment with the EU *acquis*, which triggers regulatory intervention.

The telecommunications sector is a significant part of Turkey's ICT market, which accounts for 77% in a market that reached a total value of $23.5 billion in 2007[3]. The telecommunications market has grown by 26% over the last four years, and the share of electronic communications as a percentage of GDP was 3.19% in 2007. This ratio was higher than the EU25 average in 2006 (2.51%). Turkey is a net importer of ICT products and average spending per person on ICT is around $40 compared to $500 in the EU.[4]

Table 1 - Breakdown of the Turkish ICT Market (billion USD)

	2005	2006	2007
Telecommunications	14.3	15.4	18
IT	4.4	5.5	5.5
Total ICT	18.7	20.9	23.5

(Source: TUSIBAD)

In an executive opinion survey conducted by the World Economic Forum, Turkey was ranked 40 out of 127 countries in 2007 in terms of "the use of information and communication technologies by the government" and "improved efficiency of government services facilitating interaction with businesses and individuals". Turkey scored 4.6 on a scale of 1-7 and is placed in the top 2nd quartile of the countries surveyed, ahead of Greece, Poland, Czech Republic, Bulgaria, Slovak Republic, Belgium and even Japan, but behind Mexico, India and Brazil. Also, Turkey ranks 43rd in the 2008 E-Readiness rankings published by the Economist Intelligence Unit[5].

As the 2008 Progress Report indicates, Turkey has made some progress in the area of electronic communications and information technologies. As of June 2008, there are nearly 18 million subscribers to fixed lines, which lead to a penetration rate of approximately 25%. Fixed-line penetration has however been slowly decreasing since 2000, as in the EU27 on average. Revenues from fixed voice continue to decline in the EU in contrast with the rapid increase in

[3] Source: Turkish Informatics Industry Association (TUBISAD).

[4] ICT Market Survey 2007.

[5] See http://www.eiu.com/site_info.asp?info_name=ibm_ereadiness.

the mobile and broadband market. Nonetheless, the Turkish fixed-line incumbent is one of the most profitable firms of its kind in the world[6].

The total number of mobile subscribers in Turkey has reached 63.6 million corresponding to a penetration ratio of 90% in 2008, up from 60% in 2005. The convergence with the EU average is fastest in the mobile market (EU average mobile penetration was 111.8% in 2007). The number of internet subscribers has also increased with the majority using broadband (ADSL) subscription.

In terms of revenue the size of the telecommunications market in Turkey is large in absolute terms but small as percentage of GDP. According to latest figures in 2008, the total revenues in this sector amounted to 10.8 billion Euros (see Table 2 below) of which 6.1 billion Euros of revenue was generated by the mobile sector, 3.7 billion by fixed voice sector and only 722 million Euros and 289 million Euros by internet services and data communications respectively. As can be seen from Table 2 below, the cable television sector is still fairly underdeveloped. Among the candidate countries, Turkey is a dominant country with its large population, hence the market size. When the absolute amount of the revenues in each sub-sector is corrected for population size, and expressed as revenue per capita, Turkey's telecommunications market still exhibits a large potential for growth.

Table 2 - Telecommunications Market (2007)-in million Euros, Turkey v. Croatia

	Turkey	Croatia	Turkey	Croatia
	Revenue		Revenue per capita	
Cable television	39.4	14.6	0.54	3.29
Data communications	288.8	47.7	3.98	10.73
Internet services	722.5	121.5	9.96	27.35
Fixed voice	3714.5	691.2	51.23	155.58
Mobile	6104.9	866.4	84.18	195
TOTAL	10870.1	1741.4		
Total/GDP	3.19	4.87		

Source: Cullen International , 2008.

Main (fixed) telephone lines (per 100 inhabitants) have decreased from 26.9 in 2002 to 24.1 in 2007 representing a reduction rate of 2%. Several EU member states have experienced a similar trend in the fixed line telephony market although at varying degrees (with the exceptions of Malta, Romania, Slovenia and Spain). In contrast with recent trends in fixed line services, mobile sector has grown dramatically in the last decade. Mobile cellular subscribers per 100 inhabitants have reached 82.8 in 2007 and in 2008 90% penetration ratio has been achieved (ITU). There has also been strong growth in the last three years

[6] See, *i.a.* D: Neylan, *Alternative Telecoms Critical of Türk Telecom*, Sunday's Szaman, 4 January 2009, at http://www.sundayszaman.com/sunday/detaylar.do?load=detay&link=163147.

in both internet subscriptions and users where internet users (per 100 inhabitants) have increased from 14.2 in 2005 to 28.2 percent in 2007.

Table 3 - Basic telecommunications indicators for Turkey

	Main telephone lines (fixed lines) per 100 inhabitant	Mobile cellular telephone subscribers per 100 inhabitants	Personal computers per 100 inhabitants	Internet subscribers (total broadband) per 100 inhabitants	Internet subscribers (total) per 100 inhabitants	Internet users per 100 inhabitants
2002	26.9	33.2	4.3	0		
2003	26.5	39.1	4.7	0.3	1.7	6.1
2004	26.5	48.1	5.1	0.8	2.1	8.4
2005	25.9	59.6		2.2	3.1	14.2
2007	24.3	82.8	5.56	6.08	6.26	28.2

Source: ITU

2.1 Fixed telephony market

The number of fixed lines in 2007 was 18.2 million and almost 100 percent delivered by PSTN technology and 99 percent of the lines serve residential purposes. Turkey is still in the process of converting its fixed lines from analogue to digital, where the digitalization rate was 99% in 2007. Turkey has no party lines anymore which were seen as a potential barrier to any intensive use of the telephone service and an obstacle to local loop unbundling. The development of competition in fixed lines telephony market has been determined by the liberalization process in Turkey. Turkey liberalized first its national networks and then its local networks. Currently (2007) there are 32 operators using CS/CPS calls licensed under Type 2 licenses providing long distance services but local call services are provided by the incumbent, Turk Telekomunikasyon A.S. (hereinafter, "Türk Telekom"). Among long distance service providers, none provide Cable TV services.

There is almost no competition in the fixed telephony sector in terms of the numbers allocated by NRA, where in the case of Turkey no numbers has ever been allocated. Türk Telekom currently has 81% market share in terms of retail revenue, 91% in minutes of telephone traffic. At the national call level, the incumbent holds monopoly position with 92% market share (in minutes) and 78% in international calls.

2.2 Mobile market

The penetration rate in the mobile sector has increased rapidly over the last couple of years, but in comparison to other EU candidate countries like Croatia (113.4% in 2007), Turkey still lags behind. The majority (79.9%) of

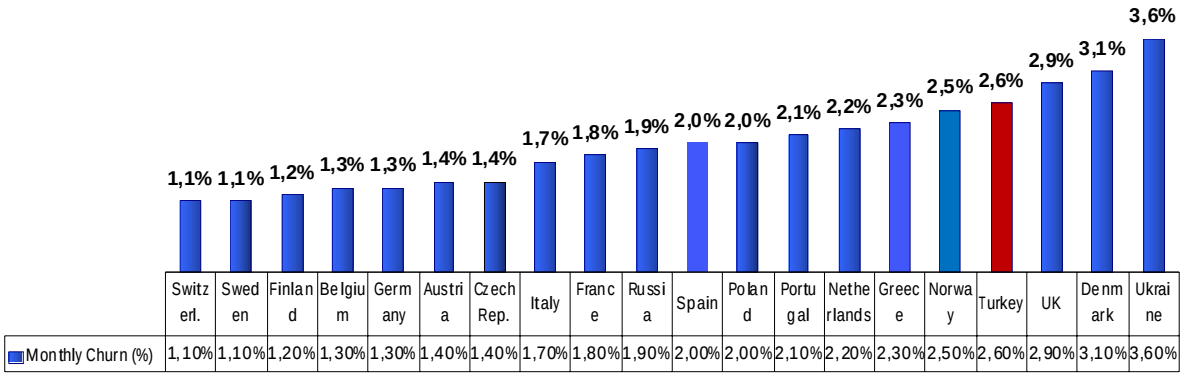
mobile subscribers use prepaid services in preference to post-paid services. In Turkey there are three licensed network operators: Turkcell Communications Services (since 1998), Vodafone Communications Services (1998) and Avea Communications Services (since 2001). After years of announcements and failed attempts, Turkey finally auctioned 3G licenses at the end of 2008, and the service should become operational in mid-2009.

Table 4 - Market Share of Mobile Operators

	as % of subscribers	as % of revenues
Turkcell	57	65
Vodafone	27	21
Avea	16	14

One interesting feature of the Turkish mobile market is the high churn rate of subscribers, despite the absence of 3G services and Mobile Virtual Network Operators. Figure 1 below shows that the monthly churn rate in Turkey is higher than in many other EU member states, and close to that of the UK.

Figure 1 – Monthly churn rate in 2008, selected countries



Source: Cullen International , 2008.

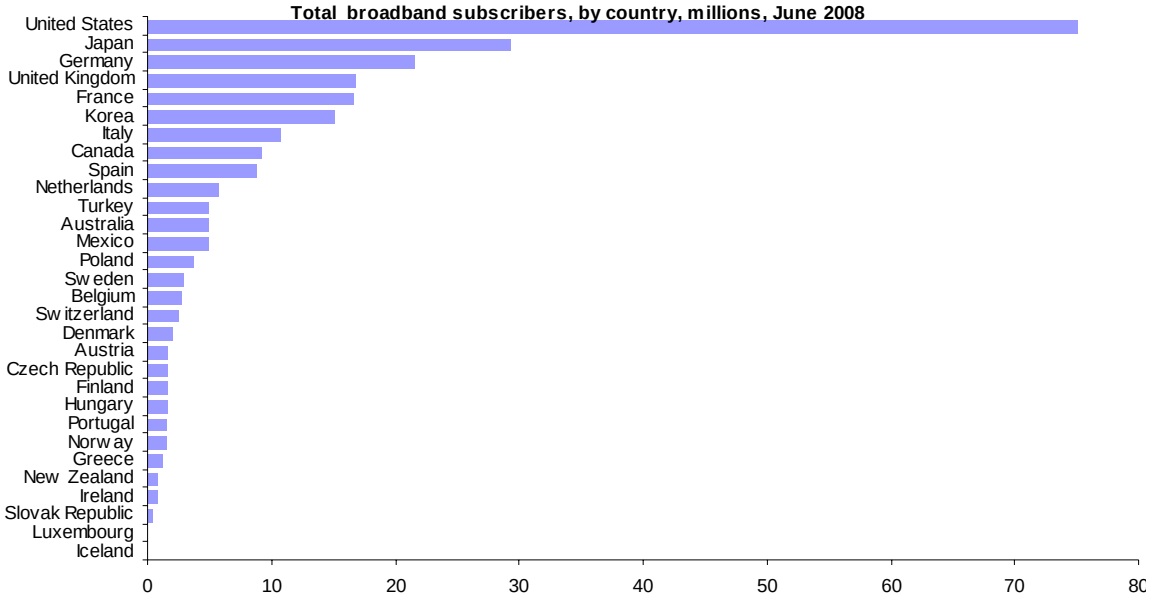
2.3 Internet and Broadband Market

Turkey has often had broadband penetration rates (6.3%) comparable to those of Romania and Bulgaria that joined the EU in 2007. However, as shown in Figure 2 below, in the past few years the number of Internet users

Turkey has a total number of 77 ISPs: however, the incumbent still holds a quasi-monopoly position in the market by accounting for 85% of revenues

and 94% of connections, where xDSL is the main access technology. Turk Telecom, the incumbent, does not provide DSL services at the retail level but only provide services for resale, including to its own ISP subsidiary, TTNet. TTNet had approximately 5 million subscribers as of July 2008 and the alternative operators have approximately 250,000 subscribers which have been acquired by resale method. The operators plan to migrate most of their subscribers from resale to bitstream over the next months. In addition to this, the LLU process has been already initiated in January 2008 with a few hundred subscribers (Cullen International, 2008). Currently, there is no broadband wireless access (BWA) spectrum licensing in Turkey, and although there is a general authorisation for provision of Internet services, there are no WiFi providers in the case of WLAN.

Figure 2 – total broadband subscribers by country, millions, June 2008



Source: OECD

Figure 3 – Broadband penetration in OECD countries, by technology, June 2008

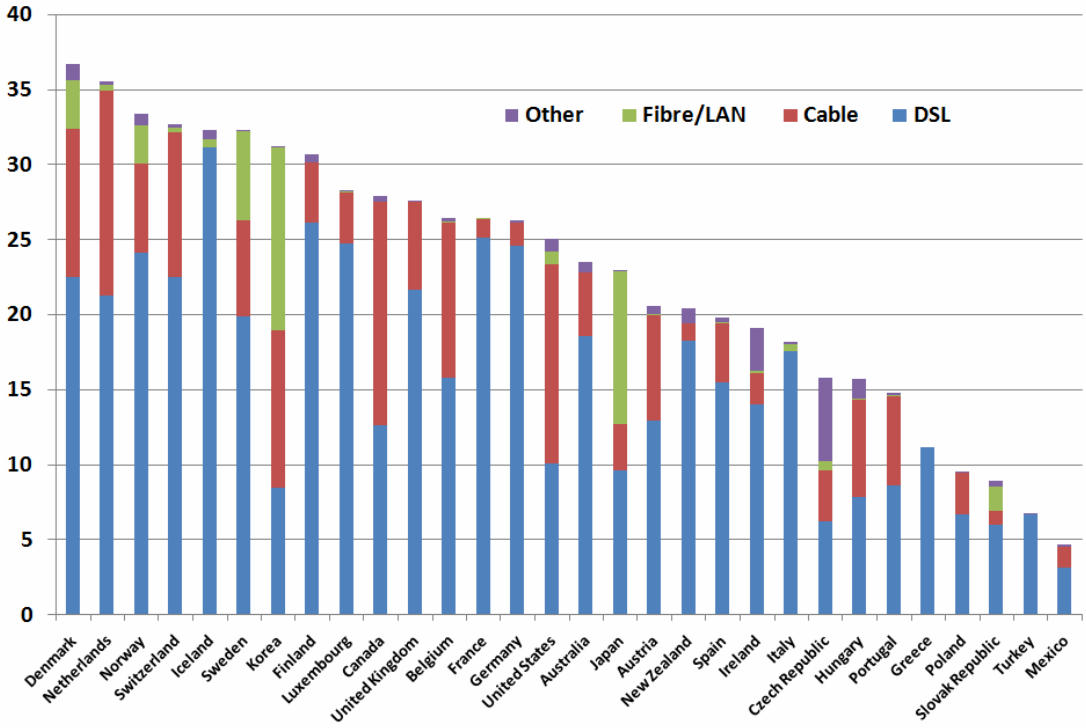


Figure 4 – Estimated internet users per 100 capita, 2000-2007

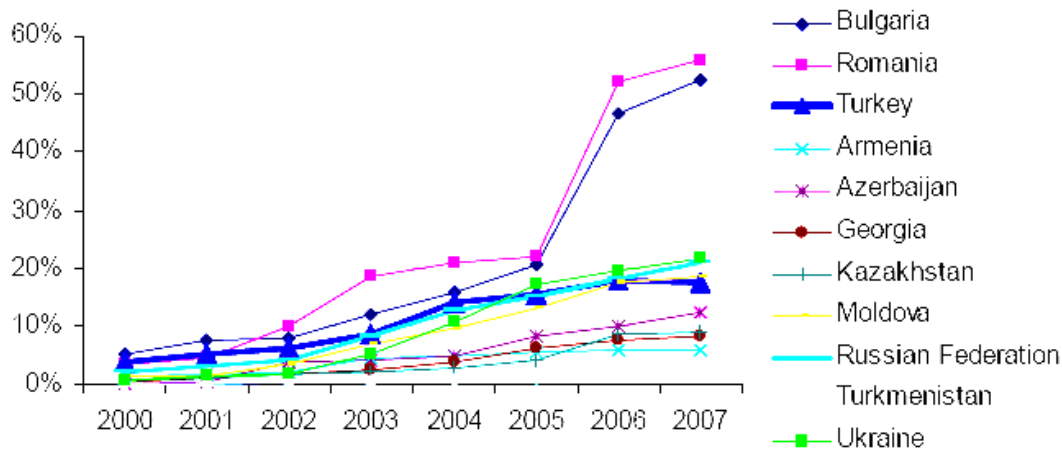
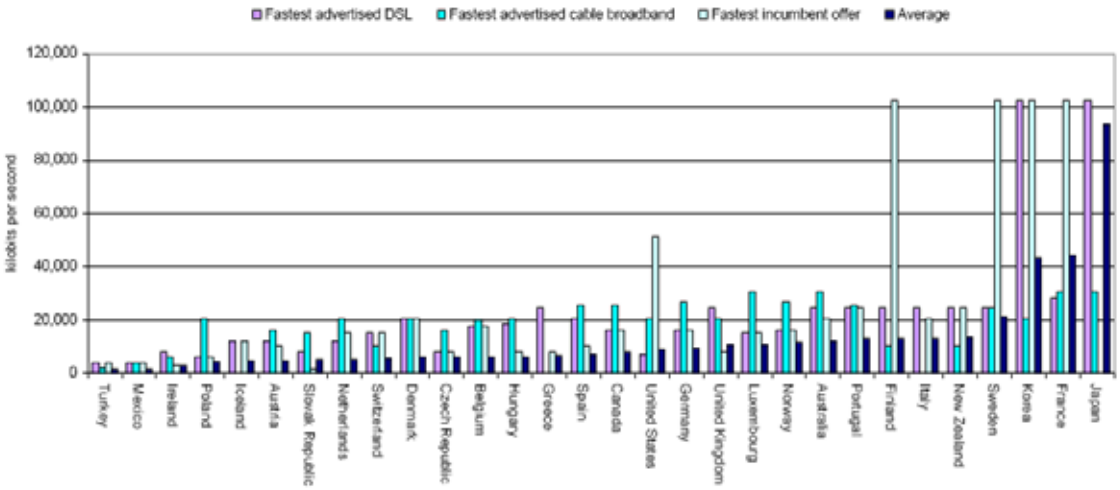
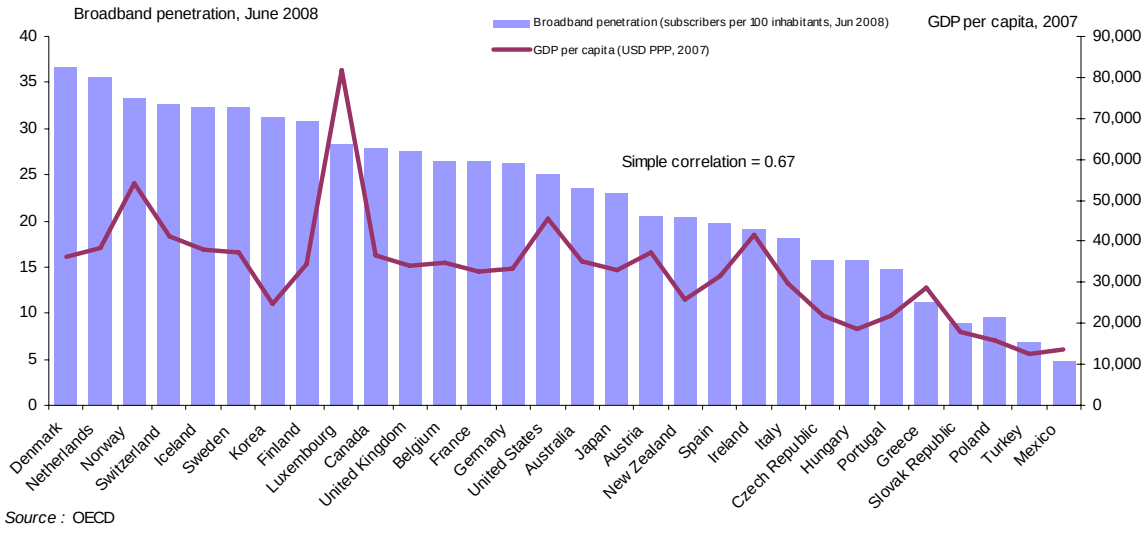


Figure 5 – Average and fastest broadband speed in OECD countries



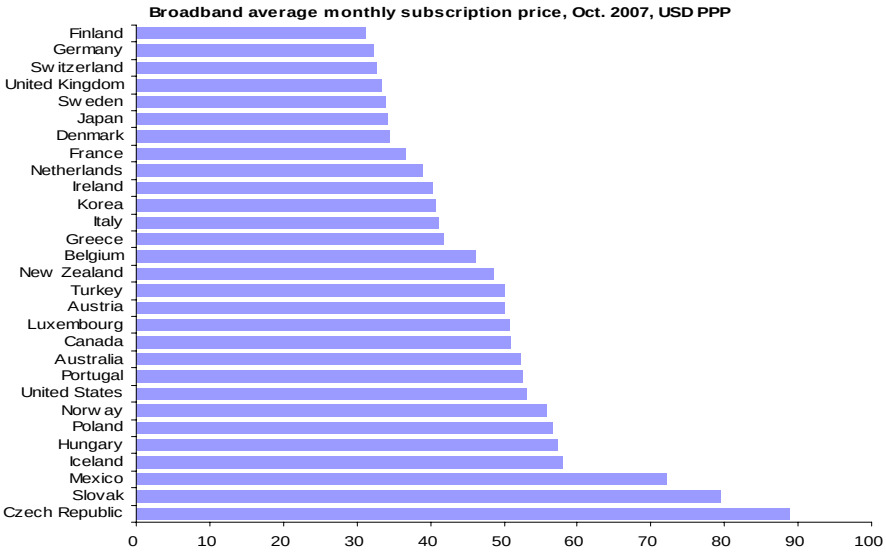
Figures 2, 3, 4 and 5 from the OECD Broadband Portal give a visual comparison of Turkey's position vis-à-vis other countries in terms of broadband access, penetration and pricing. As can be seen in Figure 2, the number of total broadband subscribers in Turkey is larger than in Poland, a country of comparable size and a member of the EU. However, Turkey has the second lowest broadband penetration rate among the OECD countries (Figure 3) and the number of Internet users has been close to that of new EU member states Bulgaria and Romania until 2007, when the two latter countries have exhibited a remarkable increase. In terms of average monthly subscription prices (2007 at USD PPP) Turkey's tariffs are more competitive than in several OECD countries including Austria, Canada, US, Portugal and Czech Republic. On the other hand, Turkey's monthly price per advertised Mbit/s is the highest in the OECD (Figure 7 below). Finally, Turkey currently has the lowest broadband speed in OECD countries (Figure 5).

Figure 6 – OECD Broadband penetration and GDP per capita, June 2008



Source : OECD

Figure 7 – Broadband average monthly subscription price, October 2007, USD PPP



Source: OECD

2.4 The current alignment of the regulatory framework with the EU *acquis*

2.4.1 Telecommunications

In the **telecommunications field**, the Turkish regulatory framework is composed by different pieces of legislation, mostly based on Law No. 4502 of 2000, which amended the previous Telecom and Telegraph law (No. 406) and the Wireless Law (Law No. 2183, originally dated April 1983). Law N. 4502 envisaged that the monopoly rights of the state owned incumbent, TTAŞ, would be terminated on December 31, 2003. However, the termination of

monopoly rights did not mean full liberalization, as new entry was indeed hampered by a restrictive licensing regime.

Law N. 4502 also established the Telecommunications Authority (TA) as an independent administrative agency with power to design and implement secondary legislation. In particular, the TA was authorized to issue regulations for the telecommunications industry, determine operators which are responsible to provide interconnection and roaming services, regulate interconnection tariffs, set Reference Interconnection Offers, monitor compliance and impose fines in case of non-compliance, issue technical standards, test the equipment to check compliance with such standards. Initially, the authority to issue licenses remained with the Ministry of Transport. The TA started functioning in August 2000. Later, partly as a result of pressures from the IMF, licensing authority was also transferred to the TA through Law no. 4673 (May 2001). This law also introduced new rules on the ownership of TT.

As reported several times by the European Commission, the original framework laid out in Law No. 4502 was inspired mostly by the 1998 regulatory framework in the European Union (EU) and was therefore broadly in line with the ONP provisions. As such, it did not contain the "competition law" based logic of the new EU regulatory framework that was launched in 2003. However, over the years the secondary legislation put out by the TA has been increasingly modelled after the 2003 package and is based on the concept of SMP. Nevertheless, the framework law, as laid out by Law No. 4502, has put significant constraints on how closely the TA can emulate the 2003 framework and significant divergences exist, especially in the area of authorizations, as discussed below.

As regards the implementation of existing legislation, a lot has been done by the Telecommunication Authority through issuance of secondary legislation. The initial approach was reportedly cautious (see, *e.g.*, Atiyas and Renda, 2007), and this resulted in a lack of liberalization, especially in the fixed-line sector. Things went differently in the mobile sector, where three strong players currently operate, but delays in issuing 3G (with the tender eventually issued on November 28, 2008) and other wireless broadband wireless licenses may prove problematic for the future of Turkey's information society.

More in detail, in the latest progress report published in November 2008, the European Commission acknowledged that Turkey is progressing in its gradual alignment with the EU *acquis*, thanks to the introduction of regulations that relate to:

- The revision of significant market power operators (SMP) and price cap regulations;
- publication of standard reference interconnection offers (RIO) for SMP operators;

- number portability (operational since 9 November 2008 for the mobile sector, whereas fixed-line number portability will be operational from 9 May 2009);
- the management and allocation of spectrum, including the preparation of important new licenses for mobile virtual operator services, broadband wireless access services (WiMAX), and 3G;
- the gradual reduction of mobile termination rates.

The European Commission has acknowledged the progress achieved on the issues of number portability – possible from 10 November 2008 in the mobile market after a central database became operational in the Telecommunications Authority – and LLU, following the revision on Turk Telekom's reference unbundling offer last year.

However, besides problems in the abovementioned areas, outstanding concerns remain in the telecoms area, including:

- The delays in approving the new electronic communications law: the Turkish President vetoed four articles on the administrative and financial conditions for the regulatory authority and the draft is back in Parliament for discussion. The new Law (Law No. 5809) finally came into force on November 10, 2008, but still presents important discrepancies with the EU framework, and must be implemented through as many as 49 new pieces of secondary legislation (see *infra*, Section 2.5).
- The difficult implementation of universal service obligations - the scope and implementation of USO are still incompatible with the relevant *acquis*[7].
- The need to strengthen and simplify the licensing regime. As will be explained below, the new Law No. 5809 will make important steps towards the simplification of the licensing regime, and a licensing clause will come into force six months after the publication of Law No 5809 (hence, on May 10, 2009). However, also in this respect the new law could have been drafted in a less ambiguous way.
- The need to advance in imposing accounting separation and cost accounting, in particular on the fixed-line incumbent.
- The need to promote competition in the fixed sector, and especially in the ISP market, where more than 95% of the broadband internet access services are provided by the incumbent's internet operator. In particular, the need to secure equitable and transparent conditions for fixed wholesale broadband access. In addition, liberalisation of local telephony is still pending and undermines competition in the fixed and broadband markets.
- The need to reduce communications taxes imposed on operators, which have proven detrimental to market entry, penetration and usage intensity, especially in the mobile sector.

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[7] http://www.abgs.gov.tr/tarama/tarama_files/10/sorular%20ve%20cevaplar_files/SC10_Cevaplar.pdf.

- The effective independence of regulatory body from Government (which remains an important shareholder in several operators). The regulatory body, now called ITCA, is considered to be well staffed with 137 employees dealing with regulatory issues and self financed with a considerable operational budget; however, it has exhibited a lack of full independence in the past years - notably in the authorisation process - and a lack of transparency in the decision making process.

2.4.2 Turkey in the ECTA scorecard 2008

Further evidence of the relative position of Turkey compared to the EU27 is provided by the results of the ECTA Scorecard 2008, released on 29 January 2009[8]. The ECTA scorecard is based on the responses of ECTA members and national regulatory authorities (NRAs). The scope of the survey indicator includes a number of areas regarding the institutional and legislative environment as well as the effectiveness of the regulatory authorities in implementing and enforcing the regulations.

More specifically, the assessment of each country depends on the following criteria.

i. *Institutional environment*: The setting in which authorities and market players operate, e.g. the legal framework, the independence, enforcement powers and resources of the NRA, and the procedures for settling disputes and appeals;

ii. *Regulatory environment*: The existence and efficiency of regulatory enablers for the evolution of the sector, including rights of way, numbering and frequency allotment procedures;

iii. *Efficiency of regulator*: The assessment of the regulator's efficiency and transparency, covering the effectiveness of its market analyses, dispute resolution and enforcement procedures;

iv. *Application of regulations*: Ability of regulatory to ensure a forward-looking and technologically neutral environment in which operational and pricing conditions are met;

v. *Regulatory and market outcomes*: Development of voice, mobile, business and broadband services, and the degree of competition in wholesale and retail markets.

2.4.2.1 Main findings of the ECTA Scorecard 2008

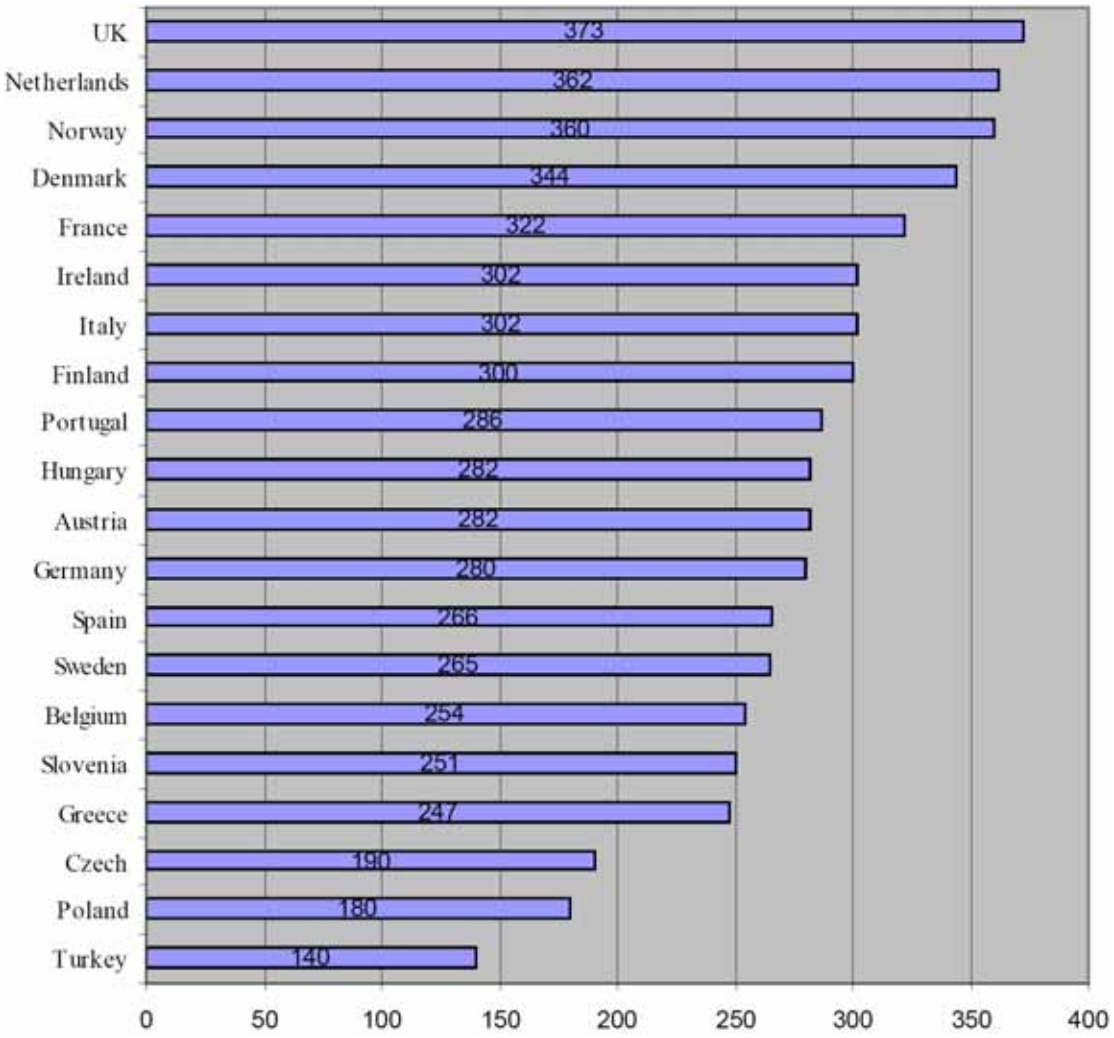
The findings of the assessments show that Turkey lags significantly behind the EU member states, especially in domains such as the regulatory environment and the application of regulations. Uncertainties and deficiencies resulting from rights of way and frequency allotment procedures will need to be addressed. According to the ECTA report, the Turkish authorities need to

[8] See http://www.ectaportal.com/en/basic651.html.

ensure that adequate mechanisms are in place to prevent incumbents to use their positional advantage to gain artificial benefits with the use of non-price strategies. A number of market definitions are not forward-looking, while technological neutrality is violated in several cases.

There are also important issues that lower the country's scores in the remaining areas. For example, the development of the market conditions is delayed due to the unavailability of a number of services. Although the institutional environment compares well with others, the insufficient enforcement powers granted to the regulator coupled with the government's shareholding in the sector can lead to potential problems. Moreover, the regulator's transparency needs to be improved by making its decisions and detailed annual accounts available to public. Figure 8 below reports the summary results of the ECTA scorecard, showing that Turkey occupies the last position.

Figure 8 – ECTA Scorecard 2008 – summary results



A number of upcoming developments will likely improve the country's score within the next year. The regulatory environment scores will be automatically enhanced provided that number portability becomes fully operational by May

2009. The requirement of accounting separation and cost-based pricing for operators with SMP will do the same for the score relating to the application of regulations.

More in detail, the ECTA scorecard found the following:

- **Institutional dimension**. Turkey was found to have a relatively inadequate institutional environment, with significant challenges remaining in the regulator's independence and powers. Despite these weaknesses, the country compares with some EU member states, including Belgium, Germany and Poland. The key challenges ahead are:
    - *The insufficient enforcement powers of the NRA, particularly when addressing SMP operators*. The NRA has not been able to impose periodic penalty payments, which is highlighted as a particularly effective mechanism for encouraging compliance. Moreover, the authority has no power to oblige an operator with SMP to separate its assets in that market from its operations in other markets. Another (probably less significant) problem is that the authority lacks the power to suspend the launching of services pending compliance, although it has power to reject offers made by SMP operators in an ex-post fashion.
    - *The remaining significant government stakes in industry operators*. The government has significant stakes and an effective veto power in the incumbent operator (Türk Telekom), which is also a SMP in all fixed market segments. Other government positions include indirect ownership of two other players, Avea, TTNet, as well as full ownership of Turksat, which offers satellite TV and broadband services.
    - The role of government in approving and guiding NRA decisions. *The regulator needs government approval in a number of cases*, including "the right of use of scarce resources", all expropriation decisions, and interventions that could cause interruption of electronic communications. The Ministry of Transport also has the power to provide direction on policies regarding the development of communication industry, infrastructure and services. Put together, the government's stakes in the industry and its power on the decisions of the authority are seen as a potential threat to the regulator's independence.
- **Administrative/regulatory capacity.** Despite the deficiencies identified above, the Turkish authority scores well in terms of its *resources*. Much like most member states, the authority is well-staffed, with 625 employees, 279 of which specialize in regulatory issues. Moreover, the regulator obtains full marks on its *dispute resolution capacity*, mostly

because the responsibilities are collected under a single roof.[9] Similarly, the *appeal procedure* is, by and large, in line with the EU standards. However, as evidenced by the country's low rank, these aspects are not a good indicator of its effectiveness.

- **Regulatory environment.** The results of the survey show that Turkey has remained significantly behind other EU member states. The problems highlighted in this section show that market entry, network roll-out and the introduction of new services are difficult, due to legal and economic uncertainties, inexistence of a legal framework and the slow-paced regulatory developments. The country's rank is likely to improve once number portability is adopted by the spring of 2009. The key challenges for going forward are as follows:
    - Uncertainties arising from rights of way procedures
    - Technologically dependent in frequency allocation
    - Inexistence of spectrum trading mechanism
    - Little progress in digital switch-over

  Moreover, no common procedure for the resolution of disputes exists, which is an additional source of uncertainty. Also, certain state entities (BOTAŞ, TCDD, and General Directorate of Highways) auction the rights to the highest bidder, which may restrict access to licensed operators only. Major problems regarding facility usage/sharing fees also exist; however, the 2008 reference bundling offer (RUO) is expected to address these by stating terms, conditions and fees applicable.
- **Spectrum policy.** There are major problems regarding the technological neutrality condition. In particular, the 2.6 GHz is planned as an addition to 3G, 900/1800 MHz is reserved only for 2G services. Until the finalization of the Broadband Wireless Access services regulation, it is also not certain if the 3.5 GHz band will be available for mobile broadband services. Also, Turkey is the only surveyed country – along with Ireland – which has no frequency exchange mechanism (envisaged or in place). Furthermore, the country has made little progress in the digital switch-over (planned to take place in 2014), including how to allocate the digital dividend (see below, section 3.1.3).
- **Number portability.** Partly explaining the country's low rank in this section, number portability has only been recently introduced in the country (mobile numbers: 9 November 2008; geographic and non-geographic numbers, i.e. fixed and VoIP services: expected by 9 May 2009). The country's score in this aspect is expected to increase as portability becomes a reality over the coming months.

[9] See next section for concerns on resolution of disputes on rights of way.

Below, de describe more in-depth the main problems faced by Turkey in the domains of NRA efficiency, remedies application and enforcement, and market conditions.

2.4.2.2 Efficiency of the Turkish regulator

Turkish regulatory authority (TA) scores rather low in the efficiency indicators, mostly due to the weak transparency of the regulatory process and its weak enforcement record. Comparative results show that the apparent weaknesses of the dispute settlement body are also mirrored elsewhere, implying that most member states face challenges in this respect. The country's score is likely to improve alongside with its enforcement record.

The key challenges ahead are:

- **Lack of transparency on regulator's decisions and operations[10].** The timescale allowed for the consultations is quite short, ranging between two to four weeks. Moreover, the operational costs of TA are only partly transparent; although annual reports are published, no information is provided on costs.
- **Delayed revision of market analyses**. The regulator's *market analysis procedures* are in line with the EU standards, with the regulatory having completed analyses of 16 markets. One source of weakness is the revision process,[11] which is already in place for markets 15 and 16 and is expected to be completed for all the segments by the end of 2009. In this aspect, the regulator's performance is comparable to the Italian and Spanish regulators.
- **Enforcement record.** The questionnaire results also reveal that enforcement record of the regulator is very weak, since no breach notifications or enforcement actions were prompted. This is, once again, unparalleled since infringement procedures were instigated in all member states. There is some question, also highlighted in the report itself (p. 24), as to what extent the measures developed under this subcategory point to the underlying efficiency of regulator.
- **Dispute settlement.** The problems regarding the efficiency of the dispute settlement body, housed within the regulatory authority, is comparable with the findings in member states. The timeframe for obtaining decisions is long (between two and a half months and one year), but all member states are above "the legally mandatory timeframe of four months", (p. 62). Similarly, most member states score low in terms of transparency of decisions, (only six countries publish any decisions).

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[10] As the TA now finally has a legal obligation to make its decisions public, its score is likely to improve in this dimension.

[11] The questionnaire addressed only revisions up until 31 August 2008 (Question 43); therefore the recent revisions initiated by the TA are not considered.

2.4.2.3 Application of regulations

The low score of the Turkish regulatory authority (TA) in market conditions can partly be explained by the overall low performance of other countries. In most cases, the country's score is no worse than some less developed members, such as Czech Republic and Poland, as well as more developed ones, such as Finland, Germany and Sweden. The imminent application of account separation methodologies should improve the country's score within a year. Notwithstanding these arguments, the authorities need to work hard on ensuring that adequate mechanisms are in place to prevent incumbents to use their positional advantage to gain artificial benefits with the use of non-price strategies.

The key challenges ahead are the following:

- **Operators with SMP can use position to own advantage via non-price strategies.** There are no effective guidelines on the application of the non-discrimination obligation. For example, the incumbent Türk Telekom is not required to provide wholesale offers prior to launch related retail offers. In the wholesale call termination market, locally generated calls cannot be terminated locally, effectively preventing subscribers to take advantage of cheap long-distance telephony alternatives. Also, no information restrictions are imposed on SMP operators to prevent them from using the legacy information to win back customers.
- **Market definitions not forward looking not technology-neutral.** In terms of technological neutrality and forward-looking approaches, Turkey scores very low, mirroring the performance of Czech Republic, Greece, Poland, Spain and Sweden. Several problems are highlighted. TA has so far refused to oblige the incumbents on Partial Private Circuit (PPC) agreements, which restricts neutrality in leased line terminating segment (Market 13 or Market 6 in new definition. The exclusion of fibre lines (including FTTC/FTTH) from market definitions is also seen as violation of the forward-looking approach. Some deficiencies exhibited by the Turkish authorities are paralleled in the majority of other countries. For example, no remedies are in place to facilitate competition in downstream markets with a SMP operator; however, only Netherlands has scored full points on this issue. Also, the IP interconnection issue has not been examined at all by the regulator, but the same holds in 12 other countries.
- **Other operational conditions.** A qualified statement on the country's score holds for the operational conditions as well. There are some severe problems, such as the lack of processes in place to synchronize number portability with other measures, such as local loop unbundling, wholesale naked bitstream and wholesale line rental (WLR). These put into question whether the equivalence of outputs and (non-discriminatory) migration between wholesale products will be achieved in the near future. On the other hand, Czech Republic, Finland, Germany, Poland and Sweden have

also low scores in this area. For example, only eight countries have some form of migration/synchronization processes in place to ensure that entrants have adequate safeguards on the quality of access and can migrate between different wholesale accesses.

Imminent changes in Turkey, if they materialize, should have a positive impact on the country's score in *pricing conditions*. The requirement of account separation and cost-based pricing for operators with SMP, which is currently set by law, will become applicable in 2009. This is likely to increase Turkey's score in this area in the upcoming years, as the first separated accounts expected to be published within a year. It should be noted that Turkey scores better than some member states, including Austria, Denmark, Norway, Slovenia, and Sweden, where the methodologies applicable to account separation are found to be insufficient.

2.4.2.4 Market conditions

Turkey's low performance in regulatory and market outcomes puts into question the effectiveness of regulatory measures introduced over the last five years. However, it should be noted that all new member states, such as Czech Republic, Hungary, Poland and Slovenia, have also scored relatively low in this area, pointing to issues relating to the late implementation of the regulatory framework.

The key challenges for going forward are as follows:

- Limited extent of local loop unbundling (LLU)
- No mobile virtual network operator (MVNO)
- Unavailability of wholesale leased line terminating services

The pricing figures provided by the regulator were compared to the figures summarized in the *14th Report on the Implementation of the Telecommunications Regulatory Package - 2008*, which was published by the European Commission on 24 March 2009[12].

- In *narrowband voice services*, the reference rates determined by TA would put the country above the EU averages and close to average rates in Poland.[13] A number of services are also virtually inexistent, including the capacity-based interconnectivity offer, alternative providers (other than the incumbent) that offer telephone services, wholesale line rental (WLR), etc. The extent of local loop unbundling (LLU) is extremely meagre, with only 75 fixed lines on the basis of LLU. While these point to deficiencies, a number of providers provide voice-over-broadband (VoB) services for

[12] See 14th Implementation Report, Staff Working Document, Vol. 2, Fig. 88 and ff., at http://ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/annualreports/14threport/annex2.pdf.

[13] Local rates were not provided by the regulator. Also, the report has judged the Turkish market to be among the most expensive countries based on a general figure of 4 cents/min, although no detail is given on how this figure is reached.

long-distance services. Moreover, the value of services provided to residential and business customers is relatively high, with the retail price basket falling among the lowest-third of the distribution, leading to a high score.

- The *mobile market*, which is more competitive, scores slightly better than other markets In particular, the rates for fixed to mobile termination charges (5 cent/min) are among the lowest in the survey. Partly attesting to the enhanced competitive environment in the market, there is one mobile service provider (reseller) that is operational in the country. On other measures, the country's mobile market fares worse than other countries included in the survey. In particular, the market is relatively concentrated, with one company accounting for 65% of revenues and 56% subscribers. Moreover, the price of the basket for average users for mobile retail services is relatively high (see Figure 11 below). Moreover, there are no MVNOs authorized in the country.
- In *business services*, the country has no PPC, as pointed out above, which does not allow business users access to a variety of wholesale cost-saving opportunities. Due to unavailability of wholesale services, the pricing of leased line terminating segment are quite high when compared with EU member states (see Figures below).
- Lastly, in *broadband services*, the country fares quite badly, mostly due to various obstacles remaining for the entry of new competitors in the market. The big problems include the low number of unbundled loops, the unavailability of fibre optic lines and the wholesale naked bitstream access. A comparison reveals, however, that the setup and recurrent tariffs for shared access are relatively low.

Figure 9 – interconnection charges for terminating calls on incumbent's fixed network as of 1 October 2008, single transit (EU average: 0.86 €cents)

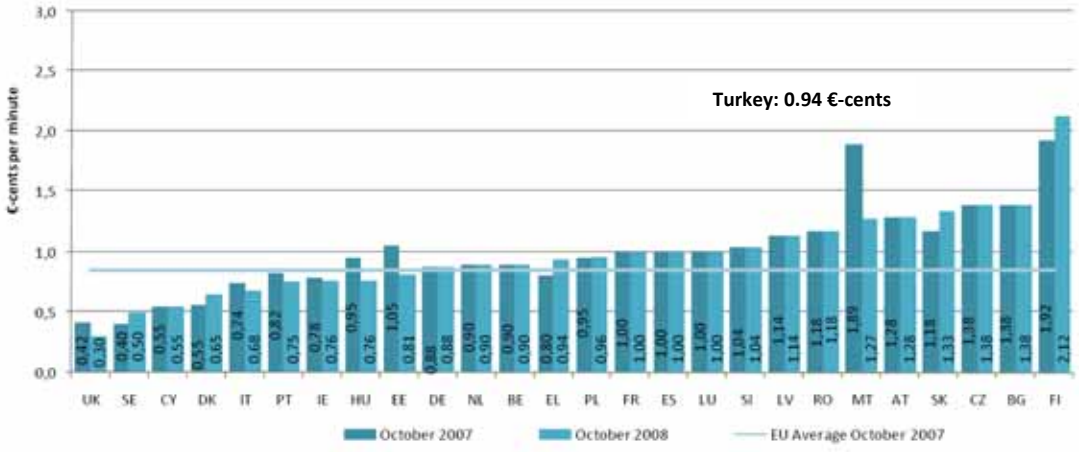


Figure 10 – interconnection charges for terminating calls on incumbent's fixed network as of 1 October 2008, double transit (EU average: 1.13 €cents)

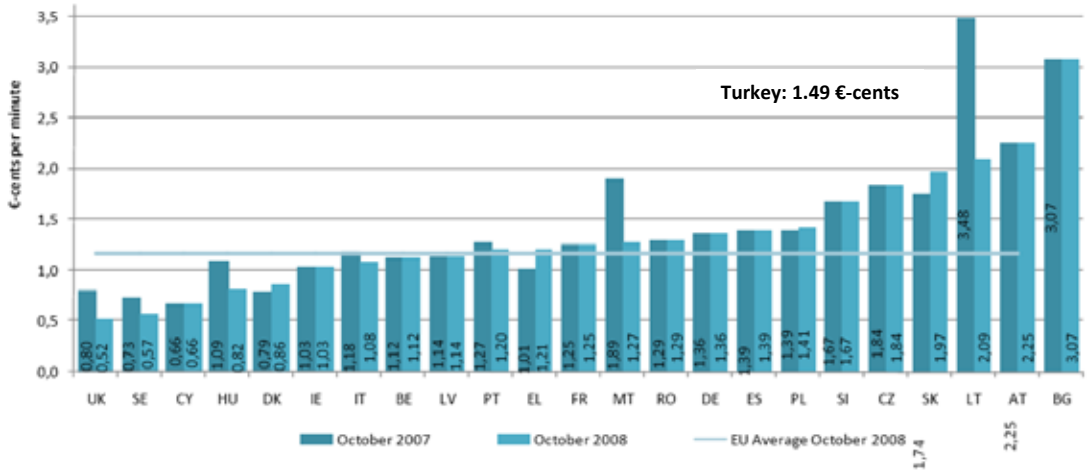


Figure 11 – OECD basket for PSTN, 2008

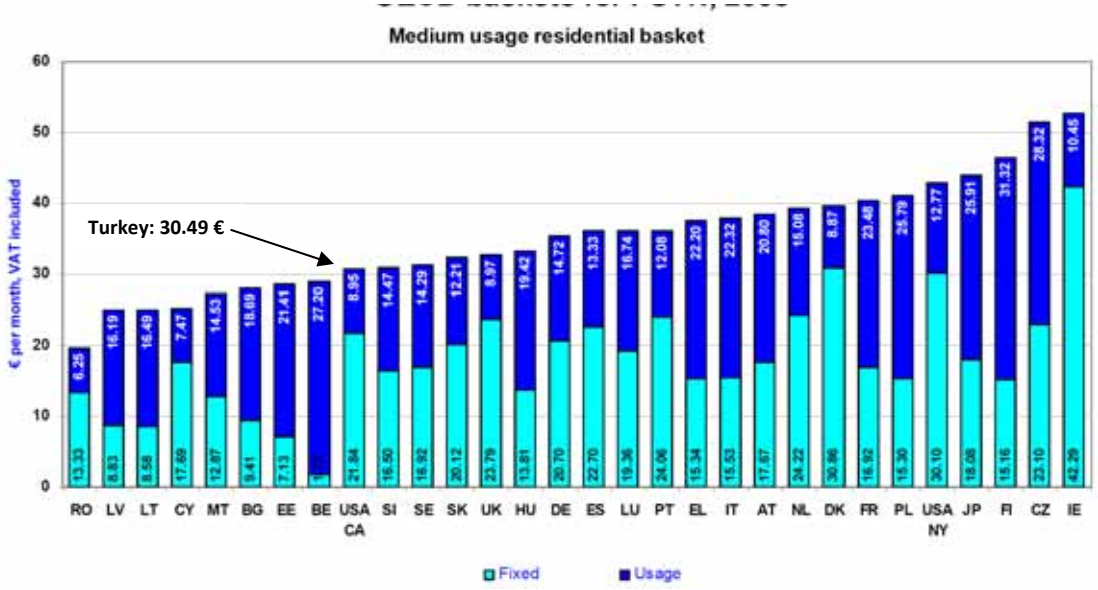


Figure 12 – OECD Business composite Basket, 2008

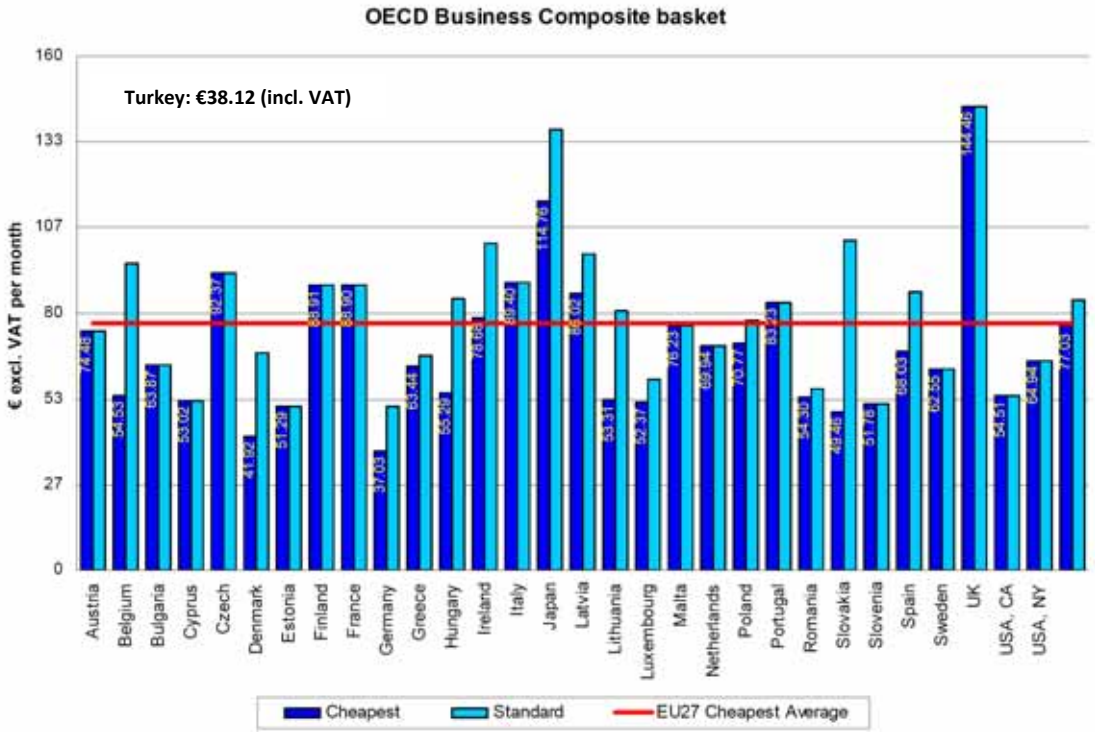


Figure 13 – OECD medium usage basket, pre & post paid, 2008

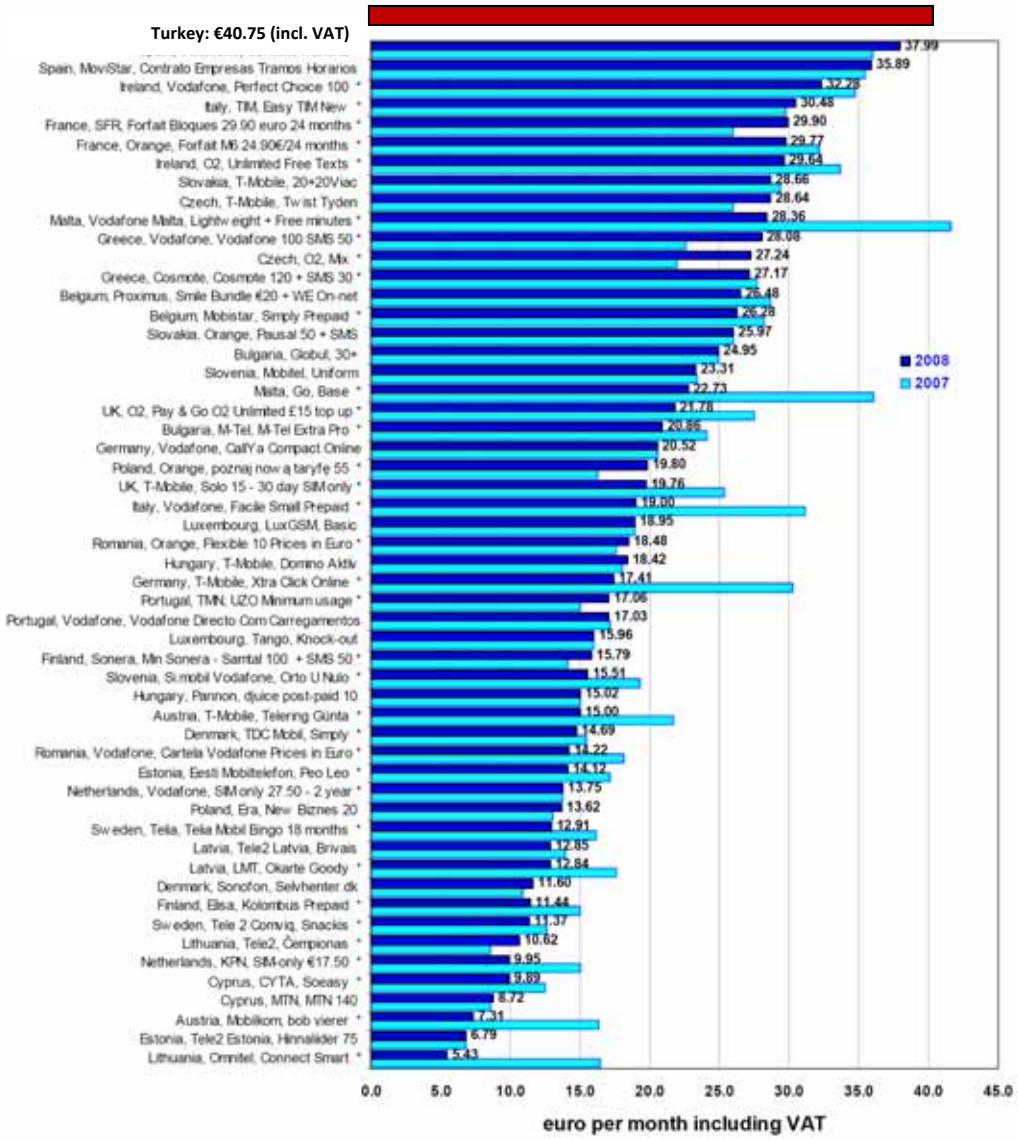
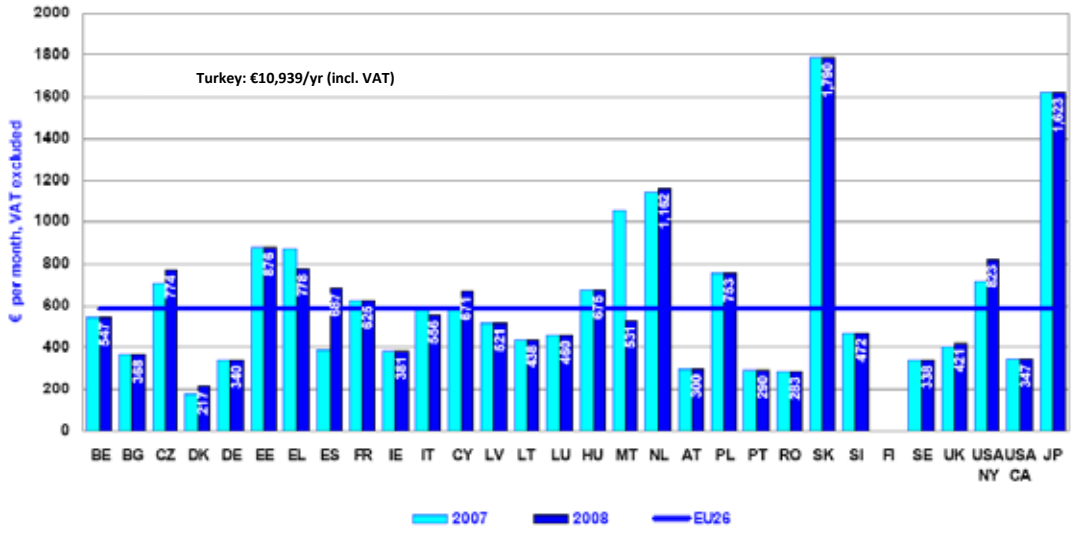
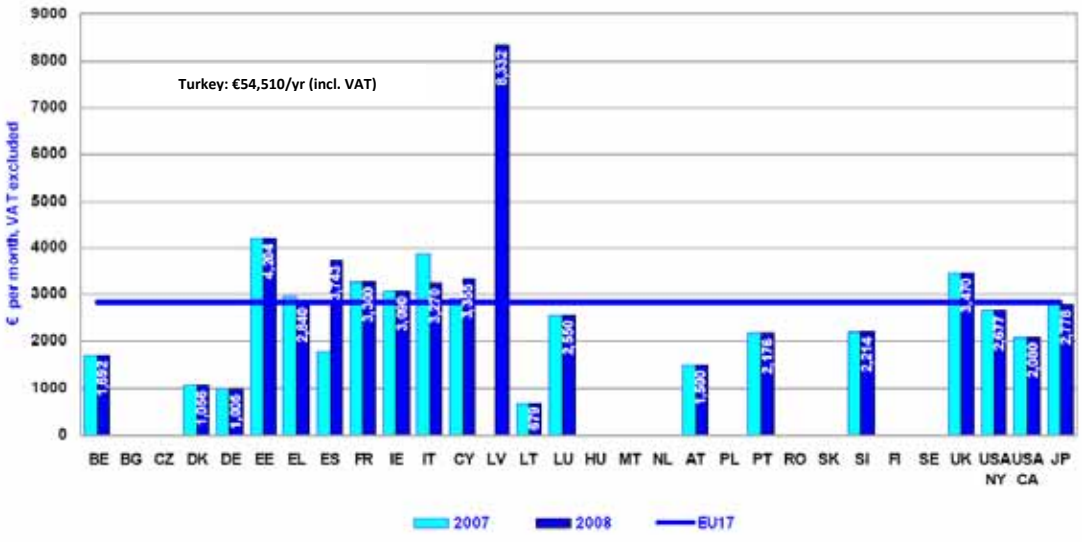


Figure 14 – Price for 2Mb/s, 2km circuits, per month



Blue line represents EU average= € 587
Finland – no data

Figure 15 – Price for 34Mb/s, 2km circuits



Blue line represents EU average= € 2 852
Bulgaria, Czech Republic, Hungary, Malta, Netherlands, Poland, Romania, Slovakia, Finland, Sweden – no data

2.4.3 Audiovisual services

The area of audiovisual services is certainly the one where the most significant discrepancies still exist between the EU *acquis* and the Turkish framework. These services were initially regulated by Law n. 2954 regulating the principles and procedures regarding the duties, authorities and

responsibilities of the Turkish Radio and Television Corporation (TRT)[14]. Later, Law n. 3984 of 20 April 1994 on the Establishment of Radio and Television Enterprises and Their Broadcasts entered into force, and provided a more comprehensive set of rules on the provision of broadcast services in Turkey[15].

This law envisaged the establishment *Radyo Televizyon Üst Kurulu* (Radio and Television Supreme Council - RTÜK) as the regulatory authority for broadcasting. One of the key regulatory problems in broadcasting continues to be the allocation of broadcast frequencies, which could not be realised for years. All radio and television broadcasters must obtain a broadcast licence and a broadcasting permit. However, due to the frequency allocation deadlock currently, all terrestrial radio and television broadcasts are carried out without any licence or official allocation of frequencies. In mid-2005, the government announced that it no longer had interest in pursuing with analogue frequency allocations and the switchover to digital broadcasting would be the next step. 18 commercial broadcasters and the public-service broadcaster TRT set up a consortium (Anten A.Ş) in April 2007 to carry out the initial planning for the switchover. The targeted date for the digital switchover is 2014.

With over 14 million television-owning households, the Turkish broadcasting market is one of the largest in Europe. The number of players now sharing the already small advertising expenditure has driven more outlets into dependency on non-media revenue sources. This increases the challenges to media independence. TRT's main sources of income are revenue obtained from a tax levied on all electricity bills, allocations from the general budget, advertising revenue, and income from the sales tax collected from television and radio receivers[16].

At the end of 2008, in its yearly report, the Commission found "some progress" achieved by Turkey in this area, after the Grand National Assembly amended Law n. 3984, following up on an earlier amendment approved in

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[14] An amendment regulating radio and television broadcasts in Turkey was made in the Constitution and was adopted by a referendum on 6 November 1982. In line with Article 133 of the Constitution, radio stations and television networks could only be established by the state and their management would be as public corporate bodies. Furthermore, the principle of impartiality would be preserved in the management and supervision of the institution, establishment of the administrative bodies and in all radio and television broadcasts.

[15] http://www.rtuk.org.tr/sayfalar/IcerikGoster.aspx?icerik_id=b41eac9a-bc39-4213-91f3-0d39931c1f1d

[16] Despite a 25% ceiling for foreign ownership, Turkish broadcasting media market attracted growing interest from international investors due to the signs of a possible market liberalisation following the crisis. In September 2005, the Canadian group Canwest acquired two national and two local radios; in July 2006, Rupert Murdoch's News Corporation acquired TGRT, a national TV channel. Both groups entered the market with their Turkish partners to overcome the foreign ownership limits stated in the law.

2002 to further allow broadcasts in languages other than Turkish[17]. In addition, RTÜK recently promoted self-regulation by broadcasters and enhanced its administrative capacity to fulfil its monitoring duties. Since August 2008, RTÜK decisions are also accessible to the public (in Turkish).

However, Turkey's level of alignment with the EC *acquis* on audiovisual policy remains limited to provisions concerning advertising and the protection of minors. The amended Law n. 3984 on the establishment of radio and television broadcasts still poses problems from several viewpoints, including non-discrimination on grounds of nationality, definitions, jurisdiction, freedom of reception and retransmission, major events, promotion of European and independent works and restrictions on the share of foreign capital and television enterprises. As regards the administration of the broadcasting sector, RTÜK has not reallocated frequencies or reviewed temporary licences. RTÜK established a regular dialogue with the broadcasters and enhanced the transparency of its decisions. However, further measures are needed in order to strengthen the functionality of the regulator.

The yardstick for assessing the situation in Turkey is certainly the EU's "Television without Frontiers" (TVWF) directive. Major discrepancies are found in the following areas:

- Definitions;
- Jurisdiction;
- Freedom of reception;

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[17] A 2002 amendment to article 4 of the Law no. 3984 on the Establishment of Radio and Television Enterprises and their Broadcasts, both public and private radio and television had already been permitted to conduct broadcasting in different languages and dialects used by Turkish citizens in their daily lives. The detailed rules regarding such broadcasts were laid down by a "Regulation on Radio and Television Broadcasts In Different Languages and Dialects Used Traditionally by Turkish Citizens in their Daily Lives" issued by the Radio and Television Supreme Council (RTUK) on 25 January 2004. As a result of this regulation, the objective of which was harmonization with EU legislation, radio and television enterprises which obtained permission from RTUK were given the right to conduct broadcasting in such languages and dialects, provided that certain time limits were not exceeded. These limits were 60 minutes per day and five hours per week for radios and 45 minutes per day and four hours per week for television corporations. According to these regulations, TRT has been broadcasting in Zaza, Bosnian, Arabic, Circassian and Kurmanji languages on TRT Radio1 and TRT3 since 2004. After TRT began broadcasting in other languages and dialects, Gün TV and Söz TV which conduct broadcasting from Diyarbakır, and Medya FM Radio from Şanlıurfa have been permitted by RTUK, upon their application, to conduct broadcasting in Kurdish. However, currently only Gün TV continues such broadcasting. This latest amendment grants TRT the opportunity to extend the period of broadcasts which are made in the mentioned languages and dialects, and furthermore to dedicate a channel for these broadcasts. It has been announced that when the necessary preparations are completed, a TRT channel is to be dedicated to broadcasts in different languages and dialects such as Kurdish and Farsi which are being spoken in some regions of Turkey. This channel is to be accessible not only in Turkey but also in other foreign countries and especially in the Middle East.

- Promotion of European and independent works;
- Advertising and tele-shopping;
- Protection of minors;
- Restrictions on the share of foreign capital in radio and television companies;
- Adequate funding of the public service broadcaster.
- Independence of the regulatory authority (RTÜK).
- Digital switchover (2014 v. 2012).

2.5 Law n. 5809: full alignment of primary legislation?

As already mentioned, in November 2008 the new Turkish Law on electronic communications was finally passed. One of the main purposes of Law No. 5809 is to align the Turkish regulatory framework with the EU *acquis*. However, as will be explained in this section, this objective was only partially achieved.

As a preliminary remark, Law no. 5809 improves upon previous laws like Wireless Law No. 2813 and Telegraph and Telephone Law No. 406. Its key features are:

- *The creation of the new Information Technologies and Communication Authority* (ITCA), which replaces the previous Telecommunications Authority. Article 6(ç) of the Law improves the transparency of the NRA decisions by mandating that every Board decision that concerns the operators and consumers is made "publicly available with its rationale and processes".
- *A broader definition of "Electronic Communication" services*, which now includes "the transmission, exchange and receiving of all kinds of signals, symbols, sounds, images and data which could be converted into electrical signals, by means of cable, radio, optic, electric, magnetic, electromagnetic, electrochemical, electromechanical and other types of transmission systems". This means that the Law covers also mobile communications, satellite telecommunication, internet, data transmission over landlines, cable platform and infrastructure operation.
- *A new, simpler authorisation regime for electronic communication service providers*: The previous legislation contained a number of different authorisation types (such as concession agreements, telecom licence and general authorizations, see Section 3.1.2 below); the new Law only envisages two types of authorisation by the ITCA: (i) notification; or (ii) usage right. More in detail, companies wishing to offer electronic communication services and/or set up and operate networks or infrastructures for such services have notify the ITCA before they start their activities. The ITCA will then set out the principles of such a notification. On the other hand, the Law requires that operators obtain a usage right

whenever an electronic communication service needs the ITCA to allocate a specific resource, such as a number, frequency or satellite position[18].

- *New provisions* on operators' obligations, tariffs about telecommunication services, access and interconnection, right of way, spectrum management, consumer rights and market surveillance.

Due to the ambitious and almost ground-breaking nature of Law No. 5809, it's no surprise that the foreseen implementation period is quite long. For example, as regards the new authorization regime, the new provisions will enter into force only from 10 May 2009 (6 months after the publication of the Law No. 5809)[19]. During the next months, as many as 49 new regulations on electronic communication are supposed to be enacted by the ITCA.

2.5.1 Problems raised by specific provisions in Law No. 5809

Looking at the new Law No. 5809, there is no doubt that the Turkish regulatory framework would become more in line with the EU *acquis*, once the law is fully in place. However, a number of issues remain obscure or still divergent from the EU regulatory framework. These include the following:

- The provisions on tariffs (**Articles 13-14**) appear to contrast with Article 17 of the Universal Service Directive (2002/22/EC). In particular, there is no clear definition of whether tariffs subject to regulatory control include wholesale and also retail tariffs. Moreover, while the justification and proportionality of obligations imposed are essential prerequisites under the EC Universal Service Directive, these principles are completely absent in the New Law.
- Even though **Article 6(ç)** (Duties and Powers of the NRA) mandates the publication of all Board decisions, *so far the decisions adopted by the Board after the entry into force of the Law have not been published on the ITCA website*. It must thus be ascertained what is meant by "publicly available" – this could be interpreted as publicly accessible (under request), or published on the ITCA website.
- *The provisions on the Authorization Regime* are aimed at simplifying the regulatory framework, but still leave some obscure issues, and are to be implemented through a rather long and patchy transition process. More in detail:
    - The definition of compliance with the conditions of the Authorization Regime is ambiguous. In particular, the law states

[18] Hence, a usage right is not needed for new entrants in the fixed-line market, if such entrant will rely on an incumbent player's infrastructure. But a usage right will be needed for landlines since it is possible for it to lease the infrastructure (i.e. the landlines) from another service provider which has such a usage right. However, a GSM operator will need a usage right because it needs a special three-digit number in order to operate GSM services.

[19] Operators which were previously awarded authorisations (such as telecom licence or general permit) shall be deemed to have duly acquired the necessary usage right or to have made the necessary notification in line with the Law.

at **Article 9(9)** that "[t]he NRA might reject authorization applications based on the reasons related to national security, public order, public health and other public interests…"; and at **Article 9(11**) that "[t]he NRA might abort the operations of the companies based on the reasons related to public security, public health and other public interests, upon the review of the Ministry". These provisions are unclear and may leave excessive discretion to the ITCA and the Ministry in granting authorization for the provision of e-communications services.

- The law states (**Provisional Article 2**) that "Authorization and concession agreements signed with the Authority before the enforcement of this Law shall continue to be valid as per their current provisions until their termination due to their expiration, annulment, cancellation of the agreement or in case of a termination for any other reason whatsoever". This means in particular that concession agreements – such as those currently in the hands of the fixed-line incumbent and the three GSM (and now also 3G) operators will not be affected by this law. Important consequences may emerge in terms of entry in the fixed-line sector, and for what concerns regulatory certainty, as concessions will have the old law as a legal background (including definitions), whereas the others will have the new law as basis.

- *The powers attributed to the new NRA are ambiguously defined.* In particular, the provisions contained at **Article 6** on the "Competencies of the Authority" appear rather obscure, and may ultimately conflict with some provisions of the EU framework directive. These provisions include:
  - **Article 6(a)**, where the NRA is attributed powers to "create and protect competition", as well as "to arrange regulations pertaining to the elimination of practices which are obstructive, disruptive or limitative for competition". These competencies may appear as inclusive of the competencies of the national competition authority (NCA), also since they include the power to "impose obligations on operators with significant market power in the relevant markets and on other operators when required". More clarity on the relative competencies and powers of the NRA and the NCA may help legal certainty.
  - This impression is confirmed by the wording of **Article 6(b)**, where the NRA is given the power to "supervise the breaches of competition in electronic communications sector which are against this Law and against regulations within the scope of this Law, to impose sanctions and to take the opinion of Competition Authority on the issues regarding the breach of competition in electronic communications sector, if specified by the legislation".

- **Article 6(d)** empowers the NRA, in line with the Framework Directive, to "operate the dispute resolution procedure between the operators when necessary". However, the Framework Directive specifies that the NRA should exercise its power to pursue the objectives laid down at Article 8, whereas the new Turkish Law does not clarify the mandate of the NRA when resolving disputes. Also, according to Law No. 5809 the NRA may "take necessary measures that are binding until reversed by the related parties, in case of no settlement is ensured between them". This provision should be clarified along the lines of the Framework Directive, which at article 20(2) specifies that Member States may resort to other dispute resolution mechanisms (including mediation) when this is possible. In addition, the new Law could have specified that binding decisions adopted by the NRA in this context must be made publicly available.
- **Article 6(j)** empowers the ITCA to "determine general criteria and implementation procedures and principles regarding tariffs to be imposed on the users and other operators within the scope of access, contract terms, technical matters and other issues related to its areas of office", and "to approve the tariffs and to make regulations regarding the supervision of tariffs". This provision appears very broad, and seems to cover both wholesale and retail tariffs, independently of the results of market analyses and of the corresponding remedies adopted by the NRA. Such a general provision may lead the NRA to adopt price regulation in a rather uncontrolled way.
- **Article 6(s)** confers to the ITCA the power "to audit and/or to have third parties to audit the conformity of operators to the legislation" and "in case of inconsistencies to perform the actions suggested by the legislation and to impose sanctions"[20]. Again, this provision appears very broad and, in addition, does not require the NRA to motivate the imposition of sanctions, nor to inform the target operator in due time.
- **Article 6(t)** seems to extend the power of the NRA to the scrutiny of commercial interconnection agreements between operators, regardless of whether NRA intervention is justified by the specific criteria set in the EU framework. This, again, confirms the impression that the ITCA could take over the responsibility of protecting competition also on an *ex post* basis, overlapping with the powers of the competition authority. But this overlap is not explicitly mentioned, and the relative roles of the NRA and NCA are not clarified.

[20] Emphasis added.

- **Article 33** (Carrier Selection and Carrier Pre-Selection) does not require that the ITCA performs a market analysis before imposing CS or CPS as remedies. The Article prescribes that "[t]he Authority may impose obligation on operators to perform carrier selection and pre-selection". To the contrary, Article 19 of the EU Universal Service Directive (2002/22/EC) clearly limits this remedy to operators notified as having SMP, which requires a prior market analysis. Again, this is probably also what the Turkish legislator meant, but the text does not provide the sufficient legal certainty.
- **Article 36(4)** on frequency planning specifies that the ITCA "may make any kind of amendments including abatement, in a manner not to result in infirmity as regards State security and intelligence", and excludes any kind of responsibility "for the regulations made regarding such amendments". This is in stark contrast with the provisions contained at Article 8 of the Authorisation Directive, which prescribes that "[p]rovided that all national conditions attached to the right to use the radio frequencies concerned have been satisfied in the case of a common selection procedure, Member States shall not impose any further conditions, additional criteria or procedures which would restrict, alter or delay the correct implementation of the common assignment of such radio frequencies." Again, this provision fails to provide legal certainly on the limit of NRA powers as regards abatement.
- The same impression is confirmed by **Article 40(2)**, which specifies that the ITCA "is entitled to perform spectrum management including spectrum planning and frequency allocation, registration and pricing as well as spectrum trading <u>including the revocation of allocated frequency</u> and resale thereof and to exercise the regulations necessitated by spectrum monitoring and inspection for the effective and efficient use of frequencies"[21].

2.5.2 General comments

As noted above, the new Law no. 5809 can be significantly improved, especially as regards the current ambiguities in the definition of the limits to the NRA power to regulate the market. Provisions on universal service, spectrum planning, tariff regulation and general provisions on the competencies of the NRA give the impression that the NRA could act as market regulator, planner and supervisor, taking over also the responsibilities of the NCA in scrutinizing operators' conduct *ex post*. Provisions on tariff regulation are sometimes not linked to the performance of a market analysis, and some articles suggest that SMP notification will not be needed in order for the NRA to apply a plethora of rather intrusive remedies. Finally, legal certainty is hampered by other provisions, including provisions on the revocation of spectrum.

[21] Emphasis added.

Moreover, the Law itself seems to introduce an element of complexity into the system, and thus fails to provide the long-awaited (and strongly requested at EU level) streamlining and simplification of the regulatory framework. In particular:

- The very long set of **transitional measures ("Final Provisions")** suggests that a complex implementation process is to be expected, and may leave the market in a state of very limited regulatory certainty.
- The choice made by the Turkish legislator to enact a law that amends previous legislation in many respects, without replacing them, may create confusion in the market. Developing an enacting a **consolidated text** would have been way more preferable in this respect, as it would have provided a sound legal basis for all acts and secondary legislation adopted by the NRA and other public authorities in this sector[22].

2.6 The 2008 NPAA plan

The 2008 national programme (NPAA) for Turkey was published on 31 December 2008 in the Official Gazette. In addition to outlining the proposed principles to achieve alignment with EU's political and economic criteria, the programme also provides timetables and other operational details associated with the intended legal and structural changes for the chapters under negotiation. In the area of information society and communications (chapter 10), the NPAA addresses a number of issues that were highlighted in the February 2008 Accession Partnership Agreement and the December 2008 meeting of the Accession Conference at ministerial level, which officially opened the chapter 10 negotiations.[23,24]

The programme sets out a number of legislative arrangements addressing

(i) short-term priorities for the completion and adoption of key "**starting conditions**" (Priority 10.1);

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[22] For example, in the case of Croatia the adoption of a consolidated text has significantly accelerated the accession negotiations. The text was adopted in June 2008.

[23] The (revised) Accession Partnership Agreement (2008/157/EC), published on 26 February 2008, indicates a number of priority areas proposed by the Commission and adopted by the Council for Turkey's eventual membership. The chapter 10 requirements were the need to (i) adopt an electronic communications law and continue alignment with audiovisual policy to achieve alignment with the acquis and (ii) complete the adoption of key "starting conditions" for EU's 2002 regulatory framework.

[24] Held on 19 December 2008, the Sixth meeting of the Accession Conference at ministerial level with Turkey outlined the more detailed "closing benchmarks" for chapter 10 negotiations. The key requirements were (i) to achieve and continue alignment with the electronic communications and audiovisual acquis; (ii) to safeguard measures against operators with significant market power; (iii) to reinforce the powers, transparency and operational independence of the telecommunication operator; and (iv) to create a public consultation framework for audiovisual regulatory process. For more details, see http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/misc/104925.pdf.

(ii) mid-term priorities for continuing alignment in **audiovisual policies**, especially regarding the Television without Frontiers Directive (Priority 10.2);

(iii) mid- to long-term priorities for continuing **adoption and implementation of electronic communication acquis** and preparing the markets for competition (Priority 10.3); and

(iv) Long-term priority for ensuring the **independence and administrative capacity** of regulatory authority (Priority 10.4).

With the information provided in the 2008 NPAA, the key legislative and structural changes are as follows:

1. Short-term (1 year): Electronic communications – Authorization of mobile and wireless broadband services, mobile virtual network operators (MVNOs) and digital terrestrial television (DTT) services;
2. Mid-term (2 years): Audiovisual policy – Broadcasting principles, legal framework for digital broadcasting, the transmission/re-transmission rights, and frequency allotment procedures.
3. Mid-term (2 years): Audiovisual policy – Creation of a forum to complement work of RTÜK as well as other entities under RTÜK for the enhancement of transparency and protection of minors; and,
4. Mid-term (2 years): Universal service – enhanced access to 112 emergency number

In the following sections, we will proved a more detailed examination of the chapter 10 measures mentioned by the 2008 NPAA.

2.6.1 Completion of starting conditions – short-term priorities

The adoption and implementation of the Authorization directive has been identified as one of the key areas of further work in the screening part of the chapter 10 negotiations. In particular, in its responses to the EU's questions on the legislation's compliance with the EU's 2002 framework, the government has admitted that the "current authorization regime needs to be improved."[25] As illustrated in Table 5 below, most of the short-term priorities focus on the implementation of the Authorization Directive (2002/20/EC) into Turkish law. According to the programme, the procedures and principles of the general authorization regime for the electronic communication sector will be determined by the end of 2009.

In addition, the government also shows its willingness to open the market to mobile virtual network operators (MVNOs), mobile and wireless broadband services and digital terrestrial television (DTT) services other than video

[25] From page 2 of Turkish government's response to EU's questions on Screening chapter 10 – INFORMATION SOCIETY AND MEDIA Bilateral meeting EC-Turkey, 13 July 2006, Brussels.

broadcasting (DVB-T). According to the 2009 business plan of the Information Technologies and Communications Authority (BTK), draft regulation on the authorization of Broadband Wireless Access Services and MVNOs (Law no. 5793) have been prepared and have gone through the consultations.[26] For this reason, it is highly likely that the authorization regimes in these particular areas will be enacted in line with the programme.

It is also worth noting that some of the other "starting conditions" mentioned elsewhere are not considered in the programme. For example, the short-term priorities make no mention of the rights of way issues and the lack of carrier selection and pre-selection for local calls, which have been recently highlighted by Olivier Pascal (DG Information Society and Media).[27] These issues are covered by Law No.5809, although implementing secondary legislation would be needed for these issues to be effectively addressed in Turkey.

2.6.2 Audiovisual policies – mid-term priorities

As shown in Table 6, the audiovisual policies considered in the 2008 NPAA focus, to a large extent, on the Television without frontiers Directives (89/552/EEC and its amendment, 2007/65/EC). Almost all the addressed issues relate to changes that will be made in the current law on the Establishment and Broadcasting of Radio Stations and Television Channels (Law no. 3984). Adopted in 1994, this law defines the functions, authorities and responsibilities of the Supreme Council of Radio and Television (RTÜK). The key anticipated changes are the measures on the broadcasting principles, legal framework for digital broadcasting and its licensing, the transmission/re-transmission rights and the frequency allotment – i.e. licensing, authorization and bidding – procedures.

In addition to the proposed legislative changes outlined in Table 6, the 2008 NPAA also puts forth a number of corporate restructuring measures. Perhaps the most important change is the creation of a *Radio and Television Public Advisory Forum* to complement the work of RTÜK. With participation of radio and television broadcasters, the forum will act as a consultative body for the regulatory process and the decisions of RTÜK. According to the details provided in the NPAA, the forum will be created in 2009 (Table 10.2.2). A number of entities for tracking the alignment with EU acquis, protection of minors, etc. are also put forth as structural enhancements.

The operational costs of the legislative and corporate changes foreseen under this priority are estimated to be € 8,220,000. Over 85% of the costs will arise from the new equipment and hardware for the new entities mentioned above.

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[26] For the 2009 business plan of BTK, see http://www.tk.gov.tr/Yayin/Is_Planlari/2009_is_plani.pdf.

[27] See Mr. Pascal's presentation on 17 June 2008 at http://www.tbv.org.tr/UserFiles/File/telekom/op.pdf.

2.6.3 *Continuing alignment with electronic communication acquis and preparing the markets for competition – mid- to long-term priorities*

Despite its ambitious title, the legal measures presented in this priority are not many. Both measures relate to the implementation of the Universal Service Directive (2002/22/EC). As depicted in Table 5, the first set of measures essentially enhances the widespread use of information technologies within the country. Ostensibly, this would increase the demand for such services in the country, creating the necessary framework for a deeper market, i.e. use of a wider array of services. The second set of measures harmonizes access to emergency services (the so-called 112 emergence number) with the EU *acquis*. Despite these modest aims, the total costs arising from the necessary arrangements under this priority are significant, estimated to be € 5,995,000.

2.6.4 *Independence and administrative capacities of regulatory authority – Long-term priorities*

The issue of independence and the administrative capacity of the regulatory authority has been singled out as a "closing benchmarks" in the December 2008 Accession Conference.[28] The single legislative measure set forth under the relevant priority area gives little detail on how this broad requirement will be satisfied. The 2008 NPAA also states that structural changes are foreseen by 2012 to enhance RTÜK's administrative capacity. Once again, no details are provided on these changes; expect for the statement that the amendments and measures will give rise to no costs.

[28] See footnote 2 on details on the closing benchmarks put forth at the meeting.

Table 5 (Translated from Table 10.1.1 in NPAA 2008)

No	EU legislation	Proposed Turkish legislation	Scope	Responsible agency	Intended adoption date
1	2002/20/EC	Regulatory amendment to change title and content of regulation regarding authorization from "Broadband fixed wireless access service" to "Broadband wireless access service"	Constitution of evaluation and strategic approach to authorization for wireless broadband access to voice and data services; determination of procedures and principles for the provision of these services	Information technologies and communications authority (BTK)	2009
	2002/19/EC and 2002/20/EC	Regulation for authorization of Mobile virtual network operators (MVNOs)	MVNO services; the ability to provide mobile services by using the infrastructure of existing mobile operators	BTK	2009
3	2002/20/EC	Regulation for the authorization of electronic communications sector	Determination of procedures and principles for authorization	BTK	2009
4	2002/20/EC	Regulation to amend authorization principles and procedures for third generation (IMT-2000/UMTS) service and infrastructure	Determination of procedures and principles to facilitate the development and widespread use of mobile broadband applications	BTK	2009
5	2002/20/EC	Authorization of Terrestrial Digital Platform Service Operators	Determination of procedures and principles for the use of infrastructure, market definition, and authorization type for digital terrestrial platform services other than video broadcasting (DVB-T)	BTK and Radio television supreme council (RTÜK)	2009

Table 6 – initiative in the audiovisual services sector[29]

No	EU legislation	Proposed Turkish legislation	Scope	Responsible agency	Intended adoption date
1	89/552/EEC and 2007/65/EC	Law amending the current law on the Establishment and Broadcasting of Radio Stations and Television Channels (Law no. 3984)	Definitions, the power to adjudicate, news in brief rights, incentives provided for independent works of art, scope (IPTV, video-on-demand, etc.), broadcasting principles, European works of art, legal framework for digital broadcasting and its licensing, transmission and re-transmission rights, regulation of advertisement windows	Radio television supreme council (RTÜK)	2009-2010
2	89/552/EEC and 2007/65/EC	Regulation on principles and procedures for television and radio broadcasting	Amendments in line with the changes in law no. 3984	RTÜK	2010 (after adoption of law no 3984)
3	89/552/EEC and 2007/65/EC	Amendment of the administrative and fiscal conditions for private radio and television corporations	Amendments in line with the changes in law no. 3984	RTÜK	2010 (after adoption of law no 3984)
4	89/552/EEC and 2007/65/EC	Amendment to the regulations on frequency allotment to radio and television corporations, bidding procedures, licensing and authorization	Amendments in line with the changes in law no. 3984	RTÜK	2010 (after adoption of law no 3984)
5	89/552/EEC and 2007/65/EC	Smart signs regulation	Amendments in line with the changes in law no. 3984	RTÜK	2010 (after adoption of law no 3984)
6	89/552/EEC and 2007/65/EC	Licensing and authorization of satellite broadcasts	Amendments in line with the changes in law no. 3984	RTÜK	2010 (after adoption of law no 3984)
7	89/552/EEC and 2007/65/EC	Amendment of radio and television supreme council cable broadcasting licensing and authorization regulation	Amendments in line with the changes in law no. 3984	RTÜK	2010 (after adoption of law no 3984)

[29] Translated from Table 10.2.1 in NPAA 2008.

8	Article 12 of EC Treaty	Law amending the current law on the Establishment and Broadcasting of Radio Stations and Television Channels (Law no. 3984)	Enhancement of conditions restricting activities of foreign private and corporate entities	RTÜK	2010 (after adoption of law no 3984)
9	Article 12 of EC Treaty	Law amending the current law on the Establishment and Broadcasting of Radio Stations and Television Channels (Law no. 3984)	Removal of restrictions on foreign capital	RTÜK	2 years before full membership

Table 7 – (Translated from Table 10.3.1 in NPAA 2008)

No	EU legislation	Proposed Turkish legislation	Scope	Responsible agency	Intended adoption date
1	2002/22/EC	Cabinet decision in accordance with article 5 of the Law on Provision of Universal Services and Amendments (Law no. 5369)	Enhancement of computer literacy and prevalence of information technologies; inclusion of digital broadcasting services to the scope of universal services in line with EU acquis	Transportation ministry	To be considered in the perspective of full membership
2	2002/22/EC and 2003/558/EC (recomm.)	Law on provision of emergency services	Enabling the use of the emergency number 112 not only in medical emergencies but also for security, fire and natural disaster emergencies.	Interior ministry	2009-2010

Table 8 – (Translated from Table 10.4.1 in NPAA 2008)

No	EU legislation	Proposed Turkish legislation	Scope	Responsible agency	Intended adoption date
1	89/552/EEC and 2007/65/EC	Law amending the current law on the Establishment and Broadcasting of Radio Stations and Television Channels (Law no. 3984)	Frequency allotment and licensing in accordance with frequency planning for the effective use of scarce resources for public benefit	RTÜK	2011

2.7 *Caveat*: the current review of the EU *acquis*

The previous sections have described the current state of the Turkish regulatory framework for electronic communications with the current EU *acquis*. However, the latter is currently being reviewed, after a first proposal was presented by the European Commission in November 2007. The co-decision procedure has then led the Parliament to introduce a number of amendments to the Commission proposal in its plenary vote on 24 September 2008[30]. The Commission adopted the amended legislative proposals on 6 November 2008. However, the Council then voted common positions on the telecom package on 16 February 2009, on the basis of the first political agreement found on 27 November 2008[31]. On 17 February 2009, the Commission adopted a Communication on the Council common positions on the telecom package, which expressed concern on the Council vote[32]. The proposed new Telecoms Package is now in second reading in the plenary of the European Parliament (expected for April 2009), while informal "trialogue meetings" between Parliament, Commission and Council are ongoing.

The proposed new framework contains a number of new provisions, which may be relevant for the reforms taking place in Turkey. These include the introduction of principles of technology and service neutrality in spectrum management; the reduction of the porting time to one working day; the creation of a pan-European regulatory authority (initially termed the EECMA, then BERT, then GERT); the introduction of functional separation in the set of

[30] See http://ec.europa.eu/information_society/policy/ecomm/tomorrow/next/ep/index_en.htm.

[31] http://ec.europa.eu/information_society/policy/ecomm/tomorrow/next/council/index_en.htm.

[32] In the Communication adopted on 17 February 2009, COM(2009)78 final, the Commission noted that "the Council's position departs substantially from those of the Commission and the European Parliament, notably as regards the internal market mechanisms, in particular for ensuring consistent regulatory remedies, the additional remedy of functional separation, spectrum policy, and the establishment of a regulatory body. As regards the regulatory body, the Commission has particular concerns that the Council's position raises institutional questions that constitute a substantial barrier to a satisfactory settlement".

remedies available to the NRAs vis-à-vis SMP operators; etc. In addition, the Commission adopted in November 2007 a Communication on the digital dividend, which proposes the creation of three sub-bands in the UHF portion of spectrum, dedicated to different clusters of technologies. This proposal is however still heavily debated.

Finally, over the past few months a set of new soft-law documents have been adopted by the Commission, and are still subject to debate and consultation. These include, most notably:

- The Draft Recommendation on Regulated Access to Next Generation Access Networks[33], which proposes, *i.a.*, to include a risk premium on access charges to NGANs.
- The Draft Recommendation on the regulatory treatment of fixed and mobile termination rates in the EU[34], which paves the way for a convergence between mobile and fixed termination rates in the future.
- The new regulation on roaming, which *i.a.* would introduce a new Euro-SMS Tariff from 1 July 2009 (maximum 11 €cents+VAT for sending an SMS from abroad), set wholesale caps for data roaming (€1 per megabyte for wholesale data roaming fees) and further reduce the Eurotariff for voice calls (as regards making calls, from 43 cents on 1 July 2009, to 40 cents, 37 cents and 34 cents for each of the following years; for receiving a call, from 19 cents on 1 July 2009 to 16 cents, 13 cents and 10 cents for each of the following years).

In the next sections, where relevant, we will take the current proposals into account in analysing the regulatory alternatives available to the Turkish government in reforming the regulatory framework for e-communications in line with the developments of the EU *acquis*.

2.8 Turkey's IT sector: challenges ahead

Although the present report deals mostly with the telecommunications and audiovisual service sectors, it is worth recalling that these sectors cannot be seen in full isolation from the IT sector, especially as the telecoms market enters the transition towards NGNs, which promise a full convergence between telecoms and IT. This is even truer since, in Turkey, the IT sector appears underdeveloped compared to the telecoms sector, and this may become a problem in the NGN era. As already recalled, despite the boom observed in e-communications in the past few years, the share of ICT in GDP remains around 2.5% compared to 8-10% in the EU, and most of this is telecommunications, whereas the IT sector is particularly weak. As a matter of fact:

- ICT imports widely exceed exports[35].

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[33] http://ec.europa.eu/information_society/policy/ecomm/library/public_consult/nga/index_en.htm.

[34] http://ec.europa.eu/information_society/policy/ecomm/library/public_consult/termination_rates/index_en.htm.

- Average spending per person on ICT is around $40 compared to $500 in Western Europe and $1,200 in the US.
- Turkey's IT equipment manufacturing capability is modest;
- Software is largely imported.
- Local manufacturing activity is limited to assembly.
- Turkey's share of ICT specialist occupations in the total economy is the lowest in OECD countries[36].
- The current share of software in total market is 15%, which is far below worldwide averages.

In addition, problems have emerged lately also as regards the application and content layers of the Internet architecture. In particular, the value of end-to-end all-IP platforms to Turkish end-users is undermined by the persistence of episodes of censorship, such as the one that involved YouTube in 2007[37]. The likelihood that problems related to freedom of expression spread from linear to non-linear audiovisual services has been expressed also recently by the European Commission in its progress report on Chapter 10 and broadly endorsed also by the European Parliament in its Resolution of 12 March 2009 on the EU-Turkey's 2008 progress report.

To conclude, if Turkey wants to achieve a vibrant information society, the weaknesses in the hardware and software sectors and the blocking of content and applications must be carefully assessed, especially as the Turkish Information Society Strategy for 2006-2010 is about to expire, and some of the ambitious goals set for 2010 appear unattainable (*e.g.* 70% of businesses having broadband access).

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[35] See the Report on Turkey's information and communication technology, http://www.turkey-now.org/db/Docs/Sector%20Reports/Sector%20Reports%202008/INFORMATION%20AND%20COMMUNICATION%20TECHNOLOGIES.pdf.

[36] See OECD Information Technology Outlook 2008, Figure 1.18.

[37] See, *i.a.*, *YouTube Banned in Turkey after Video Insults*, The Times Online, March 7, 2007, at http://www.timesonline.co.uk/tol/news/world/europe/article1483840.ece.

3. REGULATORY ALTERNATIVES

In this section, we identify available regulatory alternatives in all the areas highlighted as "pending" in the previous section. Each available regulatory option is then assessed based on expected benefits and costs. As anticipated in one of the previous sections, our template for the analysis is as follows.

Benefits include:

- Investment (foreign and domestic);
- Competition;
- Benefits to end users;
- Bridging the digital divide;
- Harmonisation with EU *acquis;*
- Macroeconomic benefits (*e.g.*, growth and jobs, productivity).
- Other benefits.

On the other hand, costs include:

- costs to industry players;
- costs to end users;
- switching/harmonisation costs;
- employment costs;
- administrative burdens;
- other costs.

3.1 Area 1 – Adapting primary and secondary legislation in the telecoms field

As stated by the European Commission, Turkey must complete the legislative alignment with the acquis on electronic communications, and with the *acquis* on audiovisual services. This implies changes both in primary and secondary legislation.

As far as primary legislation is concerned, our analysis of the *status quo* highlighted that the main "fronts" for the Turkish government are related to the approval of the new e-communications law, and in particular in the following areas:

1.1. **USO legislation** – the implementation and management of USO are still incompatible with the relevant *acquis*.

1.2. Introduce principles of **service and technology neutrality** in spectrum allocation and management, in line with the Commission's proposed review of the 2002 framework.

1.3. Introduce stringent time limits for **number portability** in the fixed-line and/or mobile sector, in line with the new (and uncontested) provision in the proposed review of the 2002 EU framework, according to which users should be able to switch provider within one working day[38].

1.4. Reduction of **communications taxes** imposed on operators, which have proven detrimental to market entry, penetration and usage intensity, especially in the mobile sector;

1.5. Introduce regulation of **wholesale and retail roaming tariffs**, in line with the 2007 and 2008 EU regulations on roaming, covering both voice and data roaming.

As far as secondary legislation is concerned, we analyse the following areas:

1.6. Equitable and transparent conditions for fixed wholesale **fixed-line and broadband access**.

1.7. Action on **mobile termination rates**.

1.8. Action on **spectrum** to secure the availability of frequencies for new applications, such as 3G and WiMAX.

1.9. Action on **spectrum** to open the market to mobile virtual network operators (MVNOs) and digital terrestrial television (DTT) services other than video broadcasting (DVB-T).

3.1.1 Universal service

Universal service legislation in Turkey has long been considered inadequate for a modern telecoms regulatory framework. This was due in particular to the exclusive attribution of universal service obligations (USO) to Türk Telekom, to the fact that the Ministry had competence for operating the universal service fund (USF); as well as to the lack of transparency rules as to how the universal service fund is spent[39]. In addition, the set of services included in the universal service did not include basic internet service.

In 2005, Law n. 5369 and the subsequent Universal Service Ordinance n. 26 of 29 June 2006 have partly improved the situation. After the enactment of this Law, and also as part of the privatised concession in 2005, Türk Telekom is now obliged to provide a set of 'minimum services' (i.e. emergency services, directory services and payphones) for free to the entire population. The set of

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[38] As already recalled, in Turkey mobile number portability is already operational since 9 November 2008, but fixed-line portability will be possible only from 9 May 2009.

[39] Stakeholders have stated that a recent update of the Ministry's personal computer stock was financed by the USF. See Frontier Economics (2007).

services included in universal service now features also "Basic internet services"[40]. Also the new Law No. 5809 mentions that "[u]niversal service means electronic communications services including internet access and other services to be determined within the scope of this Law"[41].

Interestingly, the fixed-line incumbent has to provide basic fixed line voice service to at least 18.9 million subscribers – a feature that has been heavily criticized, as it links the population of users to be connected to the number of users at 2005. On top of this, no additional geographic universal service obligation has been set, which means that since then, the incumbent Türk Telekom has connected new customers only if those were deemed commercially viable. This is reflected in the recent stagnation in fixed line penetration rates, as shown in Table 9 below.

Table 9 – Number of fixed line subscribers (million), Turkey, 2002-Feb 2008

Years	2002	2003	2004	2005	2006	2008*
The number of fixed line subscribers	18,91	18,92	19,13	18,98	18,33	18,20

As of 02.2008.

Source: Tözer and Ünver (2008).

The reported number of subscribers leads to a rather low fixed-line penetration in Turkey (approximately 25%), along the lines of other countries such as the Czech Republic or Romania. Two representatives of the Telecommunications Authority recently wrote that "[t]he penetration level is stabilized around 25-26 % but if we take into account the fact that average household size is 4.5 then it is not wrong to say that effective penetration rate is near 95 percent throughout the country"; and that due to fixed-mobile substitution, the number of subscribers is also likely to fall below 18 million in the future[42].

This last statement appears puzzling, though. As a matter of fact, reducing the number of connected customers also means depriving a growing number of households of basic (dial-up) internet service, especially since 3G telephony has not yet started in Turkey, and is unlikely to cover rural areas any time soon. At the same time, even the most optimistic forecasts on WiMAX deployment in Turkey would not dare to imagine full coverage of rural areas in the near future, also due to the current choice of frequency bands for WiMAX (around 3.5GHz), which would require a very costly investment to cover Turkey's large territory[43]. And even voices on the possibility to use the universal service fund

[40] Quote law.

[41] See Additional Article 3 of the Law No. 5809.

[42] Tözer and Ünver (2008).

[43] It was estimated that WiMAX deployment in the 3.5GHz band, besides exhibiting poor building penetration potential, would be four times more costly than deployment in the 700

for WiMAX deployment in rural areas are hard to believe, if the frequency to be used is 3.5 GHz.

Finally, the current management of the universal service fund (USF) creates concerns, in particular since control over the USF is allocated to the Ministry of Transport and Communications[44]. In this respect, since the enactment of the Directive COM(96)608, the EU has constantly stated that USFs, where existing, must be administered by an independent body, which should be responsible for collecting contributions from liable operators and service providers; overseeing the transfer of sums due; and/or administrating out-payments to universal service providers. Moreover, besides some initiatives that have been undertaken to increase the coverage of telecom services[45], there is no clear policy on what the fund can be used for. This is due to the fact that the funding methodology of universal service is not explicitly stated in the law, and indeed Law n. 4502 (art. 9) implicitly allows "cross-subsidisation" by Türk Telekom as the solution – this is confirmed by the fact that besides some financial assistance for the digital switchover, Türk Telekom has not received funds from the USF.

Accordingly, Türk Telekom had the possibility of pricing long distance calls above cost to provide short distance calls below cost. However, in the past few years increased competition in long-distance due to the award of authorizations has led Türk Telekom to cut prices in this previous "cash cow". This, in turn, can explain why monthly rental fees and local call prices have been increasing[46] and the total number of subscribers has been falling; and why new discounted local call packages have been introduced by the incumbent, which carry restrictions on usage[47].

Needless to say, the use of cross-subsidies instead of a transparently, efficiently designed and independently managed USF is considered to be undesirable in many respects in the literature. For example, Clarke and Wallsten (2001) discuss

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MHz band. However, no plans exist in Turkey for the reallocation of that portion of the digital dividend to BWA services such as WiMAX. See below, Section ...

[44] Contributions to the USF are as follows: 2% of the authorisation fees collected by the Telecommunications Authority; 1% of net sales revenues of all operators, except for GSM operators; 10% of payments by GSM operators to the Treasury; 20% of administrative fines collected by the Telecommunications Authority; 20% of what remains in the budget of the Telecommunications Authority budget after all expenditures are deducted. These can be increased by up to 20% by the Council of Ministers. See Cullen International (2008), *Enlargement Countries Monitoring Report* – September 30, 2008, at 91.

[45] The Ministry of Transport and Communication, which is in charge of the universal service policy, has completed a universal service project by awarding a tender to TurkSat whereby all schools in Turkey are provided with a broadband access (approximately 40,000). The Ministry of Transport and Communication is initiating several universal service projects, including an up-coming tender to connect the remaining rural areas (approximately 1,000 villages) which have so far been not covered by basic telephony services.

[46] See Tözer and Ünver (2008).

[47] *E.g.* the "HesaphHatt" package. See *Alternative telecom firms critical of Türk Telekom, praise liberalization*, Sunday's Zaman, 4 January 2009.

cross-subsidies and conclude that: (i) they are inherently inefficient, since "by separating price from cost they distort consumption and investment decisions"; (ii) they are **typically not transparent**, as they make it "difficult to determine who receives subsidies and who funds them"; (iii) they **do nothing to encourage service to high-cost regions or to the poor** since the existence of monopoly profits from one group does not induce the firm to provide service to another group[48]; (iv) they are most often **badly designed** to meet expansion goals in the first place, and have therefore been "largely ineffective".

In summary, in Turkey universal service appears to be still a matter of only one company, the incumbent operator, and is entirely relying on cross-subsidisation between different services provided by that company. This equates to stating that universal service policy in Turkey has been privatized and kept static alongside with the privatization of the incumbent, and the USF is used for marginal add-ons such as connecting a limited number of schools. This also means that money contributed by all operators to the USF does not really contribute to territorial coverage of minimum telecommunication services, but to something else.

This situation, needless to say, can create enormous problems in the organization of competition in the fixed-line sector, due to the impossibility to link prices to underlying costs. It would be virtually impossible to introduce any competition in local fixed-line calls until this is fixed.

For such reason, it is very important that Turkey progresses in the reform of its universal service policy. This can be achieved by: *(i)* increasing the transparency of the allocation of the USF (in the short-term); *(ii)* transferring the USF to the telecom authority, in line with an established orientation at EU level; (*iii*) abolish the USF altogether and fund universal service through other means (cost-sharing, public funds, etc.); (*iv*) completely align with the EU *acquis* on universal service in e-communications – which includes abandoning cross-subsidies, opening USO to other operators and introducing cost-based calculations of USO obligations for funding purposes. Below, we perform a SWOT analysis of these options.

[48] Quoting Brook and Smith (2000).

Option 1.1.0. – No policy change	
STRENGTHS • Government keeps control of USF	**WEAKNESSES** • Relies on a single operator • Fails to achieve the goal of universal service (does not provide incentives to connect more subscribers) • Lack of transparency on allocation of USF • Cross-subsidization distorts competition • Unfit to align Turkey with the "information society for all" goals set in the i2010 strategy
OPPORTUNITIES • Use of USF to subsidise broadband deployment and penetration (without full liberalization nor competition-oriented policies)	**THREATS** • Can be an obstacle to the achievement of Turkey's "broadband for all" goals • Hampers full liberalization of the fixed-line sector

Option 1.1.1. – More transparency in the allocation of the USF	
STRENGTHS • Government keeps control of USF • Industry players effectively know what they are contributing to • Possibility to monitor the way in which USF is spent and compliance with the law	**WEAKNESSES** • Does not solve the problems of "zero option" • Relies on a single operator • Fails to achieve the goal of universal service (does not provide incentives to connect more subscribers) • Cross-subsidization may distort competition • Unfit to align Turkey with the "information society for all" goals set in the i2010 strategy
OPPORTUNITIES • Use of USF to subsidise broadband deployment and penetration (without full liberalization nor competition-oriented policies)	**THREATS** • Can be an obstacle to the achievement of Turkey's "broadband for all" goals • Hampers full liberalization of the fixed-line sector

Option 1.1.2. More transparency and transfer of USF to the Telecom authority	
STRENGTHS • Industry players effectively know what they are contributing to • Possibility to monitor the way in which USF is spent and compliance with the law	**WEAKNESSES** • Still does not solve the main problems in previous options • Relies on a single operator as USO provider • Fails to achieve the goal of universal service (does not provide incentives to connect more subscribers) • Persisting cross-subsidization may distort competition • Unfit to align Turkey with the "information society for all" goals set in the i2010 strategy
OPPORTUNITIES • Transparency on where communication taxes are allocated • The NRA could have the mandate to spend USF money for "broadband for all" goals	**THREATS** • The USF would not be used for its main purpose – bringing minimum services to all Turkish citizens • Absence of cost-based calculations of the burden of USO obligations • No possibility to reach a level-playing-field in the local calls market

Option 1.1.3. Alignment with the acquis through a new USO regulation	
STRENGTHS • Compatible with competition in the provision of local calls • Transparency and independence in the allocation of the USF fund • Cost-based measures of USO burdens • Technological neutrality	**WEAKNESSES** • Government cannot control the USF anymore.
OPPORTUNITIES • Other licensed operators could provide service to high-cost areas • Competition is not distorted neither in long-distance, nor in local calls due to end of cross-subsidies	**THREATS** • Need for a strong and independent regulator to deal with USO calculations filed by the incumbent • Need for sound public procurement framework and practice to effectively select USO providers in different areas/services

As a result, option 1.1.3 – full alignment with the *acquis* – appears to be far more desirable than any alternative. This option, however, requires substantial changes to be implemented in a relatively short timeframe, including; (i) abolishing cross-subsidies as a means to finance USO; (ii) transferring the management of the USF to the NRA; (iii) designing cost-based models to enable the NRA to identify areas and services for which universal service funding is

required, based on a cost-benefit analysis; (iv) opening up to all telecom operators access to competitive selection of USO providers.

3.1.2 Authorisations and licensing

Before Law No. 5809 was passed, there were four different types of authorisations available to the operators in Turkey:

- *Authorisation agreement* – issued to operators where state ownership is more than 50%;
- *Concession agreement* – issued, following a tender, to a limited number of companies providing telecommunications services or operating telecommunications networks on a national level;
- *Type 1 licence* – issued, following a tender procedure, to a limited number of companies providing telecommunications services or networks at a local level;
- *Type 2 licence* – issued to companies providing telecommunications services or networks, where the number of providers is not limited. This category includes long distance telephony services (A, B and C-types), cable television, satellite, public phones, intelligent networks and value added services[49].

[49] Individual licences under each of the four types of authorisations are limited to narrowly defined services or activities that are set out in 14 annexes to the Ordinance on Authorisations. Each annex defines specific authorisation conditions for a specific service. One-off licence fees for long distance telephony services under Type 2 licence are the following: *A-type (CPS services)* - TRY 571,446 (€286,000); *B-type (CS services)* - TRY 253,976 (€127,000); and *C-type* (services provided through a 10-digit number assigned by the TA) - TRY 126,988 (€64,000). See Cullen International (2008), *cit.* The annual fee is 0.5% of net sales, plus a further annual administrative fee of 0.35% of net sales.

Table 10 – Type of license/authorisation and number of operators, as of February 2008

Authorisation agreement:	**No.**
Satellite and cable TV services	1
Maritime communication and course	1
Concession agreement:	
GSM services	3
Various telecommunication services	1
Type 2 telecommunications license	
Satellite Communications	33
Satellite Platform	4
GMPCS Mobile Telephony	8
Data Transmission over Terrestrial Lines	27
Long Distance Telephone Services	45
PMR/PAMR Service License	68
Infrastructure Operation Services	15
Cable platform services	5
General authorisation	
Wired and wireless Internet services	162

At present, Türk Telekom (which signed an authorisation agreement with the Telecommunications Authority), Turkcell, Vodafone and Avea are providing services under concession agreements. These agreements will not be affected by the new Law No. 5809, as specified at Provisional Article 2 of that same Law. Until the end of 2008, all other operators were providing services either under a type 2 licence or a general authorisation (internet service providers should obtain general authorisations to provide services). In principle, a telecoms licence could be either a type 1 licence or a type 2 licence. If provision of a service required allocation of scarce resources (like frequency or numbering) or only a limited number of operators will provide such service, a concession agreement should be signed with, or a type 1 licence obtained from, the Telecommunications Authority. There were no major differences between the type 2 licence and the general authorisation. General authorisations were granted by the Telecommunications Authority after an application and a review process, which was nearly as cumbersome as the procedure applicable to type 2 licences. A general authorisation regime applied only to ISPs and operators providing value-added SMS-based services over mobile networks. The one-off fee for this type of services was set at TRY 2,730 (€1,365).

The provision of domestic long-distance and international telecommunications networks and services was liberalised from January 1, 2004, and the liberalisation of local services was formally introduced in July 2005. In practice, the licensing framework for local services was only adopted in August 2007. In August 2007, the Telecommunications Authority had introduced a licence for Fixed Telecommunications Services which covered the provision of voice telephony, data, payphones and value added services at the local level over the fixed network. This was seen as an important measure that would enable new entrants to enter the market for local voice telephony services (including of both carrier selection codes and the assignment of E.164 numbers). However, on January 23, 2008 the 13th Chamber of the Council of State issued an injunction against the decision on the grounds that a single licence was used to enable the provision of more than one telecommunications service (*i.e.*, voice and Internet).

So far, no licences for the provision of local telephone services have been issued and Türk Telekom remains the only provider. Between August 12 and 28, 2008 the NRA ran a consultation on a draft amendment to the authorization ordinance that introduces a new annex for the authorization of fixed telephone services[50].

As observed in Section 2.5 above, entry into force of Law No. 5809 has finally laid the legal basis for the simplification of the authorization and licensing regime in Turkey, bringing it more in line with the EU 2002 framework. In the new regime, the provision of electronic communications networks or services may only be subject to a general authorization: the undertaking concerned is required to submit a notification, but it must not obtain an explicit decision or any other administrative act by the national regulatory authority (NRA) before exercising the rights stemming from the authorisation. The general authorisation gives undertakings the right to provide electronic communications networks and services and to negotiate interconnection with other providers in the European Community. When such undertakings provide electronic communications networks or services to the public, the general authorisation makes them eligible to be designated to provide certain universal service functions. A clear distinction is made between the conditions applicable under the general authorisation and those linked to the rights to use radio frequencies and numbers.

However, the definition of compliance with the conditions of the Authorization Regime is still ambiguous. In particular, the law states at Article 9(9) that "[t]he NRA might reject authorization applications based on the reasons related to national security, public order, public health and other public interests…"; and

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[50] The Telecommunications Authority should issue a special annex to the Authorisation Regulation to grant licences for a particular type of service. These annexes define the scope of the service and, in doing so, they are generally adopting the narrowest possible definition. An operator cannot obtain an authorisation from the Telecommunications Authority that is not included in these annexes.

at Article 9(11) that "[t]he NRA might abort the operations of the companies based on the reasons related to public security, public health and other public interests, upon the review of the Ministry". These provisions are unclear and may leave excessive discretion to the ITCA and the Ministry in granting authorization for the provision of e-communications services.

The simplification in the authorization and licensing process appears like an essential step towards the encouragement of entry in the Turkish e-communications and media sectors, and should be achieved rapidly with the enactment of secondary legislation. Although it is practically impossible to quantify the impact of such simplification in terms of costs and benefits, we can certainly assume that such a simplification, besides aligning the Turkish regulatory framework, will bring about two major benefits: (i) the removal of restrictions to entry of new service providers; and (ii) a reduction of administrative burdens. In the EU, the transition towards a general authorizations regime has been hailed as a major step towards the creation of a more competitive business environment in the e-communications sector, and the same is likely to happen in Turkey, although other restrictions to entry of new providers would have to be lifted in order to unleash the full potential of entry in the Turkish e-communications sector, and in particular in the fixed-line local calls.

Besides the provisions introduced by the Law no. 5809, Turkey also has other options. In particular: (i) the provisions contained in article 9(9) and 9(11) can be modified to ensure that the NRA powers to reject the authorization or abort operations are not made too broad; (ii) the general authorization regime could be extended also to spectrum, as was suggested during the ongoing review of the 2002 framework[51]; (iii) a hybrid system could be introduced , in which more than one type of authorization exists. This would be in line with the choice made in other legal systems, such as Japan and Korea, where authorizations are differentiated between facility owners and non-infrastructured service providers[52]. Although multi-tier regimes have performed quite well to date, the obvious limit to this alternative would be that the Turkish system would still significantly diverge from the EU one, as well as with the Internal Market objective, and this could become a reason to slow down Chapter 10 negotiations further.

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[51] This would make it easier to achieve technology and service neutrality, as well as to enable spectrum trading in the medium-term. However, this proposal has faced significant resistance in the EU debate, and is currently unlikely to be endorsed in the final text. This is mostly due to the risks of increased interference in spectrum usage; and to issues raised by the broadcasting sector, especially as regards the need to protect providers of services of general interest.

[52] For example, Japan has Type I carriers and (general and special) Type II carriers. This two-tier system apparently worked well; Hong Kong has a three-tiered licensing regime, etc.

Accordingly, for the purposes of our impact assessment exercise, we can identify four main options: (i) *status quo* (i.e., *maintain the wording of Law n. 5809)*; (ii) *full alignment with the current EU acquis*; (iii) *introduction of general authorizations also for spectrum*; and (*iv*) *adoption of a multi-tier authorization system*. Below we provide a SWOT analysis of these options.

Option 1.2.0. – Maintain the working of Law No. 5809	
STRENGTHS • Simplifies the regulatory environment • Facilitates entry	**WEAKNESSES** • Provisions at Article 9 appear hardly in line with EU *acquis*, as they may provide too broad powers to the ITCA • Does not facilitate flexibility in spectrum usage • At EU level, this system has encouraged too much entry in some cases, with no distinction between infrastructure owners and non-owners
OPPORTUNITIES • Encourages entry, especially in the fixed-line and fixed broadband sectors.	**THREATS** • Broad NRA powers can hinder regulatory certainty • Requires other policy measures to effectively contribute to a better business environment in Turkey

Option 1.2.1. – Full alignment with the EU *acquis*	
STRENGTHS • In line with EU *acquis* • Simplifies the regulatory environment • Facilitates entry	**WEAKNESSES** • Does not facilitate flexibility in spectrum usage • At EU level, this system has encouraged too much entry in some cases, with no distinction between infrastructure owners and non-owners
OPPORTUNITIES • Encourages entry (more than option 1.2.0), especially in the fixed-line and fixed broadband sectors.	**THREATS** • Requires other policy measures to effectively contribute to a better business environment in Turkey

Option 1.2.2. – General authorisations for all services	
STRENGTHS • Simplifies the regulatory environment • Facilitates entry • Conducive to spectrum liberalisation and trading	**WEAKNESSES** • At EU level, this system has encouraged too much entry in some cases, with no distinction between infrastructure owners and non-owners
OPPORTUNITIES • Can contribute to a more competitive environment in many relevant markets • Can help Turkey's competitiveness through trading and flexibility in spectrum usage	**THREATS** • Requires other policy measures to effectively contribute to a better business environment in Turkey • Can harm broadcasters and IPR protection • Can lead to more interference in spectrum usage

Option 1.2.3. – A hybrid system	
STRENGTHS • Can partly simplify the regulatory environment • Can facilitates entry of infrastructure owners	**WEAKNESSES** • Not in line with EU *acquis*
OPPORTUNITIES • Could be a transitional measure • Can contribute to sustainable competition in many relevant markets	**THREATS** • Can be difficult to administer and lead to regulatory uncertainty in some cases

We believe that the best option for Turkey over a short-term period would be 1.2.1. – fully align the Turkish *acquis* with the EU regulatory framework by moving to a general authorisation regime and maintaining exemptions for numbering, rights of way and spectrum. This option would still allow Turkey to move towards general authorisation for spectrum usage once all other relevant legislation on spectrum flexibility and trading is in place, and together with other EU member states, if the current proposals will be endorsed by EU institutions during the current review.

3.1.3 Spectrum policy

Spectrum policy is key for competitiveness both in the EU and in Turkey. At EU level, recent estimates show that spectrum-dependent services contribute €250 billion to the EU economy, *i.e.* 2.2% of the EU GDP. Several studies have shown that spectrum is currently used very inefficiently in Europe, and that a more flexible and market-based approach to spectrum management would significantly boost EU competitiveness. Accordingly, the European Commission

has undertaken a number of initiatives to foster the introduction of more modern spectrum usage and management in the EU27, and since 2005 has strongly advocated for a more market-based approach to spectrum. Lately, the Commission has proposed important changes in spectrum management, ranging from a significant reshuffling of current band allocation (especially in the February 2007 Communication on flexibility in spectrum management), to the adoption of technology and service neutrality as mandatory principles in all member states from 2015 (in the November 2007 proposed review of the 2002 framework); to the creation of three sub-clusters of technologies and services in the UHF band after the digital switchover (in the November 2007 Communication on the Digital Dividend). Some of these proposals have met the resistance of the Parliament, and most importantly of the Council, and have been partly rolled back. However, it remains clear that more flexibility in spectrum usage and management, as well as opening up the UHF band to broadband wireless technologies, are key steps towards a more competitive EU in this sector in the future.

Moreover, the European Commission rightly noted that new services such as Mobile TV, or new technologies such as WiMAX need at least a pan-European scale and adequate certainty on the availability of spectrum to reach a "business case". Accordingly, it seeks to identify bands to be devoted to specific pan-European services, also in line with the work carried out under the WAPECS project in the past few years. In Europe, spectrum trading and liberalization is expected to generate benefits of as much as €900 billion yearly, whereas trading without liberalization would yield much lower welfare gains, at around 900 million yearly. A recent study by Mott McDonald et al. (2006) estimated the net present value of the harmonisation of collective uses of spectrum in the EU in a range between €463 billion and €898 billion; this means a yearly contribution to GDP of up to 0.17%. Current proposals include the endorsement of principles of technology and service neutrality, and the identification of certain bands for spectrum trading/liberalisation, as well as bands for unlicensed uses of spectrum. Recently, the Commission adopted a "Communication on Strengthening the Internal Market for Mobile TV", where it endorses the DVB-H standard for mobile broadcasting and calls upon Member States to make spectrum available for mobile broadcasting as quickly as possible, including in the UHF band (470-862 MHz) as it becomes available . The Commission also called for more bandwidth in the 900Mhz and 1800Mhz bands to be allocated to 3G and internet phone services, which could cut network costs by up to 40%.

In Turkey, spectrum policy has progressed very slowly over the past few years, especially as regards market-based approaches, unlicensed spectrum and the issuance of 3G licenses. A national table of frequency allocations is published on the NRA's web site. The NRA is a member of CEPT and is actively participating in the Electronic Communications Committee of the CEPT in the field of spectrum management. Members of the ECC are harmonizing and aligning their spectrum strategies and methods to manage the spectrum more effectively

and efficiently. As part of this initiative, the NRA has submitted their national table of frequency allocations to the Frequency Information System of the European Radiocommunications Office (ERO), the permanent office supporting ECC.

The main current issues at hand in the reform of Turkey's spectrum policy are the following:

- **3G licenses:** after significant delay, 3G licenses have finally been awarded in December 2008[53]. Turkcell submitted the winning bid of €358 million for the highest frequency 3G licence on offer in Turkey ("A" band, 40Mhz block), whereas Vodafone has submitted the winning bid of €250 million for the second highest frequency on offer ("B", 35Mhz block) and Turkey's Avea, owned by fixed-line operator Turk Telekom, won the bid for the third highest frequency with a bid of €214 million ("C", 30 MHz). The fourth licence was cancelled due to a lack of bids. 3G network services are now expected to start in the summer of 2009. With this, Turkey will align with EU member states as regards the availability of mobile broadband services.
- **WiMAX licenses:** the next step announced by the government is the auctioning of WiMAX licenses, probably in the 3.5GHz band. As observed above, this is likely to represent an important step forward in Turkey, and occurs with little or no delay compared to EU member states. However, the choice of the band is likely to lead to WiMAX deployment only in very densely populated areas, whereas bridging the digital divide with WiMAX will remain almost impossible to achieve.
- **Digital dividend**: as often evoked by the European Commission, digital switchover represents a one-time opportunity for EU and non-EU countries, especially when it comes to encouraging the development of alternative ways to provide content to consumers (*e.g.* mobile TV), and most importantly bridging the digital divide through wireless broadband (*e.g.* LTE, WiMAX) as affordable cost. Such a one-time opportunity can be reaped only if sufficient flexibility is introduced in spectrum allocation, and in particular if UHF licenses are reallocated through a number of potentially competing uses, possibly along with the "clustered" structure proposed by the European Commission in November 2007, and later endorsed by the European Parliament. Absent refarming in the UHF band, all these benefits would not be reached.

In terms of available regulatory options, then, Turkey seems to have solved most of the previous pending problems (in particular, the award of 3G licenses),

[53] An auction for 4 UMTS licenses had been launched in May 2007, but was later cancelled. On June 16, 2007 the TA had announced an auction for 4 IMT-2000/UMTS licenses to be held on September 7, 2007: only one player participated in this tender (mostly due to disputes as regards number portability) and won one license on a bid of €311 million, whereas the rest of the licenses were not sold. The license awarded was then withdrawn.

whereas new initiatives should mostly focus on introducing neutrality principles and proactively pursuing the efficient allocation of the digital dividend. Accordingly, the main policy alternatives at hand are: (*i*) no policy change; (*ii*) introduction of service and technology neutrality in specific bands; and (*iii*) clustering of the digital dividend in line with the Commission 2007 Communication.

Option 1.3.0. – No policy change	
STRENGTHS • 3G and WiMAX licensing underway • Command and control ensures regulatory certainty and stability	**WEAKNESSES** • Inefficiency of command and control • Allocation of spectrum is too rigid • Current frequencies selected for WiMAX are not suited to bridging the digital divide • No proactive policy on the digital dividend • Digital switchover difficult and delayed compared to EU member states (2014)
OPPORTUNITIES • None	**THREATS** • Very difficult to bridge the digital divide with BWA technologies

Option 1.3.1. Introduction of service and technology neutrality in specific bands	
STRENGTHS • 3G and WiMAX licensing underway • Neutrality favours efficiency, if interference is kept under control	**WEAKNESSES** • Long license duration can hamper flexibility • Digital switchover difficult and delayed compared to EU member states (2014)
OPPORTUNITIES • With proactive refarming, more efficient spectrum allocation can be achieved in some bands	**THREATS** • Does not guarantee spectrum reallocation, particularly in the UHF band

Option 1.3.2. Clustering of digital dividend in line with COM(2007)700	
STRENGTHS • Frees up resources for welfare-enhancing uses of spectrum, in particular BWA • "Clustered neutrality" reduces the risk of interference, at the same time promoting more efficient use of spectrum	**WEAKNESSES** • Requires proactive refarming of spectrum
OPPORTUNITIES • An essential condition towards quick uptake of mobile broadband throughout Turkey • Allows for competition between 4G technologies, *i.e.* mobile WiMAX, LTE, etc.	**THREATS** • Current taxation may hamper the development of new BWA services • Current allocation of WiMAX licenses may lead to underutilisation of WiMAX in the700MHz band

In conclusion, we think that the best opportunity for Turkey would be represented by option 1.3.2. The mere introduction of service and technology neutrality in spectrum management would not guarantee that Turkey takes advantage of its one-time opportunity. On the other hand, Turkey would align itself to other big European economies if it laid the bases for a more efficient use of the UHF band within a reasonably short timeframe, and possibly by 2014.

3.1.4 Number portability

Number portability has been heavily debate in Turkey over the past few years. This facility allows customers who wish to switch operator to keep the numbers originally assigned to them, avoiding the costs of switching to new numbers. Number portability applies to both fixed and mobile lines, although in the literature and in the international debate the focus is often placed only on the latter.

Mobile number portability has become possible only very recently in Turkey, and fixed number portability will be available only from May 9, 2009. Until now, customers wishing to switch mobile operators could only keep their mobile phone number exclusive of the prefix. Prefixes remained assigned to individual operators, due to the wording of the concession agreements of two o mobile operators, which granted them a 25-year ownership of particular numbering blocks[54]. After setting up the necessary database, in November 2008 mobile number portability was finally launched in Turkey, with the ambitious goal of ensuring that transactions to switch operator would be completed in less

[54] It is worth recalling that concession agreements are not affected by Law no. 5809, which introduced a general authorisation regime. See *supra*, Section 2.5.1.

than six days. At the same time, the new proposed regulatory framework in Europe is even more ambitious, as it proposes to reduce the time needed to switch to a new operator to only one working day[55].

The impact of number portability on competition is widely recognized in the economic literature, although the extent to which introducing portability contributes to customer churn is still heavily debated. For example, in the UK within 63 months from service launch, only 5% of customers had used mobile number portability; in Portugal, after 27 months from launch of mobile number portability, only 0.28% of customers had used this option. On the other hand, in Hong Kong, within 60 months from service launch, 85% of customers had switched mobile operator. And in Finland, after only 8 months, 16% of customers had switched.

In 2008, the Commission reported that "a total of almost 19 million subscribers have ported their numbers as of October 2007 (compared to 15 million at October 2006 and 7 million in 2005): 21% more". And the number of ported mobile numbers had increased over the past year by 7.1 million. As of October 2007, 46 million (8.31%) subscribers had ported their number. In Italy alone, over 14 million customers have ported their numbers. This amounts to 15.96% of total mobile numbers. Finland has the highest percentage of ported numbers (68.18%) followed by Denmark (42.06%) and then Spain (27.3%). Overall, however, performance remains very patchy, with negligible porting in a number of Member States, and the potential impact on competition is clearly not being exploited fully. Subsequently, in 2009 the Commission published its 14th Report on the implementation of the regulatory framework, and reported that mobile ported numbers have increased by 14 million between October 2007 and October 2008, such that "almost 60.7 million subscribers have ported their number since the introduction of this possibility", and the "percentage of ported numbers in the EU over the total mobile subscribers since the introduction of mobile number portability is now 10.3%"[56]. Today, Finland continues to have the highest percentage of ported numbers over the total of mobile subscribers (68.7%) followed by Denmark (39.97%) and then Spain (35.45%).

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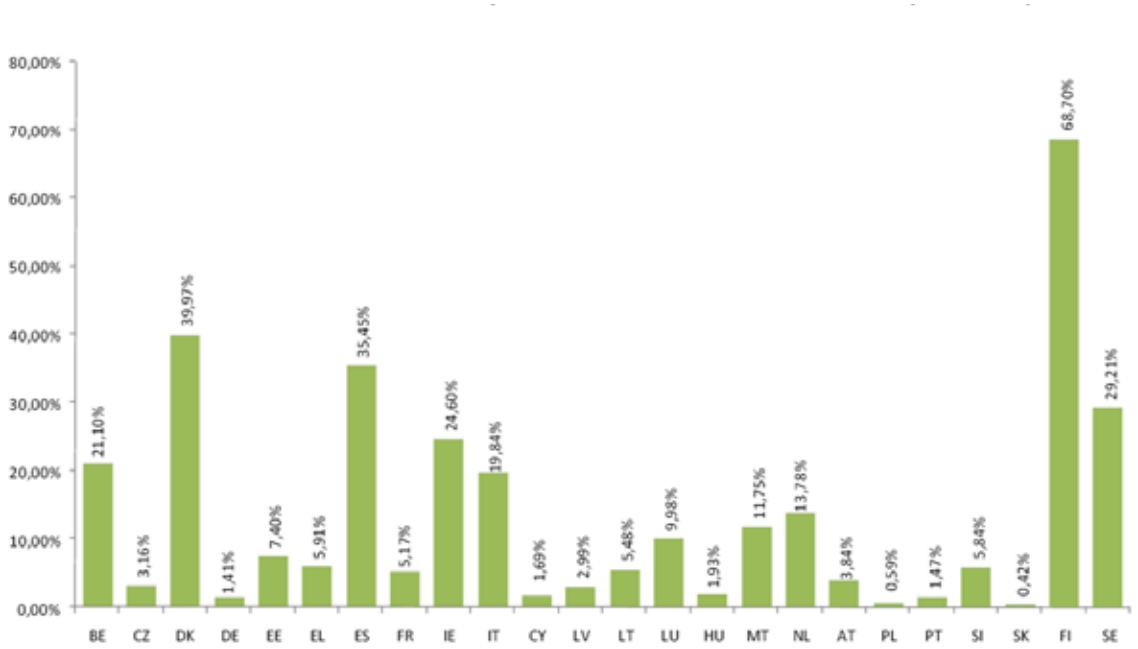
[55] The current amendment of Article 30(4) of Directive 2002/22/EC reads as follows: "Porting of numbers and their subsequent activation shall be executed within the shortest possible delay, no later than one working day from the initial request by the subscriber. National regulatory authorities shall be able to impose appropriate sanctions on providers, including an obligation to compensate subscribers, in cases of delay in porting or abuse of porting by them or on their behalf. National regulatory authorities may extend the one day period and prescribe take appropriate measures where necessary to ensure that subscribers are not switched against their will. National regulatory authorities may impose appropriate sanctions on providers, including an obligation to compensate customers, in case of delay in porting or abuse of porting by them or on their behalf ".

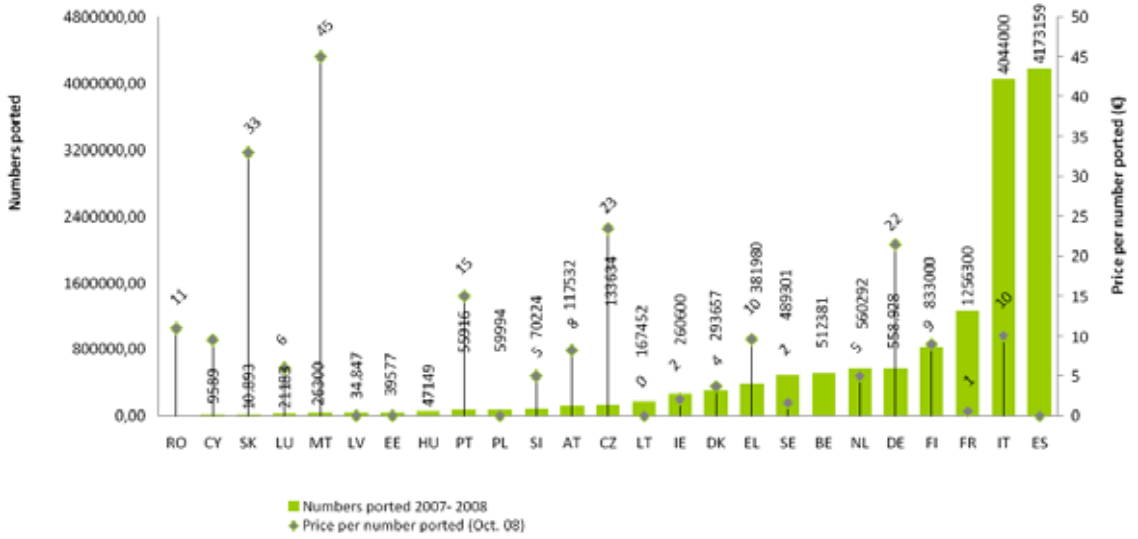
[56] See 14th Implementation Report, Staff Working Document, Vol. 2, Fig. 16a, at http://ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/annualreports/14threport/annex2.pdf.

Figure 16 – Cumulative mobile ported numbers as a percentage of total mobile numbers, October 2008



Source: European Commission, 14th Implementation report

Figure 17 – Mobile numbers ported between 2007 and 2008 and wholesale price of mobile number portability, October 2008



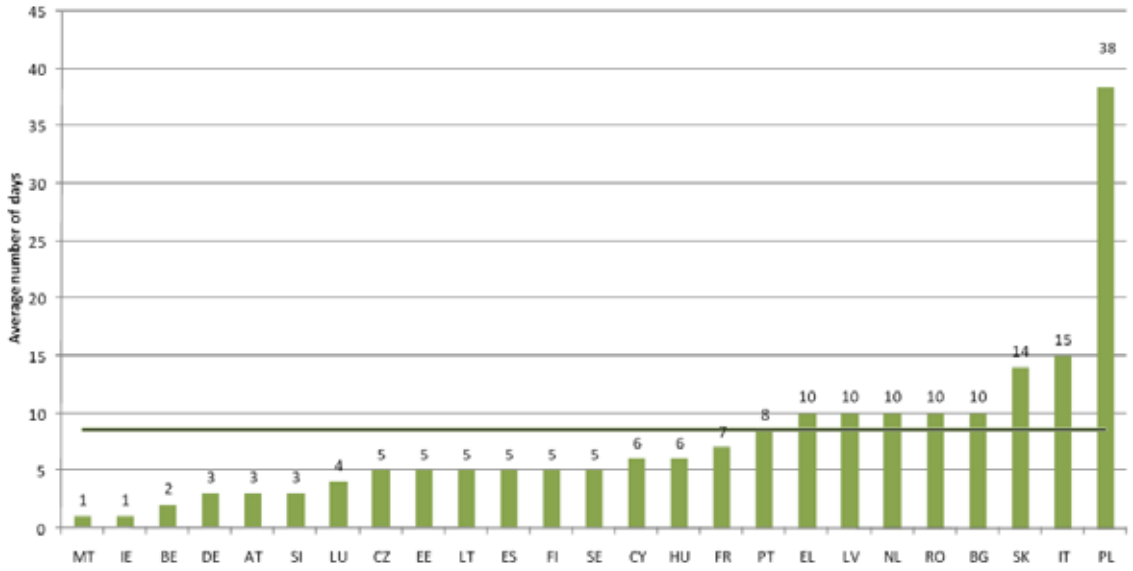
Source: European Commission, 14th Implementation report

More in detail, the effectiveness of portability seems heavily dependent on whether switching can be achieved in a very short timeframe: in Hong Kong, numbers are ported normally within 48 hours; in France, since the new system shortening the delay of two months to ten days has been implemented, the

number of portings has increased significantly; In Spain a five day period for porting a number appears to benefit the overall usage of this facility. Likewise, the UK regulator Ofcom decided to reduce the maximum porting time for mobile numbers to two working days as of April 2008, and plans to further reduce this time to just two hours in 2009. In contrast, lengthy and often cumbersome porting procedures in Poland (14-30 days) and Slovakia (up to 20 days) appear to undermine the full potential benefit for end-users. In Italy for certain periods in 2007 mobile number portability took up to 45 days, and is now set at 15 days (see figure 18 below).

Figure 18 – Time taken in number of days for mobile number portability, October 2008

(european average: 8.5 days)



Source: European Commission, 14th Implementation report

A good benchmark for Turkey is Spain, where number portability is achieved in 5 working days. There, fixed number portability has worked very well since March 2000, leading to over four million ported fixed numbers in 2008 (approx. 20% of total lines). At the same time, mobile number portability has been effectively implemented alongside with extensive MVNO entry, leading to 35% of mobile numbers being ported in just a few years.

Several authors have attempted to provide a cost-benefit analysis of introducing mobile number portability. As regards benefits, a commonly-used approach to analysing the likely costs and benefits of MNP divides the measure's potential benefits into three types[57]:

[57] Several cost-benefit analyses (CBAs) are available in published form, notably Oftel (1997) for the UK, NERA/Smith (1998) for Hong Kong, and Ovum (2000) for Ireland.

- **Type 1** benefits obtained directly by customers who switch,
- **Type 2** benefits obtained by all mobile telephony customers (e.g. efficiency gains and price reductions due to strengthening of competition) and
- **Type 3** benefits obtained by those making calls to ported numbers.

On the other hand, number portability also entail significant costs, including costs of network investments, process changes and operating expenses incurred to make mobile numbers portable. Lyons (2006) finds that significant net benefits of number portability can be expected only in countries where porting occurs within 5 working days or less. For these countries, in the short run a fall in average prices of 6.58% and an increase in the churn rate of 13.6% can be expected; in the long run, prices can fall by 12% and churn increase by 34.7%.

Against this background, Turkey seems to face two main regulatory alternatives in the short term: (*i*) *status quo* (implement current plans on number portability); or (*ii*) further reduce the time needed for switching operator. In the longer term, Turkey could consider implementing cross-platform portability, including fixed-mobile number portability (FMNP) as in the US, Canada, UK, Ireland. This option is however viable only if there is sufficient fixed-mobile convergence/substitution, and competitive pressure is exerted by MVNOs and other platforms such as cable.

Option 1.4.0. – Implementing current plans	
STRENGTHS • Current plans can foster competition especially in fixed-line	**WEAKNESSES** • Unlikely to lead to significant increased churn and reduced retail prices in mobile • No cost-benefit analysis has been provided to date
OPPORTUNITIES • If coupled with new entry in local calls, can lead to more vibrant competition in the fixed-line sector • Can be coupled with MVNO licenses in the mobile sector	**THREATS** • Not sure if costs have been fully taken into account • If switching time is not reduced, effects in the mobile sector are uncertain

Option 1.4.1. – Reduction of switching time to less than 5 days	
STRENGTHS • Can foster competition in fixed and mobile • Short run fall in average prices of 6.58% and increase in churn rate of 13.6% • Long run price decrease of 12% and churn increase of 34.7%.	**WEAKNESSES** • May be too costly for operators at this stage of market development.
OPPORTUNITIES • Can be coupled with MVNO licenses and liberalization of cable	**THREATS** • Absent liberalization in competing platforms (fixed-line, cable, etc.), the overall effect can be less evident than expected.

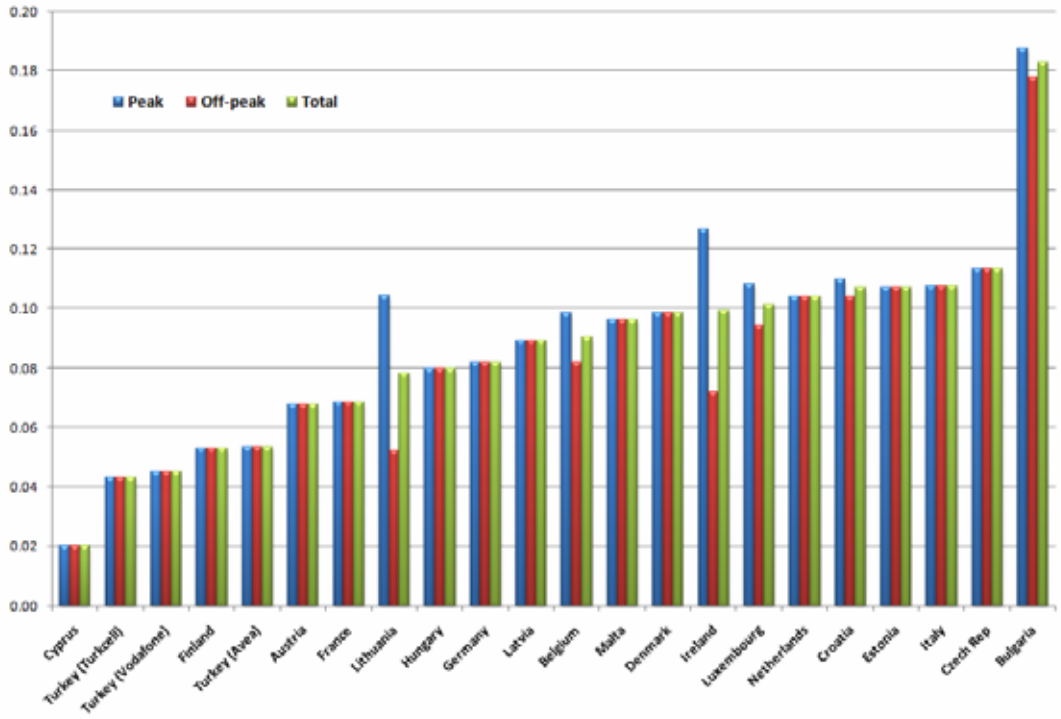
As a result, we consider that a further reduction in switching time below 5 days could in principle ensure that Turkey fully benefits from fixed and mobile number portability. However, as number portability has just been introduced in Turkey, we suggest that: (i) the costs and benefits of the current regime are monitored and assessed overtime; and (ii) a careful impact assessment is carried out in the medium-term before the porting time is further reduced. Option 1.4.0 will then be retained as the preferred one in cost-benefit terms for the short term. As shown in our SWOT analysis, the effectiveness of this option heavily depends on complementary policy measures aimed at facilitating entry in wireline and wireless sectors, most notably entry DSL and cable operators.

3.1.5 Mobile Termination

Another area in which alignment with the EU is needed is that of termination rates. In particular, after April 2008, mobile termination rates have been drastically reduced in Turkey, whereas fixed termination rates have been only slightly reduced (10%).

As regards mobile termination rates, Turkey is (on average) below the EU average, as shown in Figure 19 below.

Figure 19- Mobile termination rates – January 2008



Source: elaborated from ERG(08)17

However, as shown in the Figure, there are differences in the termination rates according to the operators, despite the fact that all of them have been notified with SMP. The NRA has so far kept the asymmetry level between Turkcell and the other two operators Vodafone and Avea, a feature of the Turkish market that has been operational for 7 years now, and currently stands at 18%. Figure 20 below shows the new levels of termination rates compared to the previous ones.

Figure 20 – Old v. new termination rates (as of May 1, 2009)

		OLD		NEW		Change (%)
		MTR (YKr)	Asymmetry	MTR (Ykr)	Asymmetry	
TURKCELL		9,1	-	6,55	-	-28%
VODAFONE		9,5	4%	6,75	3%	-29%
AVEA		11,2	23%	7,75	18%	-31%
TURK TELEKOM	Double T.	1,71	-	1,71	-	0%
	Single T.	2,70	-	2,70	-	0%
	Local	-	-	1,39	-	-

In the EU27, symmetric rates are already in place in seven Member States[58]. As reported by the ERG in 2008, in a further twelve Member States a glide path has been set to achieve symmetry over the next few years[59]. In each of Italy, Portugal, Spain and the UK, by exception, one SMP player is permitted a higher rate than the others (by 10-20%) at the end of the glide-path on the basis of objective justification. In addition, in other 6 MS the announced national policy is in favour of symmetry; in some of these cases, explicit pre-conditions for asymmetry have been laid down[60]. Also in Belgium and the Netherlands the situation appears to be moving in the direction of symmetry[61].

In Turkey, there is no specific announcement or policy statement in favour of symmetry for mobile termination rates. This is not in line with the current orientation at EU level, where the Commission indicated in different comments that "termination rates should normally be symmetric and that asymmetry, acceptable in number of cases, requires an adequate justification."[62] The Commission also recognises that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned, such as different network topologies due to the use of specific frequency bands[63]. But this is certainly not the case in Turkey, where differences in costs and network usage appear negligible[64]. Even in the case of different market shares between SMP operators in market 16, the European Commission clarified that "the fact that an MNO entered the market later and has therefore a smaller market share can only justify higher termination rates for a limited transitory period"[65].

Accordingly, in Turkey there seems to be no basis for maintaining the asymmetry of termination rates in the future. A glide path should thus be established to reduce and eventually eliminate differences between MTRs. This would indeed eliminate the distortionary effect of asymmetric termination rates, which is commonly acknowledged in the economic literature[66]. The

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[58] Czech Republic, Estonia, Lithuania, Malta, Poland, Slovakia, Sweden.

[59] Bulgaria, Denmark, Finland, Greece, Hungary, Ireland, Italy, Luxembourg, Portugal, Slovenia, Spain, UK.

[60] Austria, Cyprus, France, Germany, Norway, Romania.

[61] As reported by the ERG, in Belgium BIPT made a Decision to achieve symmetry by the end of a glide path. However, this principle was overturned on appeal to the national courts. In Netherlands, OPTA plans to make a decision on its next Market Analysis by mid 2010.

[62] Case BE/2006/0433, Case FR/2006/0461, Case FR/2007/0596, Case LV/2006/0464, Case LV/2007/0574

[63] Case IT/2007/0659

[64] The operator that has the highest termination rate, Avea, uses both 1800 Mhz band channels and some 900 Mhz band channels, which helps decreasing unit cost.

[65] Case BE/2006/0433, Case FR/2006/0461.

[66] See *i.a.*, Peitz, M. "Asymmetric regulation of access and price discrimination in telecommunications", International University in Germany, School of Business Administration, Working Paper 28/2005, January 2005; and Valletti, T. "Asymmetric

European Commission has clearly endorsed this view in the recent explanatory note to the consultation on termination rates[67].

In the consultation on termination rates, the Commission also clarifies the need to move to "single efficient" termination rates. In this respect, in Turkey the NRA has recently analysed market 16 and found all three operators to hold SMP. However, the NRA proposed to impose an internal non-discrimination obligation only to the operator that holds the largest share of subscribers. This is one of the NRA approaches that the Commission has challenged over the past few years, as it typically aims at solving a competitive problem in a given relevant wholesale market (former market 16) with a remedy that falls on a retail market. In addition, it fails to comply with the requirement that remedies be proportionate, as it unnecessarily overlaps with the cost-orientation of termination rates already imposed on all SMP players. Suffice it, in this respect, to consult the letter sent by the Commission to the Belgian regulator BIPT in the case BE/2007/0665[68].

Against this background, Turkey has a number of (incremental) regulatory alternatives; (*i*) no policy change, which means maintaining the current (asymmetric) termination rates; (*ii*) establishing a glide path to eliminate the asymmetry of termination rates in a reasonable timeframe; (*iii*) establishing a glide path and an overall reduction of MTRs (towards "single efficient MTRs") in line with the Commission's recent Recommendation on termination; (*iv*) glide path + removal of the proposed obligation not to engage in internal price discrimination for the largest of the three SMP operators.

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regulation of mobile termination rates", Imperial College London and University of Rome, December, 2006.

[67] See http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/termination_rates/explanatory.pdf (section 4.2.)

[68] Available at http://www.bipt.be/GetDocument.aspx?forObjectID=2495&lang=en

Option 1.5.0. – No policy change	
STRENGTHS • None	**WEAKNESSES** • Competition is distorted due to enduring asymmetric termination rates • Not in line with the Commission's recent recommendation on termination • The proposed internal non-discrimination obligation on one SMP operator can distort mobile business models and lead to inefficient market outcomes. • Internal non-discrimination obligation is not in line with the Commission approach
OPPORTUNITIES • None	**THREATS** • Enduring asymmetry can hamper 2G and 3G success on the market • The proposed internal non-discrimination obligation on one SMP operator can distort mobile business models and lead to inefficient market outcomes. • Overlap of obligations in former market 16 can jeopardise availability of resources for investment in the deployment of 3G and other BWA technologies in the future.

Option 1.5.1. – "glide path"	
STRENGTHS • Removes a source of distortions in the mobile market	**WEAKNESSES** • Still not fully in line with the Commission objective to proceed towards a "single efficient" MTR • The proposed internal non-discrimination obligation on one SMP operator can distort mobile business models and lead to inefficient market outcomes. • Internal non-discrimination obligation is not in line with the Commission approach
OPPORTUNITIES • Can lead to reduced prices and a more levelled playing field • Can prevent inefficient entry • Operators can still exploit the waterbed effect to conceive their business strategy	**THREATS** • The proposed internal non-discrimination obligation on one SMP operator can distort mobile business models and lead to inefficient market outcomes. • Overlap of obligations in former market 16 can jeopardise availability of resources for investment in the deployment of 3G and other BWA technologies in the future.

Option 1.5.2. – "glide path" towards "single efficient MTR"	
STRENGTHS • Removes a source of distortions in the mobile market • In line with the Commission recommendation on termination	**WEAKNESSES** • Strict cost-orientation of MTRs can prevent firms from exploiting the waterbed effect • The proposed internal non-discrimination obligation on one SMP operator can distort mobile business models and lead to inefficient market outcomes. • Internal non-discrimination obligation is not in line with the Commission approach
OPPORTUNITIES • Can lead to reduced prices and a more levelled playing field • Can prevent inefficient entry	**THREATS** • The proposed internal non-discrimination obligation on one SMP operator can distort mobile business models and lead to inefficient market outcomes. • Overlap of obligations in former market 16 can jeopardise availability of resources for investment in the deployment of 3G and other BWA technologies in the future. • Cost orientation of MTRs must be implemented carefully, as it can lead to higher domestic origination charges or reduced investment due to the waterbed effect.

Option 1.5.3. – "glide path" + no internal non-discrimination obligation	
STRENGTHS • Removes a source of distortions in the mobile market • In line with the Commission recommendation on termination • In line with Commission approach to internal non-discrimination obligations	**WEAKNESSES** • **If the NRA aims at "single efficient MTR":** strict cost-orientation of MTRs can prevent firms from exploiting the waterbed effect
OPPORTUNITIES • Can lead to reduced prices and a more levelled playing field • Can prevent inefficient entry • Allows for welfare-enhancing discrimination and more service differentiation (subject to *ex post* competition rules, of course)	**THREATS** • **If the NRA aims at "single efficient MTR":** cost orientation of MTRs must be implemented carefully, as it can lead to higher domestic origination charges or reduced investment due to the waterbed effect[69].

In summary, we consider that the preferred option for Turkey would be option 1.5.3. As a matter of fact, on the one hand, it would be highly advisable to establish a glide path towards removing the asymmetry between current MTRs, as well as removing the internal non-discrimination obligation for only one of the SMP players; on the other hand, imposing a drastic reduction of MTRs towards a "single efficient termination rate" in a country where the termination rate is already half of the EU average and below the EU target for 2010, 3G is yet to start and penetration of 2G has not yet reached 100% would seem highly premature. In addition, a further reduction in MTRs may significantly reduce MNOs' incentives to invest, due to limited resources available.

In general the Commission recommendation, which promises a reduction of current MTRs up to 70%, has been heavily criticized. For example, Frontier economics has estimated in September 2008 that a reduction of MTRs to 2 €cent per minute (as compared to an average 9 €cent today in the EU) could lead to mobile penetration being 9% lower than otherwise. With option 1.5.4, Turkey would align to the EU approach on MTRs, but not on yet-to-be-approved principles such as those contained in the Recommendation.

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[69] The "waterbed effect" refers to the situation in which lower termination charges (*e.g.* due to regulation) leads to higher charges for other services, such as retail charges. See, *i.a.* Genakos and Valletti (2008), *Testing the "Waterbed Effect" in Mobile Telephony*, CEIS Working Paper No. 110. Available at SSRN: http://ssrn.com/abstract=1114856; and Muysert *et al.* (2006), *The "Waterbed Effect" in Mobile Telephony*, CRA Competition Policy Discussion paper, available at http://www.crai.com/uploadedFiles/RELATING_MATERIALS/Publications/Consultant_publications/files/pub_4976.pdf.

3.1.6 MVNOs

One of the features of the e-communications sector in Turkey (and in other EU countries) is the absence of regulatory provisions on the authorisation of MVNOs. The Turkish government has been preparing a regulation on MVNOs during 2008, and its enactment is apparently imminent.

Against this background, the short-term plan to issue authorisations for entry of MVNOs does not seem to match Turkey's most urgent priorities. As a matter of fact, entry of MVNOs would take place through voluntary commercial agreements between facilities-based mobile operators (MNOs) and MVNOs. On the other hand, if MVNO entry is made mandatory, the impact of such entry would depend on many different factors, including the following:

- **Business model –** MVNOs can adopt different models, such as: (i) *'full' MVNO*, which involves the MVNO providing its own network core including a mobile switching centre, which may connect directly to the MNO's radio access controller; (ii) *'intermediate' MVNO*, where the MVNO acquires a switched service, but provides its own home location register (HLR) or jointly owns it with the MNO; and (iii) *'thin' MVNO*, where the MVNO acts as simple reseller by providing 'bolt-on' applications and content platforms. At least initially, it can be expected that MVNOs owuld adopt "thin" or "intermediate" models, but not "full MVNO" business models;
- **Regulated licensing terms –** in case MVNOs are made mandatory, failure to set efficient interconnection agreements may end up stifling incentives to invest by facilities-based MNOs; this would stifle sustainable competition and innovation in the longer term, exactly as occurs with a badly-implemented investment ladder model in the fixed line sector.
- **Availability of complementary provisions** – the existence of an effective number portability system is essential for the successful entry of MVNOs (see Section 3.1.4 above)[70]. At the same time, MVNO would be much easier if a general authorisation regime were introduced *in lieu* of the current system of type 1-2 licensing and concession agreements.
- **Competition in the fixed-line sector –** as we approach fixed-mobile convergence, MVNOs represent an appealing strategy for new entrants in the fixed-line sector, within a broader multiple-play strategy[71]. However, as no real competition currently exists in Turkey's fixed-line broadband, this prospect cannot be said to currently exist.

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[70] A good benchmark for Turkey is Spain, where number portability is achieved in 5 working days. There, fixed number portability has worked very well since March 2000, leading to over four million ported fixed numbers in 2008 (approx. 20% of total lines). At the same time, mobile number portability has been effectively implemented alongside with extensive MVNO entry, leading to 35% of mobile numbers being ported in just a few years.

[71] See OECD (2007).

Overall, MVNO entry can have pros and cons, and most importantly opportunities and threats. On the one hand, MVNOs can contribute to enhancing consumer choice and service differentiation on the market, as MVNO can capture consumer demand for 'niche' services and can provide appealing content platforms. Likewise, increased competitive pressure exerted by MVNOs on MNOs can exert a "disciplining" effect on MNOs, leading to lower prices.

On the other hand, however, entry of MVNO can hamper incentives to invest in infrastructure at a time when MNOs are looking for important investments that will lead Turkey to catch up with the rest of Europe in the mobile sector – the deployment of 3G networks. As 2G telephony approaches 100% penetration and 3G licenses have only recently been made available, entry of 2G could – if not carefully organized – end up undermining the sustainability of MNOs' business models. For this reason, we consider that mandatory MVNO entry carries little prospects of enhancing consumer welfare in Turkey. To the contrary, a careful application of competition law can ensure that MNOs having SMP do not "refuse to deal", by denying interconnection to potential entrants, which hold a general authorization. Even in this case, the application of competition rules on abuse of dominance would have to be very careful in order to avoid Type I errors ("false convictions"), which would inevitably create uncertainty in the marketplace.

Below, we compare the following three regulatory alternatives: (i) no action on MVNOs; (ii) authorization to MVNO entry subject to commercial agreements between MNOs and MVNOs; and (iii) mandatory MVNO entry.

Option 1.6.0. – No action on MVNOs	
STRENGTHS • Preserves the business model of existing MNOs in light of upcoming investments	**WEAKNESSES** • Prevents MNOs and MVNOs from reaching win-win agreements to the benefit of end users
OPPORTUNITIES • Preserves regulatory stability and certainty	**THREATS** • Might lead to anticompetitive behaviour by existing MNOs (*e.g.* collusive behaviour)

Option 1.6.1. – Authorisation of MVNOs	
STRENGTHS • Preserves the business model of existing MNOs in light of upcoming investments • Makes room for win-win agreements between MNOs and MVNOs, widening consumer choice and increasing welfare	**WEAKNESSES** • None
OPPORTUNITIES • Preserves regulatory stability and certainty • Increases competitive safeguards in mobile markets • Might lead to price reductions and better matching of end user preferences	**THREATS** • Crucially depends on complementary measures (portability, reform of authorisation regime)

Option 1.6.2. – Mandatory entry of MVNOs	
STRENGTHS • Increases consumer choice and diversity of business models	**WEAKNESSES** • Potentially disrupts existing business models by imposing market outcomes
OPPORTUNITIES • Might lead to price reductions and better matching of end user preferences	**THREATS** • May reduce investment by MNOs • May delay consumer access to 3G services • May stifle infrastructure-based competition • Crucially depends on complementary measures (portability, reform of authorisation regime)

Accordingly, we suggest that the best option for Turkey would be leaving MVNOs under the general authorisation regime, without mandating MVNO entry, and thus leaving to commercial agreements between MNOs and MVNOs to decide whether the latter will eventually enter the market (option 1.6.1). This provision must however be coupled with careful and effective antitrust *ex post* scrutiny of the conduct of dominant MNOs, if they deny access; and should necessarily be coupled with the issuing of general authorisations (option 1.2.1 above) and with tighter cooperation between the NRA and the NCA (option 3.1.2 below).

3.1.7 Promoting competition in the fixed-line broadband sector

One of the most important areas in which Turkey lags behind other EU countries is the liberalization of fixed-line telecommunications and the

development of infrastructure-based competition. To date, even service-based competition is slowly developing, due to the difficulties in entering the local calls market[72]; in addition, bitstream access is minimal and not a single local loop has been unbundled[73]. This also means that, absent policy changes, there are very little prospects of seeing players climbing the "rungs of the investment ladder" any time soon.

Currently, the incumbent's reference offer for the provision of access to its local loop has been agreed by the NRA, and co-location at the incumbent's exchanges started officially in January 2007; however, no specific target date for opening up all of the incumbent's approximately 1,000 exchanges has been set[74], and the whole local access market seems very far from real liberalization.

In the broadband market, the consequences of the current situation are fairly visible from the data: Turkey currently has relatively high prices for broadband access and the lowest speed in OECD countries, se shown in Section 2 above.

Discussing available regulatory options in this domain is far from easy. This is mostly due to the fact that the lack of liberalization mostly depends on issues related to licensing and lack of implementation and enforcement of existing rules, rather than to the need to enact new regulation. Once the authorization process has been streamlined, it is likely that licenses for the provision of local calls services will finally be issued, with no possibility for courts to overturn NRA decisions anymore[75]. Also, the possibility to provide all services, including local calls, will create a more competitive environment compared to the current one, where the incumbent has an incentive to compete where it is exposed to competitive pressure (by reducing prices in long-distance calls) and raise prices in "safe" markets (such as local calls). Replicability of the incumbent offer, coupled with efficient, cost-based interconnection pricing, certainly

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[72] A major change impacting competition in the fixed line market came in March 2006, when Türk Telekom's network was upgraded to allow for carrier preselection (CPS) and call by call selection (CS) to comply with regulatory requirements dating back to 2005. Since then seven CS agreements and eight CPS agreements have been signed. See Frontier economics (2007) and Cullen International (2008).

[73] The RUO has been available since November 2006 and a regulated reference offer for wholesale bitstream access since August 2007.

[74] Frontier Economics (2007).

[75] As reported by Cullen international (2008), in August 2007 the NRA had introduced a licence for Fixed Telecommunications Services which covered the provision of voice telephony, data, payphones and value added services at the local level over the fixed network. This was seen as an important measure that would enable new entrants to enter the market for local voice telephony services (including of both carrier selection codes and the assignment of E.164 numbers). On January 23, 2008 the 13th Chamber of the Council of State issued an injunction against the decision on the grounds that a single licence was used to enable the provision of more than one telecommunications service (i.e. voice and Internet). So far, no licences for the provision of local telephone services have been issued and Türk Telekom remains the only provider.

reduces the risk of price squeeze in both the narrowband and broadband markets.

Once these basic conditions have been met, there are still several options available to the NRA and the government on how to effectively liberalise the fixed-line and broadband sectors and promote the migration towards all-IP networks at least in densely populated areas. These include the adoption of a "ladder of investment" model; the award of "regulatory holidays" for players investing in high-speed networks; the adoption of a functional separation model, in which all broadband providers have access to a common next generation infrastructure on an "equivalence of access" condition; and several hybrid models[76].

The choice of the policy strategy to be adopted is very sensitive to the regulatory, geographic and demographic context of a country. Countries like the UK reportedly profited from functional separation, whereas countries where more than one platform is available (so-called "2.x" countries, to quote Eli Noam) may profit from regulatory holidays, as in the case of the US. Other countries, such as France, have successfully encouraged investment by effective LLU pricing, which led to several thousand local loops unbundled in a very short time during 2005 and 2006. In this respect, Turkey cannot count on any alternative infrastructure, as cable is very underdeveloped and no fibre investment has been undertaken to date. Prospects for mobile broadband to complement fixed are real, but not short-term, and WiMAX deployment is unlikely to lead to sufficient bridging of the digital divide.

As a result, we consider that the investment ladder model remains the most feasible at this stage, and that functional separation may become an option in the future, after entry has been stimulated through resale, bitstream and LLU pricing. However, it is important to underline that the investment ladder model is very difficult to implement in practice, and that many countries have failed to implement it effectively in the past years, leading to cases of arbitrage and

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[76] The "ladder of investment" model was developed by Martin Cave and significantly inspires the implementation of the 2002 framework by NRAs. It aims at reconciling short-term service-based competition with long-term infrastructure-based competition, by ensuring access of new entrants without requiring significant investment in infrastructure, and later providing incentives for them to gradually build their own infrastructure. In order to make the ladder operational, NRAs are called to follow a precise sequence of actions: (i) define replicability; (ii) identify easily replicable assets, non-replicable assets and assets in an intermediate position to sort out rungs that warrant access regulation; (iii) rank non-replicable components in the value chain; (iv) identify where on the ladder market players are located; (v) choose the most appropriate rung on which intervention should be focused; (vi) estimate the amount of investment needed to move from a rung to another up the ladder and the correct timing of such move; (vii) identify the most appropriate remedy, which in the case of the investment ladder normally implies granting access to the incumbent's infrastructure through cost-oriented charges; and (viii) monitor market structure. See, *e.g.*, Cave (2005), *Making the Ladder of Investment Operational*, at http://www.ictregulationtoolkit.org/en/Document.2916.pdf.

players moving up and down on the ladder. For such reason, the NRA should very carefully set prices for different access points, and refrain from micromanaging the market over too long a timeframe.

In light of the above, we consider the available regulatory options to be the following: (*i*) no policy change; (*ii*) under the assumption that general authorizations are in place, favour short-term service-based competition to encourage longer-term infrastructure-based competition ("investment ladder"); (*iii*) grant regulatory holidays for new investment in all-IP networks; and (*iv*) consider functional separation of the incumbent's infrastructure. Below, we analyse and discuss these options.

Option 1.7.0. – No policy change	
STRENGTHS • None	**WEAKNESSES** • Hamper sustainable competition and entry in the fixed-line and broadband sectors • Almost impossible to effectively compete with the incumbent due to difficulties in securing a license for local calls
OPPORTUNITIES • None	**THREATS** • Turkey's fixed-line broadband exhibits declining penetration, rather high prices and low speed. With increased competition, consumer may profit from lower prices (up to 35% reduction) and better speed.

Option 1.7.1. – "investment ladder"	
STRENGTHS • Favours short-term entry and service-based competition • May lead to infrastructure-based competition in the long run	**WEAKNESSES** • Very difficult to implement in practice (only a few countries effectively managed to implement it without creating room for arbitrage or market micro-management)
OPPORTUNITIES • With increased competition, consumer may profit from lower prices (up to 35% reduction) and better speed.	**THREATS** • May end up stifling incentives to invest for both the incumbent and the new entrant • Evidence that LLU hampers investment in alternative infrastructure

Option 1.7.2. – "regulatory holidays"	
STRENGTHS • Encourages investment by incumbent player(s)	**WEAKNESSES** • Hardly adaptable to Turkey's market environment, due to absence of alternative platforms and delays in mobile broadband (Turkey is a "0.x" country)
OPPORTUNITIES • Consumers may profit from a single high-speed infrastructure	**THREATS** • Prices are likely to remain high to lack of facilities-based competition • Inefficient incentives for the incumbent and new entrant over the longer term

Option 1.7.3. – "Functional separation"	
STRENGTHS • Ensure equivalence of access for new entrants and a level-playing field in the provision of broadband access	**WEAKNESSES** • Very costly and difficult to administer • Creates a long-lasting monopoly in the infrastructure • Hampers investment in alternative infrastructure
OPPORTUNITIES • Provide regulatory certainty for investment	**THREATS** • May end up stifling incentives to invest in new platforms and infrastructure

Accordingly, given Turkey's current situation in the fixed-line a broadband market, we consider that option 1.7.1., if correctly implemented and coupled with the simplification of licensing and the strengthening of NRA enforcement powers, can represent the most desirable option. At a later stage, once a significant number of competitors have entered the market with multiple-play offer, the transition to all-IP networks could be approached either with option 1.7.2, 1.7.3 or any hybrid option.

3.1.7.1 Focus: promoting competition in the ISP market

While looking at Turkey's fixed-line sector, perhaps the most striking feature is the very low degree of liberalization of the broadband market, where TTNet still holds a quasi-monopoly in local access. An effective liberalization of the ISP market should then be targeted by the NRA as a key priority for the development of Turkey's information society. In particular, the implementation of the "investment ladder" should follow the main steps highlighted by its main author, Martin Cave[77], and elaborated in Renda (2006):

[77] See Cave (2005), *Making the Ladder of Investment Operational*, at http://www.ictregulationtoolkit.org/en/Document.2916.pdf. And Renda (2006), *Last Call for*

- *Define replicability*. The guiding principle available for NRAs is found in the first of the three criteria provided by the Commission in the Recommendation on relevant markets, *i.e.* the existence of "high and non-transitory" barriers to entry. Of course, while some assets will always be defined as inherently non-replicable in the short-term – the prominent example being the local loop – the inclusion of other assets would depend on how broad is the interpretation of replicability.
- *Identify easily replicable assets, non-replicable assets and assets in an intermediate position* to sort out rungs that warrant access regulation. This includes a thorough and forward-looking assessment of replication possibilities and/or potential facilities-based competition in the long run. As a result, NRAs will have to pursue actual replication of observed components both when this is already feasible, and when it is likely to become feasible in the near future.
- *Rank non-replicable components in the value chain*. In other words, NRAs must build the ladder and identify all rungs. This step is crucial and challenging, as rungs must not be too distant in terms of incremental investment needed, and accurate timing needs to be set in order for the transition to facilities-based competition to be as rapid as possible, without distorting competition and/or creating possibilities for arbitrage by new entrants.
- *Identify where on the ladder market players are located*. This is another delicate task, in that it aims at preventing the ladder to proceed too slowly or even backwards, with players falling down the ladder. Without this mapping exercise, arbitrage becomes almost inevitable: the ladder cannot be successfully implemented if the regulator does not know which players are on which rung.
- *Choose the most appropriate rung* on which intervention should be focused. As specified by Martin Cave, this decision must be based "on an analysis of the scale and prospects of the operators at various points, with a bias in favour of what might be described as 'leading competitors', defined as those more advanced in their infrastructure building and satisfying a minimum market share criterion"[78].
- *Estimate the amount of investment needed to move from a rung to another up the ladder and the correct timing of such move*. This depends on how distant are the chosen rungs, but also on market conditions such as the time needed for a new entrant to achieve sufficient economies of scale and installed customer base to be able to climb the ladder.
- *Identify the most appropriate remedy*, which in the case of the investment ladder normally implies granting access to the incumbent's infrastructure through cost-oriented charges. Given the high investments at stake and the

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Lisbon? Suggestions for the Future Regulation of E-Communications in Europe, Report of a CEPS Task Force, CEPS, June 2006.

[78] Id.

degree of uncertainty inevitably brought by the ladder on the possibility to recover sunk investments, access pricing might not be limited to LRIC pricing or other forms of cost-based pricing, and might include some remuneration of investment risk (e.g. "real option pricing")[79].

- *Monitor market structure*. In the ladder model, NRAs have a fairly heavy responsibility: they have to provide efficient entry incentives with the right timing. This implies that the NRA mandates access at rather low prices at the chosen rung, while keeping high access charges at other rungs. After the new entrants have achieved enough scale, the NRA will raise the price for access to that rung and mandate access to the upper rung at more appealing prices, so that players will have an incentive to move up the ladder[80]. The pro-active role played by the NRA in implementing the ladder model should not, if possible, lead to micromanagement of the market.

In Turkey, these steps have not been followed to date, and most of the 1,000 exchanges held by TTNet have not been opened up to competition, despite the first attempts to launch bitstream access and the few local loops that have been unbundled[81]. This, in turn, means that most players are still located on the "first rung of the ladder", and that the path towards infrastructure-based competition is still very long. In addition, there are limited prospects for the development of alternative infrastructures, such as cable, fibre and satellite networks, especially since the available infrastructures are also under the control of the partly state-owned incumbent.

In short, a careful strategic review of broadband competition in Turkey would be highly advisable. Absent this important development (possibly coupled with the removal of public ownership and the full separation of cable from xDSL infrastructure owners), the Turkish market may end up stagnating in a situation in which the fixed-line incumbent is *de facto* the only provider of local access, and accordingly a real dominator of the ISP market.

3.1.8 Communications taxes

Needless to say, the most evident feature of the Turkish telecoms market is the enormously high level of taxation on communications services. In particular, mobile operators are subject to an impressive conundrum of taxes, which include a Special Communication Tax, the Treasury Share Premium, the Stamp Duty, the TGM Handset License Fee and TGM Handset Usage Fee. As a result,

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[79] Id.

[80] This would be best achieved if new entrants could climb the ladder simultaneously: otherwise, later entrants might find it unfeasible to undertake very high investments to enter at a deep level of the ladder, and might also experience problems in entering the market at lower rungs, if NRAs are currently discouraging existing players from remaining on those rungs through high access charges.

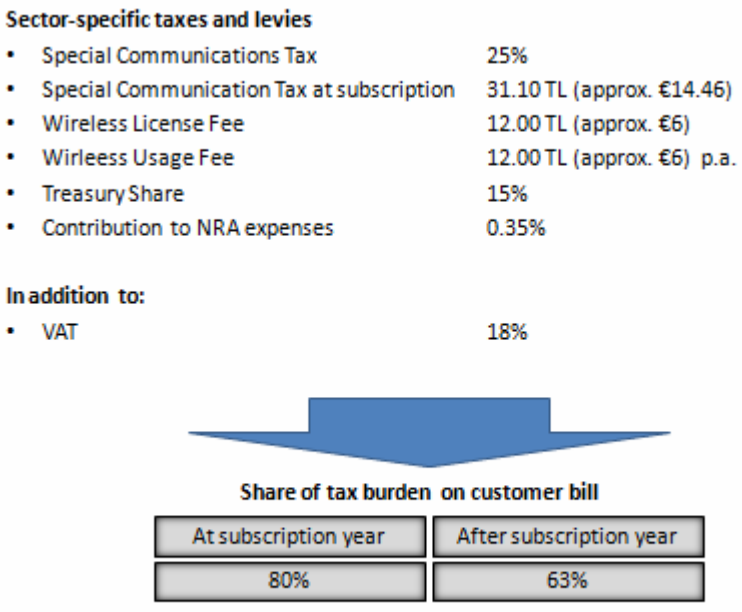
[81] TTNet had approximately 5 million subscribers as of July 2008 and the alternative operators have approximately 250,000 subscribers which have been acquired by resale method.

Turkey exhibits the highest tax rate worldwide, as shown in Figure 21 below. Such a high tax rate inevitably exerts a restrictive effect on penetration. With lower rates, a much higher market penetration could have been achieved instead of the current 90%, which hardly compares to 112% in the EU.

A similar concern for high tax rates was expressed by the World Bank in its March 2004 "Turkey Knowledge Economy Assessment Study", in which a key recommendation was to "reduce the tax and regulatory burden on ICT". GSMA (2005) published a study on the impact of taxation on mobile market growth, highlighting that "the degree to which taxation acts as a barrier for users, preventing potentially hundreds of millions people from affording mobile communications and holding back economic growth and social development in many countries", and showing the magnitude of the Turkish 'anomaly'.

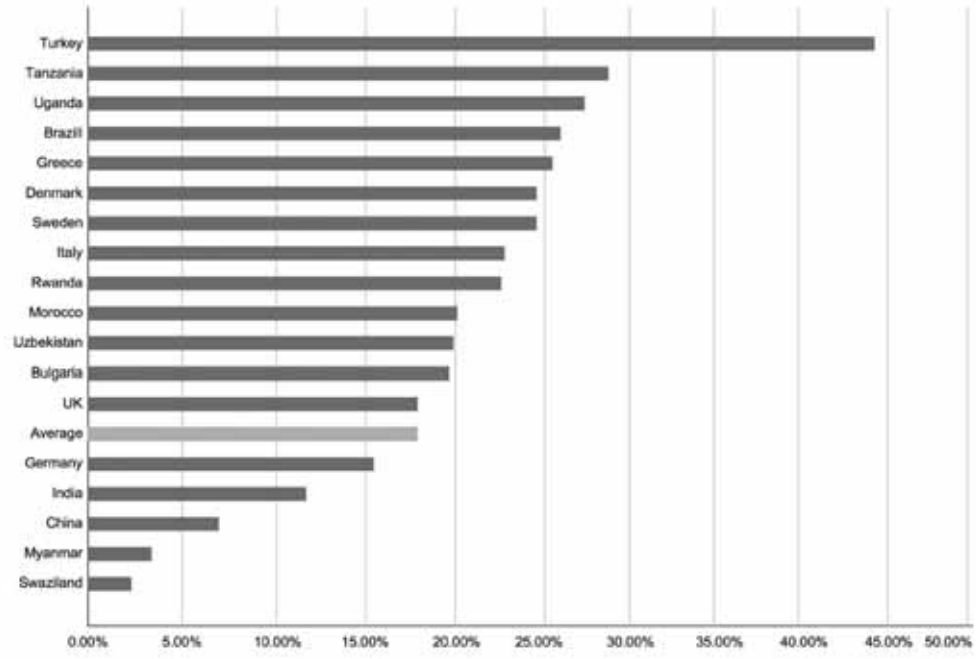
Similar conclusions were reported by Deloitte's Global Mobile Tax Review 2006-2007, and are reported below in Figure 22. Mobile value added services (VAS) such as purchasing musical contents over mobile handsets are still struggling due to high tax burden, through a reduction of the special communications tax from 15% to 5% (for internet services only) was announced in November 2008. Importantly, the tax burden has the worst effect on low-user group, since fixed taxes have higher weight on the overall usage.

Figure 21 – Impact of taxation on mobile users in Turkey



Source: Elaboration (and update) from CEPS Task Force Report (2008)

Figure 22 – Tax as a share of total cost of mobile ownership (TCMO)



Source: Global Mobile Tax Review, 2006-2007, Deloitte.

Although to a lesser extent, also fixed-line telecom services are characterized by high taxation, with a 15% special communication tax (against the 25% imposed on mobile services) and no Treasury share.

In this respect, the following measures could be envisaged[82]:

- fixed taxes should be lifted immediately;
- the special communications tax should be immediately decreased to the same level of fixed telephony (15%), and eventually lifted altogether;
- Value added services should be exempted from any kind of tax (apart from VAT);
- One type of standard tax should be applied and aligned at the average EU level.

The effect of a tax reduction for mobile services is likely to be remarkable, also given the high demand elasticity normally associated with 2G and (even more) 3G services[83].

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[82] See CEPS Task Force report (2008).

[83] See, *i.a.* Gao *et al.* (2005), at http://ethesis.helsinki.fi/julkaisut/eri/hecer/disc/43/demandfo.pdf. And Hausman, *From 2G to 3G: Wireless competition for internet-related services*, available at http://aei-brookings.org/admin/authorpdfs/redirect-safely.php?fname=../pdffiles/phpvH.pdf.

Option 1.8.0. – No policy change	
STRENGTHS • None	**WEAKNESSES** • 2G and 3G success is hampered by taxes.
OPPORTUNITIES • None	**THREATS** • Tax burden can heavily affect the development of the mobile industry today and in the future.

Option 1.8.1. – Elimination of Treasure Share and SCT	
STRENGTHS • Unleashes the demand for 2G and 3G services	**WEAKNESSES** • Lower tax income for Turkey in the short term.
OPPORTUNITIES • Greater penetration of mobile phones, easier transition to mobile broadband, better business case for 3G and WiMAX	**THREATS** • None.

3.2 Area 2 – Alignment with the *acquis* in audiovisual services

The area in Chapter 10 where the most significant concerns have expressed by the European Commission over the years is certainly that of audiovisual services. As recalled above, in Section 2.2.2.2, the current *acquis* in Turkey still significantly differs from the EU Audiovisual Content Without Frontiers (ACWF) framework which replaced the previous TV Without Frontier (TVWF) Directive.

The main areas of concern are the following:

- **Freedom of expression**. The 2006 report and the following two reports emphasise that the Turkish legal framework still does not guarantee freedom of expression, in particular since defamation is still a criminal offence carrying prison sentences. With the advent of the Internet age, non-linear services face similar risk to content previously broadcasted, as testified by several instances of website blocking (*e.g.* of Youtube). The act amending the Broadcasting Act (RTÜK Act) in 2002, provides for the possibility of broadcasting programmes in different languages and dialects traditionally used by Turkish citizens in their daily lives. The implementation is far from being perfect. Apart from this, the broadcasting act includes a wide range of provisions on sanctions, the Internet and the composition of the Radio and Television Supreme Council (RTÜK). The act also lays down basic principles that any broadcasting activity must comply with, including a ban on broadcasts that threaten the existence and independence of the Turkish Republic, the territorial and national integrity

of the State, or the reforms and principles of Atatürk, or which encourage violence, terror or ethnic discrimination. In many cases, this provision is interpreted in a very strict way. Part of the concerns raised in these area overlap with concerns in the field of human rights and protection of minorities, and will not form part of the present impact assessment exercise.

- **Competitive environment**. The main problem here relates to:
  - The need to introduce a **general authorisation regime** as opposed to the current individual licensing regime (see above, Section 2.3.1.2).
  - **Licensing and frequency planning issues**. With the amendment of the Broadcasting Law in 2002, the task of frequency planning for radio and television was transferred from the RTÜK to the Telecommunications Authority. However, regulatory competences remain split.
  - **Spectrum.** Besides issuing telecommunications licences, the Telecommunications Authority is also responsible for regulating the electromagnetic spectrum, but the RTÜK retains the authority to award broadcast licences, and since then has not reallocated frequencies nor reviewed temporary licences[84]. Due to the frequency allocation deadlock (see below) currently, all terrestrial radio and television broadcasts are carried out without any licence or official allocation of frequencies. Overall spectrum policy needs a careful reassessment, also in light of the digital switchover plans.
  - The need to complete the **analysis of former market 18** to introduce competitive safeguard measures against SMP operators.
- **Independence and administrative capacity of the regulator.** A number of sanctions imposed by RTÜK, on private media raise question marks over its independence. In terms of administrative capacity, the composition of the Radio and Television Supreme Council makes it vulnerable to political pressures. The HYK is a board consisting of the Minister of Internal Affairs, the Minister of Transport, the Under-Secretary of the National Intelligence Organisation and the Head of Electronic Communications of the General Staff, meeting under the presidency of the Prime Minister (or a State Minister authorised by the Prime Minister).
- **Promotion of European and independent works and restrictions on the share of foreign capital** in television enterprises. The new regulation on licensing and authorisation of cabled transmissions obliges cable operators not to transmit programmes of foreign origin, if these are deemed inappropriate by RTÜK. This obligation is clearly not compatible with the Television Without Frontiers Directive. In addition, the 2002 Amendment to the Broadcasting Law set a 25% ceiling on foreign ownership of private

[84] The frequency plan produced by the Telecommunications Authority must be approved by the Communications High Council (HYK).

radio or television channels. This ceiling is expected to be increased to 50% in 2009, and completely relaxed two years before accession to the EU, to comply with the EU Treaty principle of free movement of capital across the Union.

3.2.1 Available regulatory options

Alignment with the *acquis* in the audiovisual sector will not come without costs and shortcomings in Turkey, although most of these costs are hard to express in economic terms. Government control over content has clear advantages in terms of political stability, and the current protection and funding of Turkish content over foreign content has succeeded in protecting the national content industry as opposed to global formats and international content. Against this background, the Television Without Frontiers Directive was conceived exactly for the purpose of lifting barriers to the circulation of content and capital throughout the Union, and as such contains provisions that favour European content as a whole, not national content. As a matter of fact, many countries had rules that hindered the (re-)transmission of programmes originating in other countries before the TVWF Directive was enacted in 1989[85].

Needless to say, the application of provisions on European programmes and the elimination of restriction on the circulation of content would dramatically change the landscape of Turkish television as it stands today. Negative impacts may occur to local television producers, especially if the current ban on ownership of local TV and radio stations will be lifted. But on the other hand, citizens will have access to more diverse and (likely) higher-quality content, and will be benefited by access to major events, more pluralism in information received, and overall positive externalities due to higher demand for audiovisual services, including speedier broadband rollout[86]. This, in turn, will favour the development of new content-delivery technologies over broadband platforms, such as IPTV or Mobile TV (once 3G and later 4G services are in place).

In other words, a modern regulatory framework for audiovisual services is the necessary complement to the telecoms framework to bring Turkey fully in the digital era. The direct and indirect benefits of aligning with the EU *acquis* are

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[85] Under the TVWF Directive, notwithstanding the application of the country of origin principle, Member States may still take measures that restrict the freedom of movement of television broadcasting, but only under certain conditions listed in Article 2a of this Directive and following the procedure laid down in this Directive. However, the European Court of Justice has consistently held that any restriction of the freedom to provide services, such as any derogation from a fundamental principle of the Treaty, must be interpreted restrictively. (Case C-355/98 Commission v Belgium [2000] ECR I-1221, paragraph 28; Case C-348/96 Calfa [1999] ECR I-0011, paragraph 23).

[86] See, *e.g.*, Marsden *et al.*(2006), *Assessing Indirect Impacts of the EC Proposals for Video Regulation*, a study for Ofcom, RAND Europe.

very significant, and include benefits to users, to advertisers, to content producers, and also to equipment manufacturers in all media[87].

In all this, a careful reorganisation of the governance of the audiovisual services sector appears essential in Turkey, especially as regards spectrum policy. Digital switchover plans will deliver outstanding benefits to Turkish citizens only if UHF frequencies are allocated to new services and uses. For this reason, our analysis of digital dividend options in Section 2.3.1.3 above holds valid for this specific sector.

Against this background, the main regulatory options available to Turkey are represented by different degrees of alignment with the EU *acquis*: (*i*) *status quo* option (*i.e.*, continuation of existing reform plans); (*ii*) full alignment with AVMS Directive; (*iii*) alignment with AVMS Directive and with spectrum policy plans at EU level; and (*iv*) alignment with AVMS Directive, spectrum policy plans and reform of sector governance (clearer distinction of roles between RTUK and BTK, narrower scope of HYK scrutiny).

Option 2.1.0. – Status quo option	
STRENGTHS • Protection of national culture and local content producers • Existing plans already improve the situation as regards foreign ownership restrictions	**WEAKNESSES** • Spectrum policy to be reorganised • Unclear division of competences between regulators (RTUK and BTK) • Need to constrain the role of the HYK in control over content • Limited access to foreign content
OPPORTUNITIES • Current plans already promise to improve the competitiveness of the sector in the medium term	**THREATS** • Current framework hampers the transition towards digital (non-linear) content provision • Premium content can boost demand for broadband and consequently infrastructure rollout • Inefficient spectrum policy can lead to insufficient spectrum availability for new technologies (*e.g.* DTT) and services (*e.g.* IPTV, Mobile TV)

[87] For example, as reported by AIG (2005) the private TV-Broadcaster RTL Television Deutschland has calculated that if the Country of Origin principle had not been implemented through the Television Without Frontiers Directive (TVWF), the costs for legal research (concerning spill-over-effects of broadcasted programs) would rise to about 20 million more every year. Furthermore, advertising revenues would suffer losses of more than 300 million each year, due to having to observe different national provisions (e.g. on advertising for certain products, sponsorship or other special forms of advertising).

Option 2.1.1. – Alignment with the EU AVMS Directive	
STRENGTHS • Unleashes the potential for free movement of content • Lifts restrictions to free movement of capital • Protects European programmes and independent works	**WEAKNESSES** • Non-linear content provision could be partially constrained by AVMS rules (but not as much as in *status quo*) • Potential negative effects on national content industry due to increased access to European works and more foreign ownership of TV and radio stations • Spectrum policy to be reorganised • Unclear division of competences between regulators (RTUK and BTK) • Need to constrain the role of the HYK in control over content
OPPORTUNITIES • Can boost competitiveness for advertising, equipment manufacturing, content production • Increases access to (premium) content for Turkish citizens	**THREATS** • Still insufficient to ensure full transition to convergent media provision on new platforms, due to inefficient and chaotic spectrum allocation • Does not solve the problem of institutional governance and regulator independence

Option 2.1.2. – Alignment with the AVMS Directive + spectrum reform	
STRENGTHS • Unleashes the potential for free movement of content • Lifts restrictions to free movement of capital • Protects European programmes and independent works • Improves Turkey's readiness for digital convergence	**WEAKNESSES** • Non-linear content provision could be partially constrained by AVMS rules (but not as much as in *status quo*) • Potential negative effects on national content industry due to increased access to European works and more foreign ownership of TV and radio stations • Unclear division of competences between regulators (RTUK and BTK) • Need to constrain the role of the HYK in control over content
OPPORTUNITIES • Can boost competitiveness for advertising, equipment manufacturing, content production (even more than option 2.1.2) • Increases access to (premium) content for Turkish citizens (even more than option 2.1.2)	**THREATS** • Does not solve the problem of institutional governance and regulator independence

Option 2.1.3. – Alignment with AVMS Directive + spectrum + improved governance	
STRENGTHS • Unleashes the potential for free movement of content • Lifts restrictions to free movement of capital • Protects European programmes and independent works • Improves Turkey's readiness for digital convergence • Increases regulatory certainty and effectiveness of regulation	**WEAKNESSES** • Non-linear content provision could be partially constrained by AVMS rules (but not as much as in previous options) • Potential negative effects on national content industry due to increased access to European works and more foreign ownership of TV and radio stations
OPPORTUNITIES • Can boost competitiveness for advertising, equipment manufacturing, content production (even more than previous options) • Increases access to (premium) content for Turkish citizens (even more than previous options)	**THREATS** • None

As a result, we recommend that option 2.1.3 is undertaken. Without a significant reorganisation of sector governance and spectrum policy, the alignment with the AVMS Directive would prove ineffective.

3.3 Area 3 – Strengthening the administrative capacity and independence of the regulator

In the previous sections, we have analysed the pending issues in the alignment of the Turkish regulatory framework with the EU *acquis*. As we have seen, there are some areas in which significant effort would be needed in order to realise full alignment. However, in many other areas, even if legislation is broadly in line with the EU framework, the implementation and enforcement of legal and regulatory provisions is weak. This problem mostly relates to secondary legslation and the actual implementation and enforcement of remedies identified by the NRA after finding SMP in the analysed markets, as well as the availability of licenses for fixed-line telecommunications services. In a nutshell, without effective enforcement, Turkey will never fully align (in practice) with the EU framework.

Effective enforcement requires an independent, powerful, accountable and transparent NRA. The importance of independence for NRAs has always been stressed at EU level, and is even more under the spotlight in the current debate on the review of the 2002 regulatory framework. The Commission recalled in the 14th Implementation Report on the regulatory framework for e-

communications that "[e]ffective and independent national regulatory authorities are a prerequisite for ensuring fair and effective regulation of the electronic communications markets. NRAs should be independent from any organisation providing electronic communications networks and services. Moreover, NRAs should be able to exercise their powers impartially and transparently"[88]. Countries like Belgium, Bulgaria, Hungary, Latvia, Poland and others have been constantly pushed by the Commission over the past months to strenghten the independence of their NRAs. For example, The Commission pointed at the lack of sufficient powers of the Hungarian NRA as regards spectrum policy, and called for more NRA powers in enforcing competition law in Malta and Ireland.

In addition, of particular concern in many member states is the "delineation of responsibilities and competences in the broadcasting sector". The Commission recently pointed, *i.a.*, at the lack of clarity in the division of responsibilities between the NRA and the national broadcasting authority in Malta, Belgium and Bulgaria, especially for what concerns the allocation of frequencies for analogue services and the assignment of licences for broadcasters.

The effectiveness of the NRA is important not only for the alignment with the EU *acquis*, but for the performance of the sectoral regulation overall. In previous studies, Ros (2003) found that the presence of an independent regulator has a positive impact on fixed-line penetration; Wallsten (2001) found that the privatization of the incumbent operator is beneficial only in the presence of an independent regulator; and Wallsten (2003) concluded that establishing a regulatory authority before privatizing the telecommunications incumbent is correlated with increased fixed-line penetration, telecom investments and subscriptions to mobile telephony.

Based on Wu (2004) and Grzybowski (2006), we can assess the independence of the Turkish Telecommunications Authority along the following dimensions:

1. **Stability of NRA leadership** – This concerns the nature in which the leadership of the regulatory agency is selected and removed.
2. **Scope of NRA authority** – What are the functions of the regulator and to what extent are they exclusively the purview of the regulator.
3. **Financial independence** – refers to how the regulator is funded.
4. **Ownership of incumbent** – refers to the level of privatization of the incumbent operator and the level of the state's financial interest in it.
5. **Movement of staff from industry to regulator** – staff may be less influenced by external interests if there is discouragement of a "revolving door" between the regulator and private industry.

[88] See Staff Working Paper, Vol. 1, at

6. **Representation of consumer concerns** – the degree to which the regulator can and does represent the interests of consumers
7. **Ethical guidelines** – what kind guidelines exist internally that deal with ethical issues that arise in the course of normal operations.
8. **Level of expertise and human resources** available to the regulator, particularly important in a fast-moving technologically dependent industry.
9. **Transparency in decision-making** is also critical including how open the internal decision-making process is and the level of consultations that are part of this process.
10. **Legitimacy and acceptance** of the authority of the regulator. Here independence is predicated on the regulator having sufficient credibility and clout in the eyes of the industry, consumers and other government institutions. If the regulator lacks legitimacy then there is potential for **constant appeals**, **lack of support from government**, and **ultimately an ineffective sector**[89].

The Turkish Telecommunications Authority performs rather well in some of these dimensions. For example, it appears as having a rather stable leadership, reasonable financial independence and sufficient human resources (as far as the number is concerned, totalling 594 staff members in 2008). However, the following concerns can be expressed:

- The **delineation of responsibilities and competences** is not clear in a number of areas, most notably in spectrum policy and generally for broadcasting services.
- There seems to be **poor cooperation between the NRA and the NCA** in Turkey. In principle, the two authorities should seek each other's opinion for matters related to the e-communications sector (after Law No. 2813) and should be further stressed in a regulation to be adopted now that the new Electronic Communications Law enters into force[90]. Recently the Competition Board was active in *ex post* scrutiny of allegedly anticompetitive conduct, as recently issued a decision against Türk Telekomünikasyon A.Ş. and TTNet A.Ş. in the "Summer storm" case, for price squeeze in the wholesale broadband internet access market and retail broadband internet access market[91].

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[89] See ITU (2002), Trends in Telecommunication Reform 2002: Effective Regulation. Geneva: International Telecommunication Union.

[90] See http://www.abgs.gov.tr/tarama/tarama_files/10/sorular%20ve%20cevaplar_files/SC10_Cevaplar.pdf.

[91] Subsequent to the evaluation of the each cost item, the Board came to the conclusion that (i) each package of the Summer Storm campaign was being sold under cost price (ii) through the "Summer Storm" campaign, Türk Telekom structured its wholesale and retail prices in such a way that the margin between them did not allow competitors to compete on the market without making losses (iii) through this so-called "margin squeeze", Türk Telekom

- The **independence of the NRA** is jeopardised by the role of the Communications High Council or *Haberlesme Yuksek Kurulu* (HYK), especially as regards the approval of the national frequency allocation table. The HYK was established in 1983 as a body of approval for communications policies. It is a board consisting of Transport and Internal Affairs Ministers and other government officials, convenes meeting twice a year to approve or alter radio and television frequency plan and decides when, and how many frequencies may be auctioned. In addition, important regulatory actions such as the implementation of universal service require government intervention.
- The **skills and expertise** available to the NRA can be improved: as reported by Burnham (2006), board members are chosen from career civil servants who may have little background in current technology and market issues; and the recruitment of qualified staff is "hampered by civil service salary caps"[92].
- In terms of **ownership of incumbents,** the Turkish Treasury performs the ownership function of the State s remaining shareholding in Türk Telekom, while the Ministry of Transportation is responsible for Türk Telekom's operational activities ("golden share" function). The Turkish government has an interest of 24.3% in Avea Telecommunications, a mobile operator that is 81% owned by Türk Telekom. In addition, Turksat Satellite Communication and Cable TV Operation AS (Turksat) is wholly owned by the government[93].
- As regards the **transparency of decision-making**, with the new Law no. 5809 the NRA has a formal obligation to publish all decisions. Draft legislation prepared by the NRA usually involves the participation of operators through joint committees. A consultation mechanism is established and documents on issues that have an effect on the sector are published on the NRA's web site and also sent to the relevant operators, industry NGOs, etc. The responses are published and taken into consideration by the NRA. Draft legislation is also published on the BTK web site.

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might insulate itself from the rigors of competition by making it impossible for alternative broadband suppliers to enter the market on a commercially-viable basis and (iv) continuance of such campaigns might cause serious and irreparable damages on the competitors in the retail broadband internet access market. An administrative monetary fine amounting to TRY 12,394,781.16 (almost 6 million Euros) based on their total turnover generated in the relevant product market by the end of the fiscal year 2007 was imposed on Türk Telekom and TTNet (jointly and severally).

[92] Burnham, *cit*., at 205.

[93] Board members of Turk Telekom and Avea include the Undersecretary of Ministry of Transport, the Undersecratary of the Prime Ministry, the General Manager of Turkish Radio and Television channel (TRT). Such situation hurts transparency and independency of the NRA in the decision making process.

- Finally, **increased legitimacy and transparency** could be achieved by recurrent use of regulatory impact assessments (RIAs) on primary and secondary legislation. This is still not done by the Turkish NRA. Use of RIAs could strengthen the credibility and the accountability of the regulator in the industry.

Overall, there seems to be room for improving the independence, transparency, accountability and effectiveness of the Turkish regulator. As regards Chapter 10 negotiations, the highest priority should be given to provisions on universal service obligations, the delineation of competences in broadcasting, spectrum policy and licensing; whereas other issues – such as the drafting of a cooperation agreement between the NRA and NCA, increased transparency, broader use of better regulation principles and the reduction of state ownership of incumbents and other industry players can probably be implemented at a later stage.

3.3.1 Regulatory options

In line with what discussed in the previous section, we can identify three main regulatory options: (*i*) no policy change; (*ii*) better delieation of competences in broadcasting, spectrum policy and licensing; (*iii*) cooperation agreement with the NCA, increased transparency, broader use of better regulation principles and reduction of state ownership of incumbents.

Option 3.1.0. – No policy change	
STRENGTHS	**WEAKNESSES**
• The NRA is already well staffed and has sufficient budget	• Delineation of responsibilities and competences is not clear in a number of areas, most notably in spectrum policy and generally for broadcasting services. • Poor cooperation between the NRA and the NCA. • The independence of the NRA is jeopardised by the role of the Communications High Council or Haberlesme Yuksek Kurulu (HYK), especially as regards the approval of the national frequency allocation table. • Universal service regulation still requires government intervention. • Skills and expertise available to the NRA can be improved • State ownership of incumbents can undermine the NRA independence and effectiveness • NRA does not have a formal obligation to publish all decisions, but decides on a case-by-case basis. • No use of regulatory impact assessments (RIAs)

OPPORTUNITIES	THREATS
• None	• A partly ineffective NRA can hamper the competitiveness of the sector and the liberalization process, as recalled in the economic literature

Option 3.1.1. – Better delineation of competences in broadcasting, spectrum, licensing	
STRENGTHS	**WEAKNESSES**
• The NRA is already well staffed and has sufficient budget • Better delineation of responsibilities and competences, in spectrum policy and generally for broadcasting services. • More accountability of the NRA to the regulated stakeholders • No influence by the HYK on the approval of the national frequency allocation table. • No government intervention for implementation of USO	• Skills and expertise available to the NRA can be improved • State ownership of incumbents can undermine the NRA independence and effectiveness • NRA does not have a formal obligation to publish all decisions, but decides on a case-by-case basis. • No use of regulatory impact assessments (RIAs)
OPPORTUNITIES	**THREATS**
• Probably sufficient for accession to the EU • Would streamline the regulatory and business environment • Would increase regulatory certainty	• Still does not guarantee efficient regulation (lack of RIA and more skilled staff) • State ownership of incumbents may still hamper attempts to fully liberalize some sectors

Option 3.1.2. – Cooperation with NCA, reduction of state ownership, transparency, RIA	
STRENGTHS • The NRA is already well staffed and has sufficient budget • Better delineation of responsibilities and competences, in spectrum policy and generally for broadcasting services. • More accountability of the NRA to the regulated stakeholders • No influence by the HYK on the approval of the national frequency allocation table. • No government intervention for implementation of USO • NRA independence is not threatened by state ownership of incumbents • NRA publishes all decisions accompanied by a RIA	**WEAKNESSES** • Skills and expertise available to the NRA can be improved
OPPORTUNITIES • Would streamline the regulatory and business environment • Would increase regulatory certainty • Likely to increase effectiveness and efficiency of regulation	**THREATS** • Still does not guarantee efficient regulation (lack of RIA and more skilled staff), but cooperation with NCA can improve the situation

Accordingly, we suggest that the Turkish government adopts the measures included in option 3.2.1.2 in the short term, and establishes a more long-term plan towards concluding a cooperation agreement with the NCA, increasing transparency, adopt RIA and reduces state ownership of incumbents)option 3.2.1.3).

4. "BUNDLES OF OPTIONS"

In the previous section, we have separately analysed a number of issues that are likely to be under the spotlight in the negotiation of Chapter 10 in the months to come. Many of these issues, if not all, exhibit however significant interrelations and synergies, so that assessing the impact of an option "in isolation" is unlikely to approximate real results. In this section we take stock on our analysis of individual options. Section 3.1 then builds a number of different scenarios to be compared in terms of expected costs and benefits. Section 3.2 then analyses more in-depth the expected impact of the preferred policy scenario.

In Section 2, we have analysed several issues and options. Table 11 below shows the overall assessment of the individual options and indicates the options that we indicated as preferable to alternatives for each of the eight issues analysed. Costs are expressed in terms of, *i.a.* opportunity costs, inefficiencies in policy formulation and implementation, low-quality business environment, administrative costs. Benefits are expressed in terms of reduced price, increased competition, innovation and growth, availability of products and services and choice for consumers, regulatory certainty, more efficient governance, etc.

Table 11 – Summary of issues and options assessed

Option	Description	Costs	Benefits
UNIVERSAL SERVICE			
1.1.0	No policy change	☻	☻
1.1.1.	More transparency in the allocation of the USF	☻☻	☻☻
1.1.2.	More transparency and transfer of USF to the Telecom authority	☻☻☻	☻☻☻
1.1.3.	**Alignment with the acquis through a new USO regulation**	☻☻☻	☻☻☻☻
LICENSING AND AUTHORIZATIONS			
1.2.0.	Maintain the wording of Law No. 5809	☻☻	☻☻☻
1.2.1.	**Full alignment with the EU *acquis***	☻☻	☻☻☻☻
1.2.2.	General authorisations for all services	☻☻☻	☻☻
1.2.3.	A hybrid system	☻☻☻	☻
SPECTRUM POLICY			
1.3.0.	No policy change	☻☻☻☻	☻☻
1.3.1	Introduction of service and technology neutrality in specific bands	☻☻☻	☻☻☻
1.3.2.	**Clustering of digital dividend in line with COM(2007)700**	☻☻☻	☻☻☻☻
NUMBER PORTABILITY			
1.4.0	**Implementing current plans**	☻☻☻	☻☻☻☻
1.4.1.	**Reduction of switching time to less than 5 days**	☻☻☻☻	☻☻☻
TERMINATION RATES			
1.5.0.	No policy change	☻☻☻	☻
1.5.1.	"Glide path"	☻☻	☻☻☻
1.5.2.	"Glide path" towards "single efficient MTR"	☻☻☻	☻☻☻
1.5.3.	**"Glide path" + no internal non-discrimination obligation**	☻☻	☻☻☻☻
MVNOS			
1.6.0.	No action on MVNOs	☻	☻
1.6.1.	**Authorisation of MVNOs**	☻☻	☻☻☻☻
1.6.2	Mandated entry of MVNOs	☻☻☻☻	☻☻
PROMOTING COMPETITION IN THE FIXED-LINE AND BROADBAND SECTOR			
1.7.0	No policy change	☻☻☻☻	
1.7.1	**Investment ladder**	☻☻	☻☻☻
1.7.2	Regulatory holidays	☻☻	☻
1.7.3	Functional separation	☻☻☻☻	☻☻☻
TAXATION			
1.8.0.	No policy change	☻☻☻☻	
1.8.1.	**Elimination of Treasure Share and SCT**	☻☻	☻☻☻☻
AUDIOVISUAL POLICY			
2.1.0.	No policy change	☻☻	
2.1.1.	Alignment with the EU AVMS Directive	☻☻	☻☻
2.1.2.	Alignment with the AVMS Directive + spectrum reform	☻☻☻	☻☻
2.1.3.	**Alignment with AVMS Directive + spectrum + improved governance**	☻☻☻	☻☻☻☻
NRA INDEPENDENCE AND ADMINISTRATIVE CAPACITY			
3.1.0.	No policy change	☻☻	☻
3.1.1.	Better delineation of competences in broadcasting, spectrum, licensing	☻☻	☻☻☻
3.1.2.	**Cooperation with NCA, reduced state ownership, transparency, RIA**	☻☻	☻☻☻☻

4.1 Policy scenarios

Based on the summary Table above, on the observation of the timing and political constraints currently existing on both sides of the negotiation table, and on the current uncertainty caused by the ongoing review of the EU 2002 e-communications framework, we can structure our next step of analysis by identifying a number of different policy scenarios, which correspond to different combinations of the options analysed above. The purpose of this exercise is twofold: (*i*) identifying the combination of options that is likely to bring the highest net benefits for Turkish citizens; and (*ii*) discuss timing and feasibility issues by developing a "roadmap" towards accession.

We identified the following scenarios for analysis:

- **Scenario 1 – no policy change.** This corresponds to the combination of all "no policy change" options in Section 2. The "no policy change" scenario differs from the *status quo* scenario as it does not incorporate the measures proposed by the Turkish government in the 2008 NPAA. This distinction allows us to assess the expected additional impact of implementing the NPAA.
- **Scenario 2 – Implementation of the 2008 NPAA.** The most important measures announced in the NPAA (as illustrated in Section 2.2 above) are related to:
  - *(i)* Implementation of the Universal Service Directive (2002/22/EC) and access to emergency services (the so-called 112 emergence number) within 2 years **(option 1.1.3);**
  - *(ii)* adoption and implementation of the Authorization directive in line with Law No. 5809 **(option 1.2.0)**;
  - *(iii)* opening up the market to MVNOs in 2009 through general authorisations (**option 1.6.1**);
  - *(iv)* amending Law no. 3984 within 2 years to align it with the AVMS Directive as regards broadcasting principles, legal framework for digital broadcasting and its licensing, the transmission/re-transmission rights and the frequency allotment – *i.e.* licensing, authorization and bidding – procedures[94] **(option 2.1.2)**; and
  - *(v)* improving the administrative capacity of the NRA **(option 3.1.1.,** though the details of this policy measure are not specified yet**).**

[94] The NPAA includes the creation of a Radio and Television Public Advisory Forum to complement the work of RTÜK. With participation of radio and television broadcasters, the forum will act as a consultative body for the regulatory process and the decisions of RTÜK. According to the details provided in the NPAA, the forum will be created in 2009, (Table 10.2.2). A number of entities for tracking the alignment with EU acquis, protection of minors, etc. are also put forth as structural enhancements.

- **Scenario 3 – "Full" alignment with the EU *acquis*.** This scenario includes currently proposed rules and policies at EU level and would require, compared to scenario 2, the following measures:
  - *viii)* New rules are introduced to clarify the assignment of rights of way;
  - *ix)* Full alignment with the EU *acquis* on authorisation and licensing, through the removal of ambiguous provisions contained at Article 9 of Law No 5809 (**option 1.2.1);**
  - *x)* Introduction of service and technology neutrality in specific spectrum bands (**option 1.3.1);**
  - *xi)* Reduction of the porting time to one working day (**option 1.4.1);**
  - *xii)* Glide path to eliminate the asymmetry in mobile termination rates and gradual convergence towards the "Single efficient MTR" **(option 1.5.3)**;
  - *xiii)* Licensing of new operators for local calls and implementation of "investment ladder" model (**option 1.7.1**);
  - *xiv)* The independence and effectiveness of the NRA are strengthened in order to ensure the effective implementation of already available remedies, especially in wholesale fixed-line and broadband access (**option 3.1.1**).
- **Scenario 4 – "Full" alignment plus pro-competitive policy measures**. Under this scenario, in addition to scenario 3, Turkey would:
  - *(i)* adopt a Spectrum plan based on the clustering of the UHF band proposed in the recent communication on the digital dividend **(option 1.3.2)**;
  - *(ii)* implement current plans on mobile portability (**option 1.4.0);**
  - *(iii)* adopt a glide path to eliminate the asymmetry in mobile termination rates and refrain from adopting the internal non-discrimination obligation on one SMP player proposed in the analysis of market 16 **(option 1.5.3)**;
  - *(iv)* adopt the AVMS Directive, align with EU spectrum reform objectives and improve governance of spectrum by reorganising competences **(option 2.1.4.)**; and
  - *(v)* strengthen NRA-NCA cooperation, plan a reduction of state ownership of incumbents, increase transparency and adopt RIA **(option 3.1.2.)**.

Table 12 – Summary of scenarios

		Scenarios			
Option	**Description**	**1**	**2**	**3**	**4**
Universal service					
1.1.0	No policy change	■			
1.1.1.	More transparency in the allocation of the USF				
1.1.2.	More transparency and transfer of USF to the Telecom authority				
1.1.3.	Alignment with the acquis through a new USO regulation		■	■	■
Licensing and authorizations					
1.2.0.	No policy change (Maintain the wording of Law No. 5809)	■	■		
1.2.1.	Full alignment with the EU acquis			■	■
1.2.2.	General authorisations for all services				
1.2.3.	A hybrid system				
Spectrum policy					
1.3.0.	No policy change	■	■		
1.3.1	Introduction of service and technology neutrality in specific bands			■	
1.3.2.	Clustering of digital dividend in line with COM(2007)700				■
Number portability					
1.4.0	Implementing current plans	■	■		■
1.4.1.	Reduction of switching time to less than 5 days			■	
Termination rates					
1.5.0.	No policy change	■	■		
1.5.1.	"Glide path"				
1.5.2.	"Glide path" towards "single efficient MTR"			■	
1.5.3.	"Glide path" + no internal non-discrimination obligation				■
MVNOs					
1.6.0.	No policy change	■			
1.6.1.	Authorisation of MVNOs		■	■	■
1.6.2	Mandated entry of MVNOs				
Promoting competition in the fixed-line and broadband sector					
1.7.0	No policy change	■	■		
1.7.1	Investment ladder			■	■
1.7.2	Regulatory holidays				
1.7.3	Functional separation				
Taxation					
1.8.0.	No policy change	■	■	■	
1.8.1.	Elimination of Treasure Share and SCT				■
Audiovisual policy					
2.1.0.	No policy change	■			
2.1.1.	Alignment with the EU AVMS Directive				
2.1.2.	Alignment with the AVMS Directive + spectrum reform		■	■	
2.1.3.	Alignment with AVMS Directive + spectrum + improved governance				■
NRA independence and administrative capacity					
3.1.0.	No policy change	■			
3.1.1.	Better delineation of competences in broadcasting, spectrum, licensing		■	■	
3.1.2.	Cooperation with NCA, reduced state ownership, transparency, RIA				■

4.2 Impact assessment of alternative scenarios

4.2.1 Scenario 1 – no policy change

Under scenario 1, Turkey would not introduce additional policy measures compared to laws and regulations that are currently being adopted (such as the licensing of 3G). In this situation, alignment with the *acquis* will of course remain insufficient, and one of the most important consequences for Turkey would be that negotiations on Chapter 10 would fail.

Overall, there are very little benefits that would accrue to Turkish citizens from preserving the current situation in the e-communications and media sectors. Without new legislation, Turkey would **virtually remain out of the EU**; in addition, absent the streamlining of licensing and authorizations, **very little competition would emerge in the fixed-line and broadband sector**, due to difficulties in entering the local calls market. Moreover, rather rigid spectrum policy and the absence of a pro-competitive spectrum plan for the digital dividend will **leave Turkish citizens with a rather limited possibility of entering the digital age from the front door**. This situation would be worsened by the rigidities in the current audiovisual policy framework and consequently by the **limited access to (foreign) premium content** featured by the current framework. Recent changes in legislation to enable wholesale broadband access (for example, by mandating the publication of RIOs and a RUO) would not be sufficiently enforced due to limited capacity and independence of the NRA, both in the e-communications and (most notably) in the media sector)

Against this background, the major cost of scenario 1 would be the foregone benefit of failing to enter the digital age and realizing the information society for all in Turkey. We can call this Turkey's "cost of non-Europe", or simply the cost of non-accession. In quantitative terms, this cost has been quantified as at least 0.428% of GDP, but also of foregone fixed-line price reductions of 33.5% and significant increases in broadband availability, speed and choice for end users[95].

The table below summarises the main costs and benefits of scenario 1 and provides a scorecard analysis, which attaches scores from 1 (minimum) to 5 (maximum) to different categories of costs..

[95] Akdemir *et al.* (2007) estimate that the potential contribution from Turkey's alignment with the EU *acquis* and implementation of a UK-like or Finland-like telecoms policy could be an increase in Turkish GDP of 0.428% yearly. Their result for fixed-line prices follows the model originally developed by Boylaud and Nicoletti (2001).

SUMMARY ASSESSMENT OF SCENARIO 1

Scenario 1 – no policy change	
BENEFITS	
Investment (foreign and domestic)	**2** • *Turkey is a large e-com market, which will attract investment regardless of the regulatory framework. Current rules hamper inward FDI due to limited regulatory certainty and uncertain business environment, imperfect law enforcement, state ownership of incumbents, etc.* • *In the audiovisual sector, persisting limits to foreign ownership hamper investment*
Competition	**1** • *Entry of new competitor can be stimulated only if new regulations on wholesale fixed-line access and MVNOs are implemented strictly.* • *Difficulties in issuing licenses and limited access to the local calls sector hamper effective competition* • *In the audiovisual sector, persisting limits to foreign (EU) content hamper competition between players and entry of new players*
Benefits to end users	**1** • *Broadband prices likely to remain high if liberalization of fixed-line is not full.* • *End users in Turkey already benefit from some innovation, especially in mobile. But the current framework prevents them from fully entering the digital age.* • *Broadband penetration likely to remain low and decreasing in fixed (DSL, Cable); and to a lower extent also in wireless (3G unlikely to be deployed in all areas; WiMAX currently in a rather expensive frequency band).* • *Failure to open up the audiovisual services sector means limited access to premium content and to new applications and services that drive the demand for broadband (e.g., Web 2.0 website).*
Harmonisation with EU *acquis*	**2** • *Current policy in the e-communications sector has only been partly aligned with the EU acquis (also after Law No 5809).* • *The NRA should be strengthened and competencies more clearly organised.* • *Need to speed up alignment of audiovisual policy framework, even compared to current plans (e.g. foreign ownership restrictions).*
Macroeconomic benefits	**1** • *Currently the Turkish ICT sector is an important component of GDP* • *Very limited improvements if Turkey does not change gear on broadband plans.*

COSTS	
Costs to industry players	**3** • *Opportunity costs of deploying BWA technologies in sub-optimal bands* • *Opportunity costs of limited access to licenses and fixed-line markets*
Costs to end users	**5** • *Price levels could be reduced up to 33.5% with more pro-competitive reforms* • *Limited prospects for access to innovative technologies and premium content via digital platforms* • *Opportunity cost of insufficient broadband penetration*
Switching/harmonisation costs	**1** • *Very limited harmonisation with the* acquis *in the areas analysed*
Employment costs	**4** • *Little prospects of short-term fixed broadband deployment also mean significant employment opportunities lost* • *Current audiovisual services framework limits the expansion of nomadic services and e-Government*
Administrative burdens	**3** • *The licensing regime is considerably more burdensome than a general authorisation regime*

4.2.2 Scenario 2 – Implementing the 2008 NPAA

The main difference between scenario 2 and scenario 1 above are the following:

- The implementation of the **Universal Service Directive** (2002/22/EC) within 2 years will bring additional benefits to end users and industry players, as it will add transparency and accountability on the way in which the universal service fund is managed and used; at the same time, it will bring a more levelled-playing field in the fixed-line telephony sector**.**
- The adoption and implementation of the **Authorization directive** by 2009 is a crucial step on the way to a more modern regulatory framework for e-communications in Turkey. This has partly been achieved with Law No 5809, but both primary and (most notably) secondary legislation are still exhibiting some deficiencies. Most of the other policy measures that could be implemented by Turkey on the way to accession strongly depend on this preliminary measure, which sets the stage for easier entry by fixed-line telecoms service providers, MVNOs, etc. Although benefits and costs are very difficult to quantify, they are likely to be substantial.
- Opening up the market to **MVNOs** in 2009 through the issuing of general authorisations may lead to both costs and benefits. On the one hand, depending on the business model that will be adopted by MVNOs that will enter the market, as well as on the type of regulation that will be adopted, the presence of MVNOs may erode the profitability of the MNOs, depriving them of resources they will need to upgrade their networks to 3G and beyond. At the same time, MVNOs can exert a disciplining effect on MNOs, leading to lower prices and more choice for end users, at least in the short term. Overall, the balance between costs and benefits is very difficult to predict, and heavily depends on what will happen in practice in both legal and business terms. But certainly, the impact on long-term facilities-based competition will be mixed, and not necessarily positive.
- The amendment of Law no. 3984 within 2 years to **align it with the AVMS Directive** as regards broadcasting principles, legal framework for digital broadcasting and its licensing, the transmission/re-transmission rights and the frequency allotment (*i.e.* licensing, authorization and bidding) procedures is another crucial step for Turkey, as the European Commission has always stated that the major discrepancies between the EU *acquis* and the Turkish framework in Chapter 10 are located in the audiovisual services field. Benefits from this legal change would accrue mostly to Turkish citizens (through enhanced access to foreign linear and non-linear content), to foreign content producers and to local telcos, which may be able to offer more enticing application/content packages on their broadband networks. Costs will be faced by Turkish content producers, who will not benefit anymore from rules aimed at protecting national content over other (EU) content.

- Finally, long-term measures aimed at **improving the administrative capacity of RTÜK are important**, but should be accompanied by measured aimed at strengthening the independence and regulatory capacity of ITCA, the national regulatory authority for e-communications. Also, a better delineation of competences between the ITCA, the RTÜK and the HYK would be essential to increase regulatory certainty and improve the business environment.

SUMMARY ASSESSMENT OF SCENARIO 2

Scenario 2 – Implementation of the 2008 NPAA	
BENEFITS	
Investment (foreign and domestic)	**2** • *More investment would be expected due to easier entry and the possibility of entering as MVNO in a vibrant mobile market such as the Turkish one, with high churn rate. But regulatory uncertainty remains high due to weakness of the NRA* • *In the audiovisual sector, (gradual) removal of limits to foreign ownership might stimulate investment*
Competition	**2** • *In this scenario, more competition can be expected in the already competitive mobile sector, but less in the quasi-monopolised fixed-line sector, also since the NRA capacity and independence are not strengthened. Absence of a forward-looking spectrum policy may undermine fixed-mobile competition in broadband.* • *No changes in the governance of the audiovisual sector (with the HYK retaining competence on frequency assignment) may limit the possibility of entry of new competitors. Competition in the provision of content is also jeopardised by the absence of refarming plans in the UHF band*
Benefits to end users	**2** • *Broadband prices likely to remain high absent a proactive policy to open up the market to competition* • *Entry of MVNOs can increase choice for end users and/or lower prices* • *Better access to audiovisual content, both linear and non-linear, though a lot depends on spectrum policy*
Harmonisation with EU *acquis*	**3** • *Still partial, especially as regards termination rates, spectrum policy, policies to stimulate competition in wholesale access, and NRA independence*
Macroeconomic benefits	**2** • *Limited improvement due to (slightly) more competitive markets and relaxation of inward FDI restrictions in audiovisual services.*

COSTS	
Costs to industry players	**3** • *Opportunity costs of having to deploy BWA technologies in sub-optimal bands* • *Potential costs to MNOs of mandatory MVNO entry (if any), in terms of reduced profitability (also due to persisting asymmetry in MTRs)* • *Costs for Turkish content producers of alignment with the AVMS Directive*
Costs to end users	**3** • *Expected price reductions and increase in consumer choice compared to scenario 1* • *Still limited prospects for access to innovative technologies via digital platforms*
Switching/harmonisation costs	**3** • *Need to change the administration of the USF* • *Need to migrate to the general authorisation regime* • *Need to change the rules in the audiovisual services sector*
Employment costs	**2** • *Opportunity cost of a more proactive policy to encourage entry and investment in the fixed-line sector*
Administrative burdens	**1** • *The general authorisation regime is way less burdensome than the* status quo

4.2.3 *Scenario 3 – "full alignment" with the* acquis

In scenario 3, the existing NPAA is complemented by a number of other policy measures, which in principle would bring additional benefits to Turkey. In particular:

- Full alignment with the EU *acquis* on authorisation and licensing, through the removal of ambiguous provisions contained at Article 9 of Law No 5809 (**option 1.2.1);**
- Introduction of service and technology neutrality in specific spectrum bands (**option 1.3.1);**
- Reduction of the porting time to one working day (**option 1.4.1);**
- Glide path to eliminate the asymmetry in mobile termination rates and gradual convergence towards the "Single efficient MTR" **(option 1.5.3)**;

- A **fuller alignment with the EU *acquis* on authorisation and licensing**, through the removal of ambiguous provisions contained at Article 9 of Law No 5809, would bring regulatory certainty by narrowing the discretion attributed to the NRA in deciding upon authorisations.
- The implementation of **service and technology neutrality in some spectrum bands** would leave it to the market to decide which services are more appropriate, and in which bands. This is often considered as a welfare-enhancing change in the economic literature since Coase (1959).
- The **reduction of the porting time** may be premature in Turkey, as legislation is very recent, and more advanced than the common practice in many EU member states. This option is considered unlikely to improve upon the *status quo*.
- A **"glide path" to eliminate the asymmetry in mobile termination rates** is consider to bring benefits in terms of a more sustainable competitive environment and a level-playing field for MNOs. Of course, this comes at a cost for those SMP players that have profited from higher MTRs to date. This **cost is even more evident if the convergence towards a "single efficient MTR" is sought**, as this process – still heavily criticised in Europe – would probably stifle investment incentives for MNOs, which need resources to face the challenge of 3G and later 4G deployment in Turkey.
- The **implementation of an "investment ladder" model**, if carefully undertaken, can unleash the potential competition in the fixed-line broadband sector, leading to service-based competition (and thus lower prices) in the short term, and potentially infrastructure-based competition over a longer timeframe. At the same time, such a regulatory model can also hamper incentives to invest in alternative infrastructure, as already found in empirical studies by Waverman *et al.* (2007) and Wallsten (2007).

- Long-term measures aimed at improving the **administrative capacity of the NRA** will be essential in light of the new general authorisation system. Even with a general authorisation regime in place, difficulties may emerge if the NRA is not in the position to imposing regulatory measures on existing players. This measure is thus complementary to the transition towards a general authorisation regime, and as such represents a preliminary reform of the Turkish framework, which is essential for the effectiveness of all other measures analysed in this report.

SUMMARY ASSESSMENT OF SCENARIO 3

Scenario 3 – "Full alignment" with the *acquis*	
BENEFITS	
Investment (foreign and domestic)	**3** • *More investment expected due to easier entry, stronger regulatory certainty (stronger NRA) and the possibility of entering as MVNO in a vibrant mobile market such as the Turkish one, with high churn rate.* • *Investment in the mobile sector may be hampered by too strict rules on termination and portability;* • *In the audiovisual sector, (gradual) removal of limits to foreign ownership would stimulate investment*
Competition	**3** • *In this scenario, more competition can be expected in both the mobile and fixed-line sector, also due to stronger NRA capacity and independence. Absence of a forward-looking spectrum policy may undermine fixed-mobile competition in broadband.* • *No changes in the governance of the audiovisual sector (with the HYK retaining competence on frequency assignment) may limit the possibility of entry of new competitors. Competition in the provision of content is also jeopardised by the absence of refarming plans in the UHF band*
Benefits to end users	**3** • *Broadband prices likely to fall due to service-based competition induced by the investment ladder model and stronger administrative capacity of the NRA (approx. 0.31% reduction in retail prices for each 1% drop in interconnection prices)* • *Entry of MVNOs can increase choice for end users and/or lower prices* • *Quick number portability can enable dynamic consumer choice.* • *Better access to audiovisual content, both linear and non-linear, though a lot depends on spectrum policy*
Harmonisation with EU *acquis*	**5** • *Almost full (depending on actual implementation of rules)*
Macroeconomic benefits	**3** • *Positive effects on GDP, productivity, innovation, etc. But termination and portability rules may stifle incentives to invest.* • *Improvement due to more competitive markets and relaxation of inward FDI restrictions in audiovisual services.*

COSTS	
Costs to industry players	**4** • *Opportunity costs of having to deploy BWA technologies in sub-optimal bands* • *Costs for MNOs due to very low MTRs* • *Very high cost of strict portability regulations* • *Potential costs to MNOs of mandatory MVNO entry (if any), in terms of reduced profitability* • *Costs for Turkish content producers of alignment with the AVMS Directive*
Costs to end users	**2** • *Expected price reductions and increase in consumer choice compared to scenarios 1 and 2.* • *Limited investment in the mobile sector due to portability and termination regulations.*
Switching/harmonisation costs	**4** • *Need to change the administration of the USF* • *Need to migrate to the general authorisation regime* • *Need to change the rules in the audiovisual services sector* • *Costs due to strict portability requirements*
Employment costs	**1** • *None*
Administrative burdens	**1** • *The general authorisation regime is way less burdensome than the* status quo

4.2.4 Scenario 4 – "Alignment" plus proactive policy measures

Scenario 4 depicts a situation in which Turkey, besides aligning its regulatory framework to the EU *acquis*, also implements a number of additional policy measures with the specific aim to create a more competitive environment for industry players and better choice and quality for end users, at lower prices. The expected impact of the additional measures can be described as follows.

- The clustering of the UHF band would be highly desirable in Turkey, especially if technology and service neutrality are ensured within the sub-bands to be established. In Turkey, this would be easier than elsewhere due to the relatively short duration of the licenses awarded to broadcasters. As shown below, in table 13, the additional value of devoting part of the UHF bad to mobile services, in particular two-way networks, is remarkable.

Table 13 – Economic impacts of spectrum use in the EU economy

		Mobile	TV
Direct	Operators – service provision	€208 billion (2007)	€43 billion (2005)
	Suppliers/distributors – hardware (handsets), software, networks, content	€87 billion (2007)	€30 billion (2006)
	Economic output per MHz at 900 MHz	€168 million (2006)	€28 million (2005)
Indirect	Economic stimulus of mobile working, cumulative driving effect of mobile productivity to 2020	0.6% GDP growth	Negligible
	Indirect stimulus to the economy by spend of direct impact revenues in other sectors: – User surplus, social and economic value, i.e. difference between what paid and prepared to pay – Producer surplus, i.e. difference between margins to stay in business and margins actually achieved	€165 billion (2007)	€95 billion
Jobs	Employment in sector	0.5 million	0.4 million
	Employment stimulated by spend from sector	2.3 million	1.8 million[1]

Source: Forge et al, 2007.

The same rationale applies to Turkey, even more since 3G and WiMAX applications are currently suffering from delays (3G) and a questionable selection of the band to be used (WiMAX). Using the upper UHF band for BWA services would boost Turkey's economy in terms of direct benefits to operators, OEMs, economic output per MHz; indirect benefits due to mobile productivity, user and producer surplus; and more and better jobs.

- **Refraining from adopting a regulation that imposes the convergence towards a "single efficient MTR"** is desirable for Turkey in the short term,

due to the need to "close the gap" with the EU27 in terms of advanced mobile services, and most notably 3G.

- The **adoption of the AVMS Directive, coupled with spectrum reform objectives and improved governance of spectrum** through a reorganisation of competences between the RTUK, the HYK and the BTK, is likely to bring substantial benefits to Turkey. In addition to Scenario 3, the spectrum objectives are key to Turkey's future competitiveness in this field, as well as for the alignment with current plans being formulated in several EU member states.
- **Implementing current plans on number portability** is the best solution for Turkey as of now, as already mentioned in Section 3.1.4 above. Expected benefits would accrue mostly to end users in terms of more aggressive competition, whereas MNOs would bear the costs of ensuring portability, which are not negligible and may lead to a counterbalancing effect on prices.
- Besides adopting a glide path to eliminate the asymmetry in mobile termination rates – the impact of which was discussed under Scenario 3 above – in scenario 4 also the **internal non-discrimination obligation** imposed on one SMP player in market 16 (Turkcell) **would be withdrawn**. As recalled in section 3.1.5 above, the Commission has challenged this provision in several occasions, especially when it overlaps with regulated MTRs. Its removal is likely to produce direct benefits to MNOs, in terms of a more levelled-playing field; and to end users, in terms of a more efficient development of the mobile market overtime.
- Finally, although the actual impact is very hard to quantify, **strengthening NRA-NCA cooperation, planning a reduction of state ownership of incumbents, increasing transparency and adopting RIA** would all be very important steps for Turkey. The NCA can assist the NRA in an increasingly complex competitive environment, where defining the relevant market, understanding modern business strategies and even calculating market shares can become particularly tough. Reduced state ownership, coupled with increased NRA independence, was found to be positively correlated with a reduction in interconnection rates and retail prices. For example, Edwards and Waverman (2006) examine the effects of public ownership and regulatory agency independence on interconnection charges in the EU, and find that public ownership of the incumbent affects interconnection rates positively. They estimate that a 1% decrease in single transit interconnection charges on the incumbent network have led to a 0.31% decrease in incumbent national prices at peak times, as calculated for the average prices in the EU in 2002.

SUMMARY ASSESSMENT OF SCENARIO 4

Scenario 3 – "Full alignment" with the *acquis*	
BENEFITS	
Investment (foreign and domestic)	**5** • *Easier entry; stronger regulatory certainty; opportunities to invest in new technologies to be used in the UHF and other valuable spectrum bands; opportunity to enter as fixed-line operator (through the investment ladder" model, MVNO or both; possibility to deliver content in any language.*
Competition	**5** • *In this scenario, competition would be boosted, also due to stronger NRA capacity and independence, pro-active policy and availability of spectrum.* • *Changes in the governance of the audiovisual sector will create new entry opportunities.*
Benefits to end users	**4** • *Broadband prices likely to fall due to the combination of reduced public ownership and stronger NRA independence (approx. 0.31% reduction in retail prices for each 1% drop in interconnection prices).* • *Entry of MVNOs can increase choice for end users and/or lower prices.* • *Better access to audiovisual content, both linear and non-linear, though a lot depends on spectrum policy*
Harmonisation with EU *acquis*	**4** • *Full (depending on actual implementation of rules)*
Macroeconomic benefits	**5** • *Proactive policy, if carefully implemented, can boost GDP, productivity, innovation, etc.* • *Spectrum availability in the upper UHF band can boost growth and jobs in Turkey* • *Improvement due to more competitive markets and relaxation of inward FDI restrictions in audiovisual services.*

COSTS	
Costs to industry players	**2** • *Costs for MNOs that currently profit from higher MTRs* • *Potential costs to MNOs of mandatory MVNO entry (if any), in terms of reduced profitability (also due to persisting asymmetry in MTRs)* • *Costs for Turkish content producers of alignment with the AVMS Directive*
Costs to end users	**1** • *Lower prices, more choice*
Switching/harmonisation costs	**5** • *Need to change the administration of the USF* • *Need to migrate to the general authorisation regime* • *Need to change the rules in the audiovisual services sector* • *Need to reduce state ownership* • *Need to re-auction spectrum licenses in several bands*
Employment costs	**1** • *None*
Administrative burdens	**4** • *The general authorisation regime is way less burdensome than the* status quo • *Costs of reforming spectrum policy (auctions, licensing issues, etc.)* • *Tendering procedure for reducing public ownership of industry operators* • *Costs of revising procedures in the delineation of competences of BTK, RTUK and HYK.*

4.3 The preferred scenario

Table 14 below shows the results of our scorecard analysis of the four scenarios assessed in the previous sections. We also show, merely for ease of reading, the average score in the benefits and cost categories considered. This must not be taken as a quantification exercise, but only as a way to improve the readability of the table and the comparison between the options, as we do not attempt, in general, to put weights on the specific benefit and cost categories.

As shown in the Table, even if Scenario 4 is on average considered more costly than Scenarios 1, 2 and 3 – mostly due to switching and harmonisation costs –, it is preferable to all other alternatives due to the significant benefits that would accrue to Turkish citizens and stakeholders.

Table 14 – Comparison of scenarios assessed

	Scenarios assessed			
Benefits	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**
Investment (foreign and domestic)	2	2	3	5
Competition	1	2	3	5
Benefits to end users	1	2	3	4
Harmonisation with EU *acquis*	2	3	5	4
Macroeconomic benefits	1	2	3	5
Average score	1.4	2.2	3.4	4.6
Costs				
Costs to industry players	3	3	4	2
Costs to end users	5	3	2	1
Switching/harmonisation costs	1	3	4	5
Employment costs	4	2	1	1
Administrative burdens	3	1	1	4
Average score	3.2	2.4	2.4	2.6
Benefit/Cost	0.44	0.92	1.42	1.77

4.3.1 The preferred scenario: timing issues

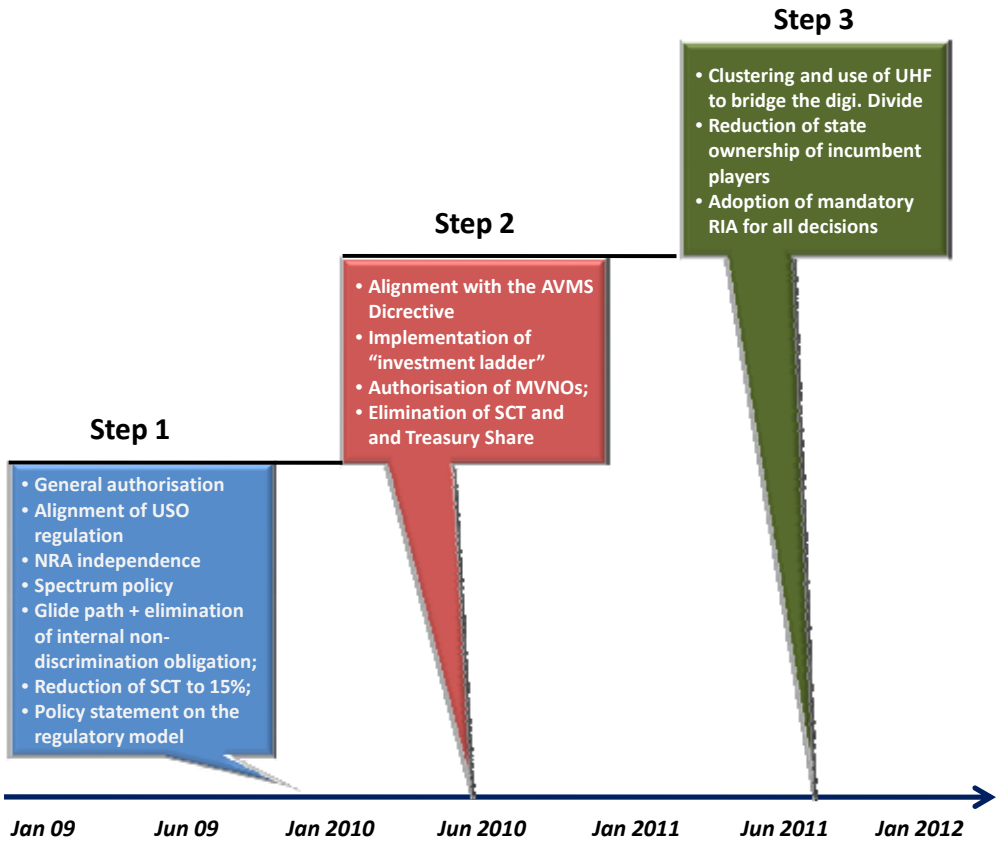
As shown above, the preferred scenario for Turkey is Scenario 4, in which the current debate on future EU rules (including rules on termination and portability) is not fully mirrored by the Turkish framework, and more time is left for operators to close the gap with the EU27 in sectors that have been affected by delays (*e.g.* in 3G services). In this section, we explore the potential timing and sequencing issues that can lead Turkey towards the implementation of a welfare-enhancing policy strategy in the e-communications and media sectors. In particular, we recommend the following steps:

- **Step 1 – setting the stage**: in this phase, Turkey should ensure that the basic preconditions for improving the regulatory framework and liberalising the e-communications and media sectors are present. These include the following:

  - Moving to a general authorisation system (expected in May 2009);
  - Alignment with the Universal Service Directive, elimination of cross-subsidies and transparency in the use of the USF;
  - Strengthening NRA independence and regulatory capacity;
  - Adopting a clear and modern spectrum policy;
  - Adopting a glide path on termination rates and avoiding the internal non-discrimination principle;
  - Reduction of the Special Communications Tax for mobile to 15%;
  - Issuing a policy statement on the regulatory model that will be adopted to encourage competitive entry in the broadband sector (possibly, a joint paper by the NRA and NCA, which includes a cooperation agreement).
- **Step 2 – completing the alignment with the EU** *acquis*: in this phase, Turkey should complete its alignment with the EU regulatory framework, by adopting policy measures in the following areas
  - Alignment with the AVMS Directive;
  - Careful implementation of the "investment ladder" model;
  - Authorisation of MVNOs;
  - Elimination of the Special Communications Tax and Treasury Share;
- **Step 3 – shaping Turkey's future policy**: this step includes the following activities:
  - Clustering of UHF spectrum bands in line with the Commission communication on the digital dividend;
  - Use of upper UHF band to bridge the digital divide;
  - Reduction of the time needed for mobile number portability to less than 5 days;
  - Reduction of state ownership of incumbents;
  - Adoption of mandatory Regulatory Impact Assessment for all NRA decisions.

The timing of the three steps is of essence. As shown in the Figure below, we recommend that Turkey completes the first step by the end of 2009 and the second step by mid-2010. Step 3 should be completed at the latest by the end of 2011.

Figure 23 – proposed timing of steps



5. CONCLUSIONS

In the past few years, also in view of its accession negotiations with the EU, Turkey has launched very important and ambitious reforms in the information society and media sector. Even more substantial changes are expected in 2009, after the new e-communications law has been approved at the end of 2008. Apart from the 49 expected pieces of secondary legislation foreseen to implement the new Law No 5809, Turkey has also planned important steps in the domain of spectrum policy, with licenses for WiMAX soon to be awarded.

In this report, we have analysed the current state of advancement of Turkey's regulatory reform in this sector, and formulated suggestions for reform on the basis of a complex and articulated impact assessment exercise. Our final conclusion is that Turkey may profit significantly from a set of targeted reforms, aimed at solving existing problems that have been highlighted, *i.a.*, by the European Commission and also by the recent ECTA Scorecard 2008. These include, very briefly:

- *The streamlining of primary legislation* – possibly through a consolidated text, which clarifies the currently confusing framework created by the enactment of a law (No 5809) that overlaps and co-exists with previous laws and by-laws.
- *A more proactive approach towards the liberalization of the fixed-line and broadband sectors*, possibly by implementing the investment ladder model (due to lack of alternative infrastructure) and, in the medium-term, by addressing the problems of limited access to the local loops, concentration of all infrastructures in the hands of the same player, spectrum liberalization and the optimal choice of the band to be used for WiMAX.
- *Efforts to bring the regulatory framework in line with the EU framework*, especially in the areas of Universal Service, spectrum policy and mobile termination rates.
- *A clear and reliable plan to drastically reduce taxation in the area of mobile and internet services*, thus boosting usage (also in terms of MoU) and penetration.
- *Striving for "better regulation"*, by prioritizing the clear delineation of roles and responsibilities between the various authorities active in the field, from ITCA to RTÜK, the Competition Authority, the Ministry of Transport, etc.; and also by providing for systematic use of impact assessment and public consultation.

For each of the goals identified, it is very important that the Turkish government specifies the indicators it plans to use to monitor the effectiveness of its regulatory and legislative measures, with what frequency it plans to review such indicators, and what would happen in case indicators are clearly

not met. In short, the use of a "review clause", coupled with constant and measurable monitoring of market development, would facilitate the dialogue between the regulator and stakeholders, as well as with the European Commission within accession negotiations.

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