SECOND GENERATION STRUCTURAL REFORMS:
DE-REGULATION AND COMPETITION IN INFRASTRUCTURE INDUSTRIES

The evolution of the Turkish telecommunications, energy and transport sectors in light of EU harmonisation

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Centre for Economics and Foreign Policy Studies (EDAM)

Centre for European Policy Studies (CEPS)

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The evolution of the Turkish telecommunications, energy and transport sectors in light of EU harmonisation

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PREFACE

This study is an output of the research project: "The EU harmonization in Key Infrastructure Services (Telecommunications, Energy and Transport) and productivity growth" carried out by EDAM (Centre for Economics and Foreign Policy Studies) in Istanbul and CEPS (Centre for European Policy Studies) in Brussels. This project is supported by the European Union's Civil Society Dialogue: Europa – Bridges of Knowledge Programme which is being implemented by Secretariat General for EU Affairs.

Given that Turkey has by and large been able to overcome the challenge of macro-economic stability, the focus of policy makers shifted to second generation reforms including the overhaul of structural policies. Yet at the same time, Turkey has initiated full membership negotiations with the EU which involves regulatory harmonisation in several fields. Therefore the relationship between EU harmonisation and the need for second generation reforms in a country like Turkey should be examined in more detail.

This study brings together in-depth analysis of second generation structural reforms and de-regulation in three key infrastructure sectors, namely telecommunications, energy and transport. A final chapter elaborates on the interplay between regulatory good governance and EU acquis adoption.

The objective of this study is essentially twofold. It aims to carry out a gap analysis regarding the level of regulatory harmonisation in these key infrastructure sectors. As a result, the main shortcomings in terms of regulatory harmonisation are highlighted. The focus is however on the part of the acquis that has a bearing on economic productivity since the second aim of the study is to uncover the linkages between EU acquis adoption, regulatory good governance and productivity growth.

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About EDAM

Centre for Economics and Foreign Policy Studies (EDAM) is an independent think tank based in Istanbul, Turkey. The primary objective of EDAM is to conduct studies and policy–oriented projects that support and contribute to the process of Turkey's harmonization with and integration to the EU. While EDAM, on one hand, focuses specifically on Turkey – EU relations, on the other hand, it aims to explore and analyze these relations within a multi-dimensional and global context, and generate policy suggestions, which can be influential on the decision making processes both within Turkey and EU member states.

The objectives of EDAM can be summed up in two main axes: To provide information and knowledge to support and facilitate the accession negotiation process between Turkey and the EU, and at the same time to generate opportunities for active participation of the business sector, civil society and academia in the accession process.

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Founded in Brussels in 1983, the Centre for European Policy Studies (CEPS) is among the most experienced and authoritative think tanks operating in the European Union today. CEPS serves as a leading forum for debate on EU affairs, but its most distinguishing feature lies in its strong in-house research capacity, complemented by an extensive network of partner institutes throughout the world.

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EdamENG.indd 9 1/3/08 2:19:12 PM

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EdamENG.indd 11 1/3/08 2:19:12 PM

EdamENG.indd 12 1/3/08 2:19:12 PM

CONTENTS

EXECUTIVE SUMMARY 19

Overview 19
Sectoral Outlook 21

1. Telecommunications 25

1.1. Introduction 27
1.2. The EU Acquis on e-Communications 30
1.2.1. The "1998 Package" 31
1.2.2. The "2002 Regulatory Framework" and the "Investment Ladder" 32
1.2.2.1. Did the 2002 Framework Deliver? 34
1.2.2.2. The Ongoing Review of the 2002 Regulatory Framework 38
1.3. Telecommunications Sector in Turkey 41
1.3.1. The Regulatory Regime in Turkey 41
1.3.1.1. The Telecommunications Authority 42
1.3.1.2. Competition Law versus Sector Specific Regulation 43
1.3.1.3. Authorization 44
1.3.1.4. Access and Interconnection 45
1.3.1.5. Market Reviews and Identification of SMP Operators 46
1.3.1.6. Retail Price Control 48
1.3.1.7. Universal Service 49
1.3.1.8. The Draft Electronic Communications Law 51
1.3.1.9. Information Society Strategy and Action Plan 51
1.3.1.10. Beyond the Telecoms Framework 53
1.3.2. Overview of Market Evolution 53
1.3.2.1. Competition in Fixed Line Telephony 54
1.3.2.2. Privatization of Türk Telekom 56
1.3.2.3. Developments in Mobile Communications 57
1.3.2.4. Internet and Broadband 61
1.3.2.5. Cable TV 65
1.3.2.6. The Role of Competition Law Enforcement 66
1.3.2.7. Taxation of Mobile Charges 68
1.3.3. Prospects of Turkey's Adoption of the EU Acquis in the Telecommunications Sector 69
1.3.4. Evaluation and Recommendations 71
1.3.4.1. Adopting a "Policy Mix" Tailored to Turkey 71
1.3.4.2. Issues in the Regulatory Framework and Capacity 72
1.3.4.3. Specific Actions 74
1.4. Annex: Main Ingredients of the Regulatory Framework for the Türk Telekom Industry 75

2. Energy 79

2.1. Introduction 81
2.2.1. Review of the EU Energy Regulatory Framework 81
2.2.1.1. The First Liberalisation Package 82
2.2.1.2. The Second Liberalisation Package or the So-Called Acceleration Package 82
2.2.1.3. The Need for a Third Liberalisation Package 83
2.2.1.4. Next Steps Towards Completing the Internal Energy Market 84
2.2.1.5. Energy Security, Efficiency and Renewable Energy 86
2.2.2. State of Implementation of the Energy Liberalisation Regulations 86
2.2.2.1. Legal Harmonisation and Implementation – Progress and Barriers 87
2.2.2.2. Different Approaches to Liberalisation 88
France 89
Germany 91
The United Kingdom 91

Implementation across Markets 92
2.2.3. Impact Assessment of the Present EU Regulatory Framework 94
2.2.3.1. Changes in Market Structure 94
2.2.3.2. Unbundling 96
2.2.3.3. Cross-Border Network Development 98
2.2.3.4. Liberalisation and Renewable Energy 99
2.2.3.5. Conclusions 99
2.3. Restructuring in the Turkish Electricity Industry 100
2.3.1. The Current Structure of the Industry 101
2.3.1.1. Demand, Capacity and Production 101
2.3.1.2. The Need for New Capacity 102
2.3.1.3. A Complicating Factor: Distribution Losses 103
2.3.2. The Legal and Regulatory Environment 104
2.3.2.1. Brief History 104
2.3.2.2. The Market Structure Envisaged Under the EML 105
2.3.2.3. Implementation Strategy of the New Market Model 108
2.3.2.4. Privatization 109
2.3.2.5. Renewable Energy Policy 111
2.3.2.6. Competition Policy in the Electricity Industry 111
2.3.3. Dilemmas of Transition: (Lack of) Private Sector Response and the Launch of the Balancing Mechanism 112
2.3.4. Developments in the Gas Industry 115
2.3.5. The Road Ahead 118
2.3.5.1. Overall Strategic Orientation 118
2.3.5.2. Unbundling 119
2.3.5.3. Governance Issues: Credibility, Transparency and Accountability 119
2.3.6. Concluding Remarks and Policy Recommendations 120

3. Transport 123

3.1. Introduction 125
3.1.1. Overview of the Transport Market in Turkey 125
3.1.2. Overview and Assessment of Regulatory Framework in the EU and in Turkey 126
3.2. Rail Transport 128
3.2.1. Rail Transport in the EU 128
3.2.1.1.Declining Competition in Rail Transport 128
3.2.1.2. EU Regulations in Rail Transport 129
3.2.1.3. Implementation of Legislation by Member States 130
3.2.2. Rail Transport in Turkey 131
3.2.2.1. Railway Infrastructure 131
3.2.2.2. Regulatory Overview 132
3.2.2.3. Market Overview: The Overhaul of the State Owned Service Provider 134
Infrastructure Charging 135
Financial Situation and State Aid 136
3.2.2.4. Productivity Impact Assessment 136
3.2.2.5. Evaluation 138
3.3. Road Transport 140
3.3.1. Road Transport in the EU 140
3.3.1.1. EU Regulations in Road Transport 140
Access to Market 140
Road Haulage 142
Road Charging 144
Social Provisions 146
Connections with Non-EU Countries 147
Road Safety 147
3.3.2. Road Transport in Turkey 147
3.3.2.1. Market Overview 149

Market Structure 149
Pricing 151
Combined Transport 151
Ro-Ro Transportation 151
Ro-La Transportation 152
Barriers to Market in Europe 152
3.3.2.2. Regulatory Overview 152
Market Access 153
Financial Standing 153
Professional Competence 154
EU Twinning Project 154
Implementation of the Regulation and Unfair Competition 154
Statistics in Road Transport Sector 155
3.3.2.3. Productivity Impact Assessment 155
3.3.2.4. Evaluation 156
3.4. Air Transport 157
3.4.1. Air Transport in the EU 157
3.4.1.1. EU Regulations in Air Transport 157
Market Access and Competition 157
International Aviation: Open Skies 158
Airports 159
Aviation Safety 160
Air Transport and Environment 160
3.4.2. Air Transport in Turkey 161
3.4.2.1. Regulatory Overview 161
3.4.2.2. Market Overview 161
3.4.2.3. Airport Capacity and Development 163
3.4.2.4 Regulation and Competition: Salient Features 164
Licensing and Pricing Regulations 164
Flight Permits and Slot Allocation 164
Pricing 165
Public Service Obligation 165
International Air Transport Agreements 165
State Aids 166
Ground Handling 166
3.4.2.5. Productivity Impact Assessment 167
3.4.2.6. Evaluation 168
Increased Competition 168
Cost and Quality of Regulation 169
Fair Competition 169
3.5. Maritime Transport 170
3.5.1. Maritime Transport in the EU 170
3.5.1.1. EU Regulations in Maritime Transport 171
Market Access and Competition 171
Regulations and Reforms on Maritime Safety 171
3.5.2. Turkish Maritime Transport 172
3.5.2.1. Sea Ports: Management, Capacity and Pricing 173
Pricing 175
3.5.2.2. Shipping Market Overview 175
Transit 176
Cabotage 177
Export and Import Carriages 177
3.5.2.3. Regulatory Overview 177
International Rules and Regulations 178
Customs 178
Cabotage 178

Ship Registry 178
3.5.2.4. Productivity Impact Assessment 179
3.5.2.5. Evaluation 180
3.6. Annex: Examples of Rail Sector Organisation in Selected Member States 180

4. Regulatory Reform and EU Harmonization: An Assessment 185

4.1. Introduction 187
4.2. Background to Regulatory Reform 188
4.3. Progress with Harmonization 189
4.4. Regulation, Productivity and the Foreign Direct Investment Environment 191
4.5. Competition Law 193
4.5.1. Relationship Between the Competition Authority and Other Regulatory Bodies 194
4.5.2. The Issue of State Aids 195
4.6. Regulation of Public Service Obligations 196
4.7. Privatisation 197
4.8. Regulatory Authorities 199
4.8.1. Policy Versus Regulation 200
4.8.2. Regulating the Regulators 200
4.8.3. Selecting the Regulators 201
4.8.4. Controlling the Regulators 201
4.8.5. Overall Capacity to Design and Implement High Quality Regulation 202
4.9. Overall Productivity Impact of Enhanced Regulation 203
4.10. Conclusion 204

References 207

Telecommunications 209
Energy 210
Transport 212
Regulatory Reform and EU Harmonization: An Assessment 220

EdamENG.indd 17 1/3/08 2:19:14 PM

EdamENG.indd 18 1/3/08 2:19:14 PM

EXECUTIVE SUMMARY

Overview

Turkey has undertaken major reforms aiming at better functioning markets both in terms of ensuring competition and productivity growth. These reforms are aimed at narrowing the scope of regulation and ensuring that regulations better serve public interests. Mainly, reforms address market opening, privatisation, liberalising restrictions on entry, prices and normal business practices as well as ensuring competition. This study focuses on the regulatory reform and EU harmonisation in three main infrastructure services namely telecommunications, energy and transport sectors. The performance of these industries is crucial for the performance of the whole economy due to their "knock on" effects on the rest of the economy. The impact of regulation in these sectors goes beyond the sectoral frontier and affects indirectly many other sectors where firms use the output of these industries as intermediate inputs in their production process.

Turkey has moved towards a regulatory reform targeting a gradual shift from coercive use of public policy instruments such as strict regulation or the public ownership of enterprises to a greater reliance on market mechanisms as well as private investment. Turkey's progress in terms of harmonization with the EU *acquis* has been uneven, but overall, not too disappointing. It seems that compared with the gap in the legal frameworks the gap in implementation and more importantly, in terms of impact, that is, the degree of development of effective competition, is larger. The reasons are as follows.

The regulation of competition is an intrinsic part of the overall regulatory approach. Therefore the implementations of competition rules as well as the nature of the relationship between the competition authority and the sectoral independent regulatory authorities have a significant impact on sectoral policies. In Turkey, competition law is an area where significant progress has been made. However problems remain in essentially three areas: a) Relationship between the competition authority and other regulatory bodies b) State aids and c) Judicial review.

The uncertainties created for businesses by the twin implementation of competition and sectoral legislation and the lack of clarity in the legislation of the boundaries or competencies are critical problems. The codification of the relationship between the Competition Authority and the IRAs should be achieved to eliminate the resulting barriers to investment. In this respect, the law should introduce a consultation requirement with clearly defined deadlines. The law should also clearly spell out the division of tasks between the Competition Authority and IRAs.

The absence of state aids legislation in Turkey acts as a serious barrier to the development of competition in infrastructure industries. Given the prevalence of state ownership in infrastructure, state aids legislation is necessary to ensure that state actions do not have anti-competitive effects. Turkey had assumed the responsibility with the Customs Union Decision to adopt a state aids monitoring regime by 1997. Since then Turkish policy makers were unable to overcome the institutional reticence to adopt a state aids monitoring legislation so as to comply with the Customs Union commitments of the country. The adoption of state aids legislation has now become a benchmark for the opening of the competition chapter of the full membership negotiations.

De-regulation and the introduction of competition in some service sectors usually trigger the question of the continued universal availability of these services. The EU has developed a specific strategy to deal with the supply of services of general interest under a competitive framework. State owned or even private companies can be entrusted with a public service obligation provided that the loss making part of the business is financed in a transparent and non discriminatory manner.

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This framework ensures that the level playing field is maintained for service providers while the universal availability of core services is ensured. Turkey lacks a specific framework dealing with this critical issue. The question of public service obligations is not treated in a uniform and transparent manner. A legal and regulatory framework for public service obligations is a critical component for regulatory reform as it attempts to minimize potential conflicts between social objectives and the development of competition. The lack of a proper regulatory framework applicable for all service industries which takes into account the need to implement a rule based and transparent public service obligation methodology leads state authorities to apply ad hoc solutions for safeguarding the widespread availability of core services. This increases costs at best and induces rent seeking behavior at worst. It is also doubtful that universal access can be achieved in a cost-efficient manner through such ad-hoc means. In addition, the lack of an overall framework on public service obligations introduces uncertainties for economic operators in the network industries who may at any time face new constraints or conditions imposed by public authorities aiming to attain universal service goals.

In addition to pro-competitive regulation, foreign direct investments (FDI) represents an additional dimension linking regulatory reform and productivity. FDI is generally believed to have a positive impact on sectoral productivity. A regulatory climate conducive to FDI should contribute to higher productivity growth. Viewed from this perspective, the adoption of the EU *acquis* in the network industries should enable Turkey to significantly enhance its potential for attracting foreign investment in those industries given that the Turkish sectoral legislation still contains a number of barriers to foreign investments in particular in the fields of energy, air transport and maritime transport.

A key component of regulatory reforms in the network industries has been the privatisation process. EU law is in fact agnostic regarding the nature of ownership. In other words, there is no requirement in EU law for the privatisation of state companies or monopolies. The EU acquis is more concerned with the introduction and regulation of competition in previously state held industries. Therefore the requirement to adopt the EU *acquis* has not been a factor in Turkey's approach to privatisation in the network industries. Successive Turkish governments' approach to privatisation has rather been influenced by the need to raise revenues to assist the maintenance of fiscal balance. Even after the macro economic stabilisation, the primary objective of the government is still to raise a maximum amount of revenues. The downside of this approach is the lack of proper attention to the ex-post regulatory framework. Indeed as long as privatisation revenue remains the overriding concern, insufficient attention is devoted to achieving longer term efficient market outcomes in the industry concerned. At least in the short run the objective of revenue maximization may conflict with measures that need to be taken in order to ensure the development of competition in those sectors. In the Turkish case the authorities seem to have resolved this trade-off in favour of revenues with less regard for competition. Evidence for this argument exists in both the telecommunications and electricity industries. Overall, it can be said that the authorities seem to discount the importance of competition in generating social welfare gains out of ownership changes.

Improvements can be obtained in the performance of Independent Regulatory Authorities. Given the importance regulatory bodies have in implementing the new competitive framework, their performances have a significant impact on the performance of the regulated industry. The track record of the independent regulatory authorities in Turkey has been mixed. Improvements in appointment mechanisms to guarantee the establishment of a governance structure consisting of professional and knowledgeable "wise men" would improve the performance of the IRAs. The performance of the regulatory authorities depended on the effectiveness of the individuals which happened to be appointed to the governing board. Improvements in the appointment mechanisms can be obtained by making the process more transparent and creating platforms whereby candidates can be questioned by stakeholders. Additional measures that would improve the quality of the

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design and enforcement of regulations include: further increasing transparency and accountability, in particular requiring IRAs to present justifications for their decisions; improving the quality of consultative mechanisms and increasing the technical capacity of the IRAs, especially in economics, possibly by creating the position of a "chief economist".

Reform in infrastructure industries can improve welfare only if it is guided by a clearly articulated strategy and strong political ownership. The Turkish experience suggests that without the support of these two components regulatory reform may be seriously delayed in generating benefits, or, worse, it may not generate them at all. Hence one of the crucial recommendations for success of regulatory reform is clear ownership of reform efforts at the political level. But ownership is not sufficient. Reform policy needs to be translated into an implementation strategy.

Sectoral Outlook

Telecommunications: With the privatisation of the incumbent operator and a significant uptake of mobile telephony, the Turkish telecommunications market has experienced significant changes in the past years : a 27% penetration rate of fixed –line telephony, 60% penetration of 2G mobile, very low broadband penetration and potential growth in 3G. The absence of adequate competitive safeguards and a poor investment climate have caused inadequate broadband uptake in Turkey.

Liberalisation has started in 2004, however quite limited and slow. In 2006 several legal changes have been introduced in line with the EU *acquis*. Some of those changes have not yet taken effect in the market. Compared to OECD countries, Turkey is seriously behind in broadband take-up. Moreover, most telecommunications services are still more expensive than comparable services in the OECD countries. The Telecommunications Authority needs to be more speedy and effective in enforcing and operationalizing its interventions. Moreover, individual licensing regime remains to constitute a major burden and acts as a barrier to entry. In mobile services taxation is exceptionally high and may hamper the growth of penetration rate.

Full adoption of the EU *acquis* may not suffice to bring Turkey in line with other EU countries. This process should be supported by the improvement in the business environment, removal of burdensome taxation – especially on the mobile services, as well as closing the gaps in competition policy especially state aids, improving the independence of sectoral regulators and making judicial review more effective. Nevertheless, it has been estimated that the potential welfare increase from Turkey's alignment with the EU *acquis* and implementation of a policy and regulatory framework at par with those in the UK or Finland would amount to about 0.43% of GDP.

Electricity: Turkey launched an ambitious programme in 2001 to introduce competition into a previously vertically integrated industry through liberalisation and privatization. The Electricity Market Law (EML) provided a radically new regulatory and legal framework for the organization of the Turkish electricity industry. In the new market structure generation and retail supply need to develop competitively whereas transmission and distribution are regulated so as to ensure non-discriminatory access to all market participants. The law also established Energy Market Regulatory Agency (EMRA). An important part of the needed regulatory infrastructure including secondary legislation, ordinances, communiqués etc. has been prepared and adopted. These are more or less in line with the current legislation in the EU, with a few exceptions. Nevertheless, progress with actual development of a competitive wholesale market has been relatively slow.

Privatization of distribution companies was taken as milestone in restructuring of the Turkish electricity but has so far not taken effect. The transmission system is organized as a separate state owned legal entity which satisfies the unbundling requirement of the EU 2003 directive. However, this is not the case in the distribution segment. In Turkey, distribution is subject to only accounting separation from generation and retail supply. Hence the current arrangements are not in line with the EU Directives. Regarding separation between distribution and retail activities,

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the situation is moderated by the Competition Authority decision requiring legal separation after privatization. The most important factor that has delayed the development of electricity markets has been the fact that the government has been unwilling to raise the tariffs on the default services provided by distribution companies, squeezing the margins of independent generators between low retail prices and rising gas costs.

Gas: Regarding the dependence of electricity generation to gas, security and economy in the supply of gas is an important condition for growth in the sector. The Natural Gas market Law which was enacted in April 2001 ended the monopoly of BOTAŞ except for "national transmission lines". Private transmission companies can build and own transmission lines, under the condition that these lines be interconnected with the existing system. Distribution of natural gas has been undertaken by the municipalities and private companies. Despite some progress in harmonization, actual competition in the natural gas industry has not been accomplished, and BOTAŞ continues to keep an almost monopoly position in wholesale gas trade.

Although some progress has been experienced in harmonization with the EU *acquis*, development of competition in the gas industry faces deeper problems than the electricity industry. The main problem has to do with the fact that BOTAŞ holds gas contracts with suppliers and only a small percentage has been so far released to the private sector.. BOTAŞ's vertical unbundling should proceed as planned to prevent any incentives to discriminate against new entrants.

Rail Transport: The share of rail transport among all transport means has declined drastically both in Europe and Turkey. In 1950, 78% of Turkish freight transport was carried by railways; by 1999 the ratio had decreased to 5%. Efficient rail transport requires investing in railway infrastructure to increase geographic reach, technology level and interoperability; while restructuring any incumbent railway operator, liberalising the market to allow new entrants and boosting competitiveness of railway industry to gain market share, especially from road transport.

Turkish railway infrastructure which connects only 37 of 81 provincial centres has suffered from underinvestment. Furthermore, the Turkish regulatory framework remains unsatisfactory. A draft law entitled "Railway Framework Law" was prepared to establish the legislative and institutional framework to deregulate the railways market in accordance with the EU *acquis*. According to the new law, infrastructure management and operations will be separate Directorates General under the common roof of a holding structure. The framework law establishes the railway authority independent from any railway undertaking to ensure fair competition in the rail market, supervising the railway companies and infrastructure manager on safety issues, licensing and interoperability. Vertical separation of TCDD is a necessary step for rail reform in order to allow service companies to compete with equal access rights to infrastructures at non-discriminating charges.

De-regulation and liberalisation of rail services is a complex and difficult process. The process of de-regulation and liberalisation is still ongoing in the EU. Vertical separation, accounting or institutional, constitutes the backbone of EU regulation in the railway sector. This is complemented by allowing free and non-discriminatory access to the railway network and enhanced by the separation of accounting for transport services (passenger & freight) and PSOs. Turkey uses the EU *acquis* as a blueprint for its own regulatory reforms. Regulatory reforms aim to provide better conditions for competition in the markets, quality services at competitive prices for customers as well as transparency and accountability. Furthermore, better identification of inefficiencies and loss making operations and preventing the cross-subsidization of competitive activities from non-competitive ones for predatory purposes.

Road Transport: Road is the primary mode of transport in Turkey. Thanks to the investment in highways over the past 20 years Turkish road network is quite developed. The sector boasts a considerable number of service providers. As a result sector remains competitive with regard to alternative modes of transport. In 2005, 95% of total freight was carried by road transport in Turkey.

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In Turkish road transport market, there has been a serious progress in terms of harmonising the Turkish road transport legislation with the EU *acquis*. A new Road Transport Law and the bylaws adopted in 2003 and 2004 have created a similar regulatory framework for road transport services; and defined market access rules based on the criteria of good repute, financial standing and professional competence, as in the EU. There are nonetheless some residual differences in the regulatory framework stemming from the difference of the market structures. The Road Transport Law and Bylaws address the fact that the sector is too fragmented and the vast majority of players are too small. As a result, market access rules and licensing provisions are adapted to Turkish market. The proper implementation of the law is expected to lead to consolidation and transformation of the sector, and allow market players to achieve economies of scale. The sector would then be able to assume the EU directives more precisely.

Air Transport: The tariff liberalisation bill introduced in 2001 enabled the fast development of the airline industry. In the last three years the number of planes increased from 150 to 261; number of domestic passengers increased from 9,1 million to 28,8 million and number of domestic flights increased from 156.301 to 343.956. Along with the public private partnership model and in particular the build-operate-transfer option, 1.15 billion USD was channeled in the last couple of years for airport construction.

The Turkish legislation in the area of air transport is compatible in many respects with the EU *acquis* e.g. licensing, flights permits and slot allocation. However, harmonisation is not complete. The current opaque system of imposing public service obligations (PSOs) on air carriers as a condition to grant route permits would be replaced with a more objective and transparent set of conditions which would also be compatible with the EU *acquis*. A regulatory harmonisation would also require Turkey to amend its existing bilateral air transport agreements and do away with the legal duopolies and price fixing arrangements created on some international routes to the benefit of the national flag carrier THY. This would enable other privately owned air carriers to compete on a more equal footing with THY on these routes. Moreover, Turkey has not adopted yet a state aids monitoring legislation. There are some areas that can be considered to run afoul competition rules.

Further harmonisation with the EU *acquis* should bring additional benefits as increased competition, productivity and transparency, and positive impact on cost and quality. The incorporation of Turkey within the Single European Space will increase the competition in the sector as EU carriers can begin to service the Turkish market as Turkish carriers can then operate between and within EU countries without any discrimination.

Maritime Transport: Turkish maritime sector is in a transition phase characterized by a gradual shift from state run and state held assets to private enterprise. In the area of port management, the privatization process is well under way and some of Turkey's main ports have been successfully privatized. In the area of maritime transport, the focus is on the need for a more business friendly regulation so as to eliminate the current impediments to the growth of cabotage as well as transit trade. As mentioned in the Commission's Progress Report on Turkey regarding maritime transport, progress remains limited as regards the degree of the adoption of the EU *acquis*. The full range of IMO's sea safety and security regulations including SOLAS 78, SOLAS 88, Load Line 88 and Mar-Pol are yet to be adopted by Turkey. In terms of market entry regulations, the discriminatory provisions of the ship registry are to be overhauled. Finally additional investments in institutional enforcement capacity would lead to an enhanced reputation for Turkish ships traveling in international waters. The corresponding decrease in detention rates would increase the competitiveness of the Turkish fleet in providing international maritime transport services. Adoption of the EU *acquis* in sea transport is expected to have a relatively large impact on the Turkish sea transport industry with respect to an increase in competition in cabotage services, and a lessening of red-tape in port services and customs procedures.

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1. Telecommunications

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1.1. Introduction

The liberalisation of telecom services significantly contributed to economic growth and competitiveness in many developed and developing countries over the past decades. Economists widely agree on the "enabling" nature of promoting competitive telecom infrastructures, which pave the way towards the development of innovative services, thus boosting competitiveness, growth and jobs, to the ultimate benefit of consumers. Among the many contributions that can be found in the economic literature, Roller and Waverman (2001) found that one-third of the economic growth in a group of 21 OECD countries over the 20-year period 1970–1990 could be attributed to the direct and indirect impact of investments in the telecommunications sector. Today, electronic communications account for at least 45% of productivity growth in the EU27, and in other geographic areas such as the US and the Far East the contribution is even greater.[1]

Economists also agree on the importance of Information and Communication Technology (ICT) investment as a key driver of productivity. Likewise, a vibrant and competitive telecommunications sector contributes to economic growth and Total Factor Productivity (TFP) growth through many direct and indirect channels. In Europe, slow uptake of ICT by businesses seems to have hampered labour productivity growth in the past few years, but in 2006 an inverted trend was observed. Hourly labour productivity growth in the telecom sector accelerated from 4.9% to 8.4% over the periods 1980-1995 and 1996-2004.[2] As reported by the European Commission in the 2007 progress report on the i2010 strategy, electronic communication services today "account for 35% of value added of the ICT sector, or 1.8% of the EU economy, and drive 12% of overall labour productivity growth".[3]

Not surprisingly, the liberalisation of telecom services has become one of the key pillars of the EU Lisbon strategy, later renamed "partnership for growth and jobs", and noticeable steps in the direction of creating a "world-class, competitive telecommunication infrastructure" have been made after the 2002 regulatory framework for electronic communications entered into force. The adoption, in June 2005, of the i2010 strategy has marked a new step forward in the direction of creating the "information society for all" in Europe, and Brussels policymakers have constantly been striving to boost the development of competitive and innovative telecoms markets to reach the ambitious goals set in the EU agenda.

The recent 12th Report on the implementation of the 2002 regulatory framework has confirmed that significant progress has been made in Europe as regards the liberalisation of telecom services.[4] This trend – also confirmed by industry documents such as the ECTA scorecard – must be carefully assessed in light of the more general perspective of increasingly mature fixed and 2G mobile markets, the slow uptake of 3G telephony, and the need to encourage investment in Next Generation Access Networks, which promise to contribute substantially to the creation of those digital interactive platforms that will shape the "information society for all". Accordingly, the European Commission is currently working on the review of the 2002 framework, which will arguably feature, *i.a.*, the removal of *ex ante* regulation in some retail markets, increased coordination

1 See Renda (2007), *Transatlantic Telecoms: the Pros and Cons of Convergence*, forthcoming in "Sleeping Giant", Johns Hopkins University.

2 By comparison in the US, hourly labour productivity grew by 3.4% and 4.4% over the same periods in the telecommunication sectors, as reported by Jean Claude Trichet, President of the ECB in a recent speech. See *The need for structural reforms in Europe,* 4 June 2007, available online at http://www.ecb.int/press/key/date/2007/html/ sp070604.en.html.

3 For examples of ways in which lower telecommunication costs increase productivity, see*, e.g.*, Burnham (2007), at 3.

4 Communication, European Electronic Communications Regulation and Markets 2006 (12th Report), COM(2007)155, 29 March 2007.

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of spectrum policy, and a revision of the definition of universal service and users' rights.[5]

With the European enlargement process, adoption of the EU *acquis* in the telecom sector (Chapter 19 of the *acquis*) has become one of the most challenging tasks for accession countries: new member states were called to conform to the new regulatory framework within a rather short timeframe, and many of them are still struggling with the complexity of the framework. As a result, the current state of telecoms liberalisation in Europe portrays a rather mixed picture, with some countries – especially those who could count on a legacy cable infrastructure – experiencing fast growth and a significantly dynamic environment; whereas others, including most Southern European countries, still lag behind in terms of the implementation of the regulatory framework, and consequently of broadband deployment, entry of new players and availability of innovative, appealing services for consumers.

Against this background, the Turkish telecommunication market experienced important changes in the past few years, with the privatisation of the incumbent operator Turk Telecom and a significant uptake of mobile telephony. As occurred in many Southern Mediterranean countries, Turkey adopted a regulatory regime broadly in line with the EU framework, although primary legislation is more in line with the 1998 framework (the so-called "Open Network Provisions") than with the subsequent, far-reaching regulatory framework. As remarked by the European Commission in its recent 2006 progress report, in many areas "Turkey has not adopted new legislation that would align it with the 2002 framework".[6]

As of today, Turkey certainly represents one of the most important emerging telecommunications markets: with a population of approximately 70 million, the lowest per capita GDP in OECD countries, a 27% penetration rate of fixed-line telephony, 60% penetration of 2G mobile, very low broadband penetration, potential growth in 3G and important regulatory reforms, it is fair to state that the potential for vibrant developments in this country is remarkable.[7] The acquisition of mobile operator Telsim by Vodafone at the end of 2005 testifies of the attractiveness, as well as the growth potential, of the Turkish market for foreign, global operators.[8]

The absence of adequate competitive safeguards and a poor investment climate have been considered as major causes of the currently inadequate broadband uptake in Turkey. Figure 1-1 below shows that Turkey, with a 3.8% broadband penetration rate, lags behind most OECD countries. In addition, Turkey exhibits also the lowest subscription rate, *i.e.* even if broadband covered the whole territory, broadband subscriptions would not overcome 21.8% according to recent calculations.[9] Furthermore, as shown in the figure, Turkey's broadband infrastructure is entirely dependent on the DSL technology with almost no endowment of cable, fibre/LAN and other technologies, including 3G. Accordingly, Turkey hardly compares to the OECD average penetration rate, currently at 10.8%.

5 Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on the review of the EU regulatory framework for electronic communications networks and services, COM(2006) 334 final, 28 June 2006.

6 See *Turkey 2006 Progress Report,* SEC(2006) 1390, 8 November 2006, p. 42.

7 See, e.g., Burnham, J. B., (2007), *Telecommunications Policy in Turkey: Dismantling Barriers to Growth*, Telecommunications Policy 31, at 197–208.

8 See Vodafone press release at http://www.vodafone.com/start/media_relations/news/ group_press_releases/2005/press_release13_12.html.

9 See Ford, Koutsky and Spiwak (2007), The Broadband Performance Index: A Policy-Relevant Method of Comparing Broadband Adoption Among Countries, Phoenix Center Policy Paper n. 29, July 2007.

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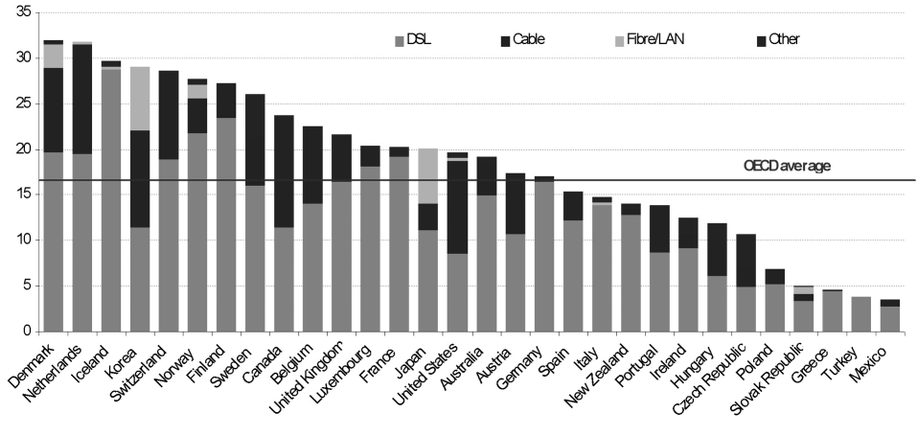
Figure 1-1: Broadband penetration in OECD countries, December 2006



Source: OECD

Needless to say, as fixed and mobile markets in Europe become more mature, there seem to be rather interesting prospects for further aligning the Turkish telecoms regulation with the EU *acquis*, as Turkey may experience increased investment in telecoms infrastructure and welfare-enhancing, committed entry of EU players into its quite attractive market. At the same time, fully adopting the EU *acquis* may not suffice to bring Turkey in line with other EU countries. Progress in competition policy as well as in the independence of sectoral regulators and the judicial are needed to improve the business environment, and the removal of overly burdensome taxation – especially on mobile services – seems essential for the pace of development of Turkish telecom service providers.

On the other hand, Turkey may profit from past experience in devising its future regulatory framework. First, as occurred also in many new member states, mobile telephony has outpaced landline penetration since 2001, with many households now becoming "mobile only". Data on the penetration rate of fixed and mobile telephony in Turkey show that, mobile penetration is now approaching 70% in 2006. This, in turn, means that investment in broadband deployment to fill the significant gap shown in Figure 1-1 may concentrate on mobile broadband, as well as in broadband wireless access technologies. This would allow Turkey to fill in the broadband gap relatively quickly, as occurred, for example, in Baltic states, where WiFi and WiMax are in a good state of deployment.

Secondly, as the Turkish regulatory framework is still partly based on the ONP regime, adopting legislation to fully align with the EU *acquis* may allow Turkey to rely on the European experience since mid-2003, when the 2002 framework became operational; useful lessons can also be drawn from the ongoing review process, which aims to remedy some of the key problems faced by EU member states in coping with the 2002 framework – not least, patchy implementation of the framework, burdensome market review processes, and lengthy appeals processes.

Thirdly, Turkey may draw useful lessons from the current EU *acquis* in trying to devise a flexible and technology-neutral regulatory regime, which does not miss the "broader" picture. For example, the importance of spectrum availability and management, the need to carefully appraise the importance of content and IPR protection in the digital environment, and the need to enable the creation of digital platforms by adopting a "business model" approach would contribute to the creation of an efficient and effective set of rules, to the benefit of Turkish consumers. After all, the EU *acquis* on telecoms is not only limited to the five Directives that compose the 2002 regulatory framework for e-communications: it includes the Recommendation on relevant markets, the Television Without Frontiers directive, the Directives on data protection, the 2002 Radio Spectrum Decision, and a sophisticated *corpus* of legislation on consumer protection and IPR protection, not to mention its well-developed competition law.

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This Chapter contains a comparative analysis of the EU and Turkish regulatory frameworks for e-communications, as well as of market developments in the two areas, and aims to assess the potential welfare improvement that would accrue to Turkish citizens, if Turkey fully aligned with the EU *acquis* in this field. The main issues tackled in the next sections are thus the following: How does the Regulatory framework in Turkey compare with that in the EU? Would Turkey profit from aligning with the EU telecom acquis at all? What impact would be felt on prices for telecom services, on productivity, growth and employment? Are there any features in the ongoing review of the 2002 framework that would significantly affect Turkey's position vis-à-vis the alignment with the EU *acquis*?

Accordingly, Section 1.2 summarises the EU *acquis* in the telecom field, and reports current problems and prospects in the implementation of the (revised) framework in future years. Section 1.3 describes the current state of the Turkish regulatory regime, highlights the most relevant and recent market data, by comparing them with corresponding data from EU member states; identifies the main impacts that would result from aligning Turkey's regulatory regime with the EU *acquis*; and finally draws some policy conclusions and recommendations.

1.2. The EU Acquis on e-Communications

The current regulatory framework on electronic communications in Europe is the result of two decades of constant attempts to promote the liberalisation of telecom equipment, infrastructure and services. Until the mid-nineties, the EU telecom sector was mostly dominated by state-owned incumbents, which retained the exclusive right to operate networks and supply telecom services. The growing importance of the sector – testified also by the inclusion in the list of Trans-European Networks referred to at Art. 154 EU Treaty, introduced after the Maastricht Treaty – and the inertia of most national regulators in launching ambitious liberalisation programmes were such that the European Commission eventually took the lead in promoting technical harmonisation and the elimination of special and exclusive rights attributed to public monopolists. The most relevant early initiative in this respect was the 1987 Green Paper on the Development of the Common Market for Telecommunications Services and Equipment, followed by a Commission Communication of 9 February 1988 and a Council Resolution of 30 June 1988, which set the end of 1992 as a deadline for implementation; however, the deadline was eventually not met.[10]

Liberalisation was initially focused on telecommunication equipment, with Directive 88/301, based on Art. 86 EU Treaty; and on telecom services, with Directive 388/90, which laid the foundations for liberalising value-added services, but excluded voice telephony.[11] According to Directive 388/90, member states were bound to: (i) eliminate special and exclusive rights to supply value-added services granted to state monopolists; (ii) ensure that information on technical interfaces needed for access to public networks were published by 31 December 1990; (iii) adopt measures to ensure that access to public telephone networks was granted at objective and non-discrimina-

10 Green Paper, Towards a Dynamic European Economy. Green Paper on the Development of the Common Market for Telecommunications Services and Equipment. COM (87) 290 final, 30 June 1987.

11 Commission Directive 90/388/EEC of 28 June 1990 on competition in the markets for telecommunications services. OJ L 192, 24 July 1990, p. 9. Article 2 of this Directive stated that Member States should withdraw all special or exclusive rights for the supply of telecommunications services other than voice telephony. As regards packet-switched data services, Article 3 stated that Member States could prohibit economic operators from offering leased line capacity for simple resale to the public. Article 4 said that Member States which maintained special or exclusive rights for the provision and operation of public telecommunications networks would take the necessary measures to ensure that the conditions governing access to the networks, and in particular leased circuits, were fair and non-discriminatory. In addition, Article 5 asked the Member States to publish the technical interface characteristics necessary for the use of networks before 31 December 1990. Finally, Article 7 called for the appointment of independent regulatory bodies at national level to carry out the tasks specified in the directive from 1 July 1991.

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tory conditions.[12] This Directive was later amended in many occasions, and its scope was extended to satellite networks (Directive 94/46), cable networks (Directive 95/51), and cellular networks (Directive 96/2).

1.2.1. The "1998 Package"

As already recalled, Directive 388/90 did not mandate the removal of special and exclusive rights for voice telephony services, which were granted a temporary derogation *ex* Article 90.2 of the EU Treaty. The main reason for this derogation was the need to preserve the financial viability and the universal service mission of incumbent firms, tightly linked to voice telephony revenues. Only in 1996, with Directive 96/19, the Commission announced the upcoming liberalisation of voice services, as well as of the supply of telecom infrastructures, by 1 January 1998. This Directive mandated that member states granted interconnection with the PSTN at transparent and non-discriminatory conditions, by requiring wireline incumbents to publish their reference interconnection offer not later than 1 July 1997.

The problem of funding universal service obligations (USO) had been tackled already in the 1994 Council Resolution on the principles of universal service in the telecommunications sector, as well as in the 1996 Commission Communication on "universal service for telecommunications in the perspective of a fully-liberalized environment".[13] A more precise definition was introduced with Directive 97/33 of the European Parliament and the Council, on "interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP)". This Directive – which adopted a broad and flexible definition of universal service – was coupled with a Communication on "Assessment Criteria for National Schemes for the Costing and Financing of Universal Service in Telecommunications and Guidelines for the Member States on Operation of Such Schemes".[14]

Once again, however, the deadline set by Directive 96/19 was not met by the majority of member states. Interconnection offers had not been published, nor had national regulatory authorities been created in all countries.[15] These disappointing results starkly contrasted with the emphasis

12 Directive 388/90/EEC led to resistance by member states such as Spain, France, Belgium and Italy. Spain, with the support of France, lodged an appeal with the ECJ for the annulment of the Directive in relation to Article 2 insofar as it affected special rights and also in relation to articles 8 and 9. Italy applied for the full annulment of articles 2, 4 and 8, whereas Belgium applied for the annulment of the whole Directive. The Court of Justice published its Judgment on 17th November 1992, stating that "*The Court has held that the mere fact of creating a dominant position by granting exclusive rights within the meaning of Article 90(1) of the Treaty is not as such incompatible with Article 86"* [currently Article 82]. In addition the ECJ stated that *"the extension of the monopoly on the establishment and operation of the telephone network to the market in telephone equipment, without any objective justification, was prohibited as such by Article 86, or by Article 90(1) in conjunction with Article 86, where that extension resulted from a State measure, thus leading to the elimination of competition … The same conclusion necessarily follows where the monopoly on establishment and operation extends to the market in telecommunications services".* Judgment of the Court of 17 November 1992. - Kingdom of Spain, Kingdom of Belgium and Italian Republic v Commission of the European Communities. - Competition in the markets for telecommunications services. – Joined cases C-271/90, C-281/90 and C-289/90. Luxembourg, 17 November 1992.

13 See Council Resolution of 7 February 1994 on universal service principles in the telecommunications sector, OJ C 48, 16.2.1994, p. 1–2; and the Communication to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Universal service for telecommunications in the perspective of a fully liberalised environment, COM (96)73, 13 March 1996.

14 COM (96) 608 final, 27.11.1996

15 The state of advancement of the liberalisation process was, in other words, unsatisfactory, although between 1998 and 1999 prices for international calls had fallen on average by 40%, domestic non-local calls by 30% and local calls by 13%; meanwhile, the sector's value had increased by 12.6%, reaching 161 billion euros.

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with which the Commission announced the liberalisation of telecom services in 1998, a mismatch similar to that occurred in the US when the 1996 Communications Act was defined as a "Camelot moment"[16]. For this reason, the "1999 Review" was launched to develop what would later be called the "new regulatory framework", entered into force in the EU15 in July 2003.

1.2.2. The "2002 Regulatory Framework" and the "Investment Ladder"

The 2002 regulatory framework is composed by five Directives and a Council decision, and relies on three fundamental pillars[17]:

- *Technology neutrality*. This principle refers to the need to avoid regulating different technologies differently, and implies that a flexible, horizontal regulatory regime is applied to all technologies, in order to ensure a level playing field between industry players.

- *Gradual transition to* ex post *competition policy*. *Ex ante* sectoral regulation is expected to fade away once sufficient competition has developed in the market, leaving scrutiny of competition in the market only to *ex post* competition policy. To this end, the 2003 Recommendation on the relevant markets introduced three main criteria, against which the need to regulate a market *ex ante* should be assessed. According o the "three criteria test", if a given relevant market is characterised by: (i) significant structural, legal or regulatory entry barriers; (ii) the absence of a long-run tendency towards competition; and (iii) features such that *ex post* competition seems to be insufficient, then the market should be regulated *ex ante*, if any of the players is found to hold Significant Market Power (SMP). With the 2003 Recommendation, the Commission already identified eighteen relevant markets, which presumptively fulfil the three criteria. Each national regulatory authority (NRA) was called to analyse the eighteen markets, notify players with SMP and apply proportionate remedies from a list of available options included in the Access Directive.[18] Under Article 7 of the Framework Directive, the European Commission has then the possibility of challenging the NRAs' market definition and finding of SMP, but not the choice of remedies.

- *Emerging markets.* The new regulatory framework adopts a cautious approach as regards

16 See the speech by Van Miert at http://ec.europa.eu/comm/competition/speeches/ text/sp1998_001_en.html. And See Renda (2005), *Telecom Services: a Transatlantic Perspective*, in Hamilton, D.S. and J. P. Quinlan, "Deep Integration. How Transatlantic Markets are Leading Globalization", CEPS Paperback Books, Chapter 11, 2005.

17 The new regulatory framework is composed by Directive (2002/21/EC) on a Common Regulatory Framework, OJ L 108, 24.4.2002, p.33; Directive (2002/19/EC) on Access and Interconnection, OJ L 108, 24.4.2002, p.7; Directive (2002/20/EC) on Authorisations, OJ L 108, 24.4.2002, p.21; Directive (2002/21/EC) on Universal Service and User's Rights, OJ L 108, 24.4.2002, p.51; Directive (2002/21/EC) concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications), OJ L 201, 31.7.2002, p.37; Decision no 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision), OJ L 108 of 24.04.2002. In addition, two recommendations were issued by the Commission: the Commission Recommendation of 23 July 2003 on notifications, time limits and consultations provided for in Article 7 of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (C(2003)2647 final); and The Communication on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services, C(2003)497, 11.02.2003. Finally, it is worth mentioning the Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03).

18 For the choice of remedies, see the 2003 ERG Common Position on the Approach to Appropriate Remedies in the New Regulatory Framework, ERG(03)30 rev1.

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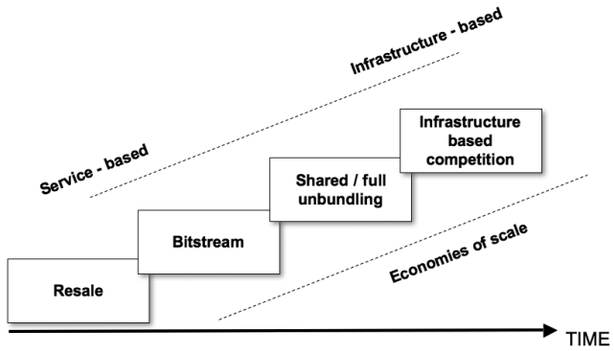
emerging markets, where the competitive equilibrium is *in fieri*, and it is consequently hard to predict whether stable SMP will emerge overtime. The Framework Directive – at Article 4 – states that under these assumptions, the relevant market should not be regulated *ex ante*.[19]

Technology neutrality and the extensive use of tools borrowed from the realm of antitrust scrutiny were the most praised features of the new regulatory framework, to the extent that some US commentators pointed at the EU rules as a useful reference in the ongoing review of the 1996 Communications Act.[20] In the implementation phase, a significant role was played by the European Regulators Group (ERG), which undertook the difficult task of coordinating regulatory activities carried out by NRAs.[21] In particular, the ERG recommended in several occasions that NRAs make extensive reference to the "investment ladder" model, originally rooted in the US "stepping stones" approach and proposed for Europe by Cave et al. (2001). This reference model entails that no real trade-off is established between short-run service-based competition and long-run, infrastructure-based competition – *i.e.*, the only type of competition recognised as sustainable in the long-run, and the real objective of the framework. Figure 1-2 below illustrates an example of the investment ladder.

Figure 1-2: The 'investment ladder'



In order to make the ladder operational, according to Cave (2006), NRAs are called to follow a precise sequence of actions, as follows.

- *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 broadly replicability is interpreted.
- *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

19 See, for example, Recital 27 of Directive 2002/21/EC and Recital 15 of the 2003 Recommendation on relevant markets, C(2003)497.

20 Speta (2006), *Rewriting US Telecommunications Law with an Eye on Europe*, in Preissl and Mueller, "Governance of Communications Networks", Phisica-Verlag, 2006, at 11-36.

21 The European Regulators Group ("ERG") was created by Commission Decision 2002/627/EC adopted on 29 July 2002. It is composed of the heads of the NRAs, and acts as an interface between them and the European Commission in order to "advise and assist the Commission in consolidating the internal market for electronic communications networks and services". See http://erg.eu.int.

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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 (2005), 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".

- *Estimate the amount of investment needed to move from one 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 degree of uncertainty inevitably brought by the ladder on the possibility to recover sunk investments, access pricing might not be limited to LRIC (long-run incremental cost) pricing or other forms of cost-based pricing, and might include some remuneration of investment risk, e.g. 'real option pricing'.[22]

- *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 access charges high 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.[23]

Most NRAs reportedly followed the investment ladder approach in the first years of implementation of the new framework. The ERG also reported that the investment ladder model can – at least *a posteriori* – explain some of the achievements of the new framework.[24]

1.2.2.1. Did the 2002 Framework Deliver?

As the Turkish regulatory framework on telecoms still echoes the EU 1998 package, it is worth assessing whether the subsequent step made by the EU, the 2002 framework, actually delivered significant results in terms of opening up markets to competition and boosting growth and jobs.

22 See Cave (2006).

23 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 high 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.

24 See ERG, Broadband Market Competition Report, ERG(05)23, 25 May 2005.

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This way, we would be able to comment on the welfare-enhancing potential of Turkey's full adoption of the 2002 framework.

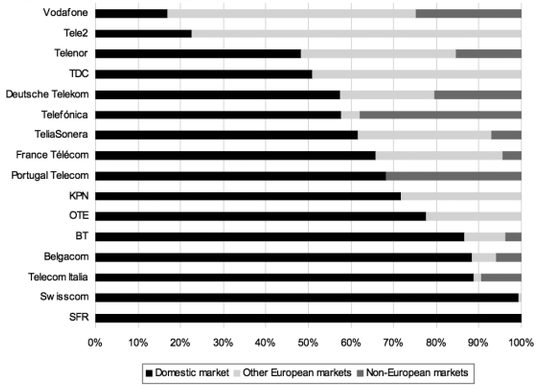
After four years from the entry into force of the new regulatory framework, the results are mixed. On the one hand, the 12th Report shows some tangible signs of improvement. In particular, ongoing consolidation of the internal market has created new opportunities for cross-border intra-EU investment, with some telecom firms now earning a substantial part of their shares in non-domestic markets. Since 2005, M&A activity has resurged, and cross-border transactions – driven by the search for economies of scale and the implementation of pan-European strategies – were conservatively estimated by the European Commission at approximately €70 billion in both 2005 and 2006.[25]

The list of recent mergers includes the following:

- Spanish Telefonica acquired UK mobile operator O_2 for €24 billion;
- Wind (Italy) was acquired by Orascom (Egypt) for €12.1 billion;
- TDC, the Danish incumbent, was acquired by the US/UK firm NTC for €8.2 billion;
- France Telecom acquired the Spanish mobile operator Amena for €6.4 billion;
- In the UK, NTL acquired both Telewest (€5 billion) and Virgin Mobile (€1.3 billion);
- Cesky Telecom (Czech Republic) was acquired by Vodafone for €3.7 billion;
- The US-based Blackstone Group invested 2.7 billion euros to buy a 4.5% stake of the German incumbent Deutsche Telekom;
- Deutsche Telekom, in turn, acquired Austrian Tele-ring for €1.3 billion.

On top of this, European players have started investing more heavily in non-EU operations. As shown in Figure 1-3 below, players such as Vodafone, Telefonica, Telenor, Portugal Telecom and Deutsche Telekom are very active outside the European borders. In addition, most of the larger players are now present in other national markets, and there has been a notable trend in investment in the new Member States by some of the more established players as well as by pan-European and local new entrants. In 2006, for example, France Telecom expanded its mobile phone network operations (under the Orange brand) in as many as ten EU member states, and challenges the position of truly global operators such as Vodafone.

Figure 1-3: Geographical breakdown of sales for leading EU telcos in 2005



** Sales of O2 not consolidated with those of Telefonica at the end of 2005 Source: IDATE (2006)*

25 According to an Apr. 20 report from Standard & Poor's Equity Research, in the first quarter of 2006, M&A deals where the value was disclosed totaled €380 billion – almost triple the amount in the comparable period of 2005. See also European Commission, *European Electronic Communications Regulation and Markets*, 12th Report, COM (2007)155, 29 March 2007, Vol. 1, at 10.

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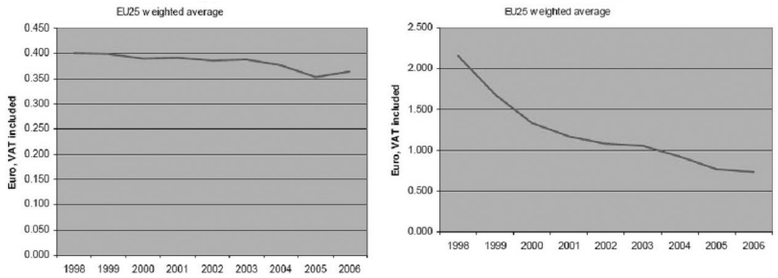
As regards price levels, Figures below show that prices for local and national call charges have fallen significantly between 1998 and 2006, especially for national calls, where the most significant reduction was observed,[26] about 75%.

Figure 1-4: Local and national call charges in the EU25, 1999-2006



Source: Teligen (2006)

In addition:

- Mobile termination rates, traditionally high in Europe also as a result of the application of the calling-party-pays (CPP) principle, have fallen down to an average 11.4 €cents/minute, a reduction of 22% since October 2004.
- During the same timeframe, the average mobile penetration rate has risen from 84.6% to 103.2%. A significant example is that of Poland, a member state since 2004, which saw a 36% increase in mobile penetration from October 2004 to October 2006. The penetration rate in most Southern European countries (Italy, Spain, Portugal, Greece) and in many new member states (Czech Republic, Estonia, Lithuania, Latvia) has now overcome 100%.
- The average market share of leading operators in the mobile sector is also declining, down from 40% to 39.4% between October 2004 and October 2006, although in some countries (e.g. Cyprus, Slovenia) the leading operator still holds a share between 70% and 90%.
- In the fixed-line sector, the incumbent's market share has constantly declined in the past few years, down to an average 65.8% at December 2005.
- As regards wholesale services, the EU average monthly price for LLU declined from 13.3€ to 11.5€ between October 2004 and October 2006.
- The Commission reports evidence in support of the ladder of investment, by showing that bitstream access (5.13 million lines) slightly fell between 2005 and 2006, whereas local loop unbundling rose to 13.9 million lines in October 2006 (+58% from October 2005). At the same time, however, also resale increased significantly.

However, delays in the implementation of the framework at national level – with one member state (Greece) completing the transposition of primary legislation only in June 2006 – and difficulties in market analyses and in implementing the 'ladder' approach have led to slow liberalization of most national markets, as well as regulatory uncertainty for industry players. Accordingly, real infrastructure-based competition is missing in many EU member states.[27] As recalled by Commis-

26 See Teligen, Report on Telecoms Price Developments from 1998 to 2006, a Report for the European Commission, December 2006, available at http://ec.europa.eu/information_society/policy/ecomm/ doc/info_centre/studies_ext_consult/price_developments_1998_2006/Infso_tariff_trends_report_1998_2006_en.pdf.

27 See the survey by London Economics and PwC for the European Commission, An assessment of the regulatory framework for electronic communications: growth and investment in the EU e-Communications sector, July 2006.

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sioner Reding in a recent speech, Europe has moved to "a competitive environment where a large number of telecom service providers thrive. This is based to a good part on service-based competition but whenever possible we should increasingly seek more infrastructure-based competition which is sustainable in the long term"[28]. As an example, only in a few European countries cable holds a significant share of the broadband market, whereas DSL dominates the scene and 3G still offers a barely comparable customer experience.

In particular, in 2006 CEPS (2006) reported the following problems:

- *Market analyses are too resource-intensive and time-consuming for both NRAs and market players.* As acknowledged also by Commissioner Viviane Reding, defining at least 450 markets in a timely manner is not an easy task, and adds considerable complexity to the New Regulatory Framework (NRF).[29] Moreover, national regulatory authorities (NRAs) had to cope with new policy tools – partially borrowed from competition policy practice – and this might have slowed down the process even further. A cause of delay in the implementation of the NRF was also the suspensory effect of appeals procedures before national courts, which also deserve careful attention in the upcoming review.

- Other problems have emerged *as a result of the fact that the NRF has only partially adopted the tools of competition policy*. The equation between a finding of SMP (significant market power), *i.e.* dominance, and the application of regulatory remedies might be justified by the need to open up previous monopolies (e.g. by mandating access to incumbents' fixed networks), but is far less justified where no previous monopolies existed (e.g. in mobile termination). To be sure, with the migration to IP-based (internet protocol) networks, such a link will become weaker. In addition, concerns emerged on the *partial application of the 'three-criteria test'*. Uncertainty might emerge since the three-criteria test is to be considered as a gating mechanism to decide whether or not it is appropriate to carry out a market review in a specific sector or market. However, peculiar features of national markets may suggest the definition of relevant markets that are either narrower or (more likely) broader than those listed in the Recommendation. If the three-criteria test is applied only as an *ex ante* gating mechanism generally valid for the EU25, then regulatory intervention might end up being less precise than it would be with a full application of the three criteria.

- The 'ladder of investment' model adopted by most NRAs *still has to fully demonstrate its potential to promote investments and infrastructure-based competition in the EU25*. Recent empirical evidence – especially in some EU member states – is consistent with the ladder hypothesis, as it shows a decrease in resale accompanied by an increase of bitstream access and shared access in Europe. However, it is probably still too early to draw conclusions on the actual explanatory power of the investment ladder metaphor.

- *The treatment of emerging markets under the NRF led to regulatory uncertainty*. NRAs had limited guidance on how to identify emerging markets: the current approach leads to a short-circuit between the technology-neutrality principle and regulatory forbearance for new services, and the SSNIP test – currently recommended – seems far from appropriate, as it often leads to a denial that an emerging market is really separate from an already existing one.

- *The Article 7 procedure* was not responsible for the lengthy implementation of the NRF, but *might prove burdensome in the future*. Its scope should be clarified to make it more sustainable in the long term, and consistent with principles of better regulation.

28 Viviane Reding, SPEECH/06/697, 16 November 2006.

29 Recently, the European Commission announced that more than 500 market analyses had been analysed by member states.

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More recently, the 12th Report on the implementation of the 2002 framework concluded that the framework is working properly, but that in a number of areas a single market for e-communications services "is not attainable under the current framework", as the "full range of tools for ensuring consistent regulation across the single market is not currently available".[30] Such tool notably refer to spectrum policy, the possibility for the Commission to veto also remedies chosen by NRAs, but also the regulation of roaming prices, which was found to fall outside the reach of the 2002 framework due to its peculiar nature of cross-border service. The first two issues are being tackled in the ongoing review of the regulatory framework; whereas the third one was addressed by a specific regulation, which imposed pan-European wholesale and retail price caps.

1.2.2.2. The Ongoing Review of the 2002 Regulatory Framework

In 2006, the Commission decided to propose a substantial simplification of the list of relevant markets that are presumed to warrant *ex ante* regulation, by repealing most of the retail markets included in the 2003 Recommendation.[31] Other two markets, wholesale mobile origination (former market 15) and broadcasting transmission services (former market 18) have been subject to consultation, in order to assess the merit of retaining them in the list of markets warranting *ex ante* regulation. Another market, that for wholesale international roaming (former market 17), was dealt with separately by the Commission, which issued a proposal to regulate roaming charges at the retail and wholesale level and impose transparency obligations on mobile operators to the benefit of roaming customers.[32]

In addition, currently proposed changes include:

- *A more coordinated approach to spectrum policy*. 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[33]. 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%.[34] However, the future of

30 See 12th Report, *cit.*, at 19.

31 Markets warranting *ex ante* regulation are those that fulfil three basic criteria: a) existence of significant barriers to entry; b) absence of a tendency towards effective competition; and c) the insufficiency of competition law to address the market failure.

32 See the Commission's proposed regulation, COM(2006)382, 12 July 2006.

33 See SEC(2007) 409, 18 July 2007.

34 See the recent Commission proposal repealing Council Directive 87/372/EEC of 25 June 1987 on the frequency bands to be reserved for the coordinated introduction of public pan-European cellular digital land-based mobile communications in the Community (hereinafter GSM Directive), COM(2007)367 final, 25

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spectrum liberalisation in Europe is still uncertain, and the 'command and control' method of spectrum allocation will dominate the scene in most of the EU27 in the next few years. Some countries have taken action to liberalise uses of spectrum in certain bands, although the Commission's project to reach agreement with member states on a number of selected bands for wireless access services is currently stalled.[35] A notable example of progress in spectrum policy is the upcoming 'digital dividend' auction of spectrum for mobile television and wireless broadband in the UK, expected by late 2008.

- *Restrictions on appeals to NRA decisions*. The European Commission proposes to tackle the problem of routine suspension of regulatory decisions by amending the provisions of Article 4 – which reportedly slowed down the implementation of the 2002 framework in at least 17 of the formerly 25 member states – by laying down legal criteria, based on European case-law, that national courts "must use in deciding whether to suspend NRA decisions on appeal".[36] In particular, the Commission wishes to ensure that NRA decisions are suspended "only where irreparable harm to the appellant can be shown".

- *The extension of the Commission veto power under Article 7 of the Framework Directive* – currently covering only market analysis and SMP assessment – *also to remedies identified by NRAs*, in the attempt to achieve greater harmonisation in the implementation of EU rules in the 27 member states.[37] This proposal stems from the significant differences emerged in the first years of implementation of the framework as regards the remedies identified by NRAs in tackling similar problems. Such proposal, however, is fiercely opposed by some member states, and raised concerns as to the possibility of appealing the Commission's veto over remedies.

- *Updating the definition of universal service*. As technology advances, the definition of universal service, currently PSTN-based, may warrant a thorough reconsideration. The European Commission plans to issue a Green Paper on Universal Service by the end of 2007, where the possibility of defining universal service in a technology-neutral way and, when appropriate, extending it to "access to IP" will be addressed.

Interestingly, the Commission did not take any specific stance as regards the encouragement of investments in NGNs in its proposed review. This was motivated by the technologically neutral features embedded in the current framework, which allegedly make it perfectly fit to regulate also new technologies. However, many industry players and some national regulators disagree with the Commission's view. As a result, the issue of encouraging investments in all-IP networks is entirely dealt with at national level, with widely different approaches.

Some industry players – e.g. Deutsche Telekom – advocate for a 'regulatory forbearance' approach, similar to that adopted in the United States since 2003 to stimulate investments in FTTH, FTTC and DSL technologies.[38] However, Commissioner Reding has in several occasions clarified that regulatory forbearance for investments in New Generation Networks (NGNs) is "not a

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July 2007.

35 WAPECS project. On this, see the final report by the Radio Spectrum Policy Group, at http://rspg.groups.eu.int/doc/documents/meeting/rspg8/rspg_05_102.pdf.

36 Commission staff working document - Annex to the Communication from the Commission to the Council, the European Parliament, the European Economic and Social committee and the Committee of the Regions on the Review of the EU Regulatory Framework for electronic communications networks and services {COM(2006) 334 final}.

37 See Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on the review of the EU Regulatory Framework for electronic communications networks and services (SEC(2006) 816) (SEC(2006) 817), 29 June 2006.

38 See Renda (2007a).

EdamENG.indd 39 1/3/08 2:19:21 PM

policy option" for the review of the 2002 framework.[39] Other players, such as British Telecom, rejected this approach and chose to focus on the deployment of one core NGN and on access to such networks by alternative operators. This, in turn, led to a more extensive consideration of the incumbent's investments when determining access charges for new entrants.

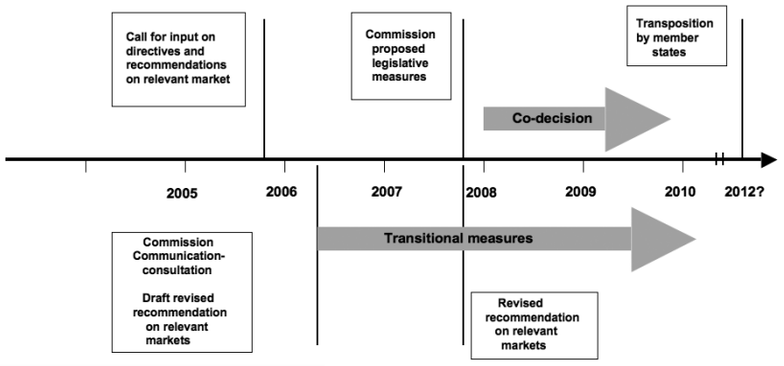
As a result, at least two extremely different regulatory approaches emerged in largest EU countries:

- The UK regulator Ofcom chose to initially rely on a single core NGN (the 21st Century Network being deployed by British Telecom) to be made available for access to all industry players. Ofcom has reached an agreement with BT, which imposes a comprehensive range of undertakings, under which BT commits not to foreclose network access, to ensure equivalence of inputs (EoI) between its downstream operations and competing players; and to make access available to all operators wishing to launch services at higher layers, with reasonable timing to allow for the simultaneous launch of competing products.
- In Germany, concerns have emerged that unbundling obligations could jeopardise the business case for Deutsche Telekom's new high-speed VDSL infrastructure – which currently covers 10 German metropolitan areas. As a result, the government recently approved a bill exempting Deutsche Telekom from mandatory unbundling of the new network, provided that the German incumbent proves that it offers innovative services, such as IPTV and VOD. Such move was heavily criticised by the European Commission, which reacted by starting a "fast track" infringement proceeding in February 2007.[40]

Of these two emerging models, the former seems to have been endorsed by the European Commission, which is currently working on including "functional separation" as a possible remedy available to NRAs under the EU regulatory framework.[41] In other large European countries – e.g., Italy and Sweden – the sectoral regulator has already declared that it intends to pursue vertical separation and equivalence of inputs along with the UK model.[42]

The new framework will be debated by the European Parliament and the Council from the end of 2007, as the Commission's final proposal is expected not earlier than October 2007. As a result, the implementation in member states is likely to be completed after 2010, which makes the revised regulatory framework a "post-Lisbon" piece of legislation, *i.e.* a set of rules that will govern EU telecoms after many important events such as the digital switchover and the migration towards Next Generation Networks. Figure 1-5 below shows the current timetable of the review.

Figure 1-5: Current timetable for the review of the 2002 framework



39 Viviane Reding, SPEECH/06/697, 16 November 2006.

40 See Press Release, Commission launches "fast track" infringement proceedings against Germany for "regulatory holidays" for Deutsche Telekom, 26 February 2007, IP/07/237.

41 Viviane Reding, SPEECH/06/697, *cit.*

42 See press release by the Chairman of the Italian NRA Agcom, Calabrò, 26 July 2007.

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1.3. Telecommunications Sector in Turkey

1.3.1. The Regulatory Regime in Turkey[43]

As was the case in Europe, until the 1990s the telecommunications services in Turkey was provided by the Post, Telegraph and Telephone (PTT) under the ministry responsible for communications. The legal basis was Law No. 406 on Telegraph and Telephony which was enacted in 1924, a year after the republic was formed. Liberalization of telecommunications equipment occurred early on in the 1980s, along with the privatization of equipment manufacturers that were subsidiaries of PTT. In 1994, through Law No. 4000, telecommunications services were separated from post and telegraph and Türk Telekomünikasyon AŞ (TTAŞ) was created as a joint stock company, as a step to prepare it for privatization. TTAŞ was granted exclusive rights for all telecom infrastructures, with the exception of mobile. The same law liberalized value added services and allowed the Ministry of Transport to issue licenses to private companies, provided that this would not lead to monopolies. In 1994 two companies started to provide mobile telephony services over the GSM 900 standard through revenue agreements with TTAŞ; these revenue agreements were turned into licenses in 1998. Hence in the mobile industry, there were elements of competition in the 1990s. In the fixed line segment, however, the main preoccupation of successive governments in the 1990s was to privatize TTAŞ, and it seems that not enough thought was given to issues of competition and access. Hence creating a legal framework that would encourage entry and competition was not on the political agenda. In any case, until 2005, these efforts to privatize TTAŞ proved unsuccessful.

The emergence of a regulatory framework for the telecommunications industry in Turkey started in the year 2000 when Law No. 4502[44] was adopted by the parliament.[45] Law No. 4502 was basically an amending law and it introduced changes to Law No. 406 and the Wireless Law (Law No. 2183, originally dated April 1983). First, it envisaged that the monopoly rights of the state owned incumbent, TTAŞ, would be terminated on December 31, 2003. As will become clear below, in the Turkish context termination of monopoly rights does not mean full liberalization, as new entry can still be prevented by a restrictive licensing regime. Second, it 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 or set tariffs, 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).[46] This law also introduced new rules on the ownership of TTAŞ.

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43 For reviews of the evolution of telecommunications industry in Turkey see Yılmaz (2000), OECD (2002), Başçı, Kandemir and Locksley (2003), Atiyas (2005), Burnham (2006).

44 "Law Amending Certain Articles of the Telegram and Telephone Law, Law on Organisation and Responsibilities of the Ministry of Transport and Wireless Law, Law on Savings and Aid Fund of the Posts Telegraphs and Telephone Administration and Organisational Charts attached to the Decree with the Force of Law on the General Cadrees and Procedures", Published in the Official Gazette, 29 January 2000.

45 A list of the main laws and secondary legislation regarding the telecommunications industry is provided in Annex 1.

46 "Law Amending Certain Articles of the Telegram and Telephone Law, Law on Savings and Aid Fund of the Posts Telegraphs and Telephone Administration and Law on Organisation and Responsibilities of the Ministry of Transport". An English text of both Law n. 4502 and n. 4673 is available at http://www.oib.gov.tr/telekom/telecom_law.htm.

EdamENG.indd 41 1/3/08 2:19:21 PM

Several factors have influenced the nature and pace of the evolution of the regulatory framework for telecommunications in Turkey. One important factor was timing. The original framework laid out in Law No. 4502 was quite inspired by the 1998 regulatory framework in the European Union and was broadly in line with the ONP provisions. It did not contain the "competition law" based logic of the new EU regulatory framework that was adopted in 2002 and launched in 2003. The secondary legislation put out by the TA has been increasingly modeled 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.

A second important factor was the prospect of privatization of TTAŞ. While at the surface privatization was expressed as a means to improve economic efficiency, in reality it was primarily driven by revenue considerations. Privatization revenues were seen as a means to reduce public debt and relax constraints on public spending. At the same time, governments also were anxious to avoid accusations that they sold public assets cheaply to private interest groups. When revenue considerations dominate the privatization process, then this creates a political incentive to derail the introduction of competition as competition reduces privatization revenues by reducing monopoly rents.

One additional important factor that has influenced the evolution of the regulatory framework was the perceptions of the regulator. At least during the initial years of liberalization the regulatory authority was weary of rapid liberalization. It was thought that a step-by-step approach to liberalization would allow the authority to step in cases of adverse developments, whereas rapid liberalization could lead to irreversibilities that would prevent timely intervention. These worries were not so much based on economic analysis but on stories of failures from experiences around the world. Initially there was a worry of excess or low quality entry, images of ill-informed consumers that would left unprotected in the market when inexperienced would go bankrupt (or worse disappear after making a quick buck). This world view seems to have changed substantially over the years when it has become clear that the industry is much more likely to suffer from insufficient competition rather than too much of it.

1.3.1.1. The Telecommunications Authority

The decision making body of the TA is the Telecommunications Board that consists of 7 members, including a Chairman and a Vice Chairman. The Chairman of the Board is also responsible for the general management and representation of the Authority. Board members are appointed for a period of 5 years and can only be dismissed before expiration of a term by the Council of Ministers for inability to work due to serious illness, professional misconduct or criminal offences.

Article 14 of Law 4502 (amending article 5 of Law No. 2813) sates that the TA is an "independent budget entity having public legal personality and administrative and financial autonomy". The TA has independent sources of finance, including frequency fees, pre-determined contributions from operators, any fines it levies on operators and revenues obtained through consultancy and training. In 2006 total revenues of the TA was about 850 million TRL (about 485 million €). Of this about 760 million YTL was transferred to the Treasury and about the operational budget of the TA was about 93 million YTL (53 million €).

When the TA was established, academic work on the law and economics of telecommunications regulation was almost non-existent, and these are still not highly developed fields in Turkey. Hence, contrary to many countries in Europe, the TA functions without a strong academic infrastructure that it can tap. When it was established, it was also seriously constrained in terms of human resources. Upon its formation about 350 civil servants from the former General Directorate of Radio-communication, most of who were frequency management experts with no background or expertise in regulatory issues, were transferred to the TA. Hence the regulator was stuck with

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an obligation to employ people not of its choosing. Indeed, the main source of fresh intellectual capacity of the TA was going to be young university graduates ("experts and deputy experts") that were going to be recruited over the years. The TA currently has over 500 staff. Of these, about 100 work on regulatory issues. There are 120 experts and deputy experts, all of whom are recruited through competitive exams. Experts and assistant experts constitute the main brain power of the TA.

The TA has three main kinds of instruments at its disposal to execute its regulatory intervention. Ordinances (or Regulations) come below laws in terms of legal hierarchy. Communiqués are at the second level of hierarchy and are often issued on the legal basis of Ordinances. At the lowest level of hierarchy are the decisions of the Board. Secondary legislation and Board decisions can be appealed at district administrative courts or the Council of State, the highest administrative court in Turkey. There has been a desire to make the Council of State the sole appeal body for the interventions of the Authority, because the Council of State is thought to be better able to develop the expertise that is needed to adjudicate in regulatory issues. This has not been accomplished yet.

1.3.1.2. Competition Law versus Sector Specific Regulation

In Turkey general competition policy is governed by Law No. 4054 on the Protection of Competition (enacted in 1994, Competition Law, for short). The critical articles of the Competition Law are modeled after Articles 81 and 82 of the Treaty Establishing European Community (with some differences). Hence Article 4 of the Competition Law prohibits agreements and concerted practices that restrict competition and Article 6 prohibits abuse of dominant position. Article 7 regulates mergers. The Competition Law is enforced by the Competition Authority (CA).[47]

The division of responsibilities between the TA and the CA is not clear cut. Article 7 of the Wireless Law (No. 2183, as amended by Law No. 4502, Art. 16) provides the TA with the authority to investigate anti-competitive practices in the telecommunications industry. It also states that the CA should take the TA's opinion into consideration before taking any decisions on the telecommunications industry. Hence effectively Turkey has a system of concurrent powers.

In 2002 the two authorities signed a protocol of cooperation. While the protocol did provide a workable set of rules in practice the dialogue between the two agencies has not been intense, and in certain cases, it has been confrontational. Over time, an equilibrium seems to have been reached whereby the CA does not investigate allegations of anti-competitive practice when the practice in question is in an area regulated by the TA. On the other hand, merger control in the industry is exercised by the CA.

The CA has had a number of important decisions in the telecommunications sector both in the mobile and fixed segments. Some of these decisions will be reviewed in section 1.3.2.6 below. In addition to the regular enforcement of anti-trust rules the CA has a second channel through which it has influenced the development of competition in the industry, namely through its oversight regarding privatization decisions. The basis of CA oversight is Communiqué issued by the Board of the CA in 1998 (No. 1998/4). The Communiqué allows the CA to intervene in two instances. First, tenders involving transactions with certain characteristics[48] require advance notification to the Board, upon which the Board issues its views about the tender. Then, once the tender is held, i) if there was an advance notification requirement, or ii) if the acquiring firm has a pre-merger market share of over 25% or turnover above TRL 25 trillion, then the transaction needs the approval of the CA. Hence at the pre-notification stage the CA performs an advocacy role, where after the

47 See OECD (2005) for a detailed analysis of competition law and policy in Turkey.

48 Namely, where the entity being privatized has a market share over 20%, has turnover over TRL 20 trillion, possesses a legal monopoly or enjoys statutory privileges not accorded to private firms in the relevant market.

EdamENG.indd 43 1/3/08 2:19:22 PM

sale it simply enforces the Competition Law. As discussed below, the oversight of the CA played an important role during the privatization of TTAŞ.

1.3.1.3. Authorization

The authorization regime in Turkey is governed by the Ordinance on the Authorization of Telecommunications Services and Infrastructure (Official Gazette, 26.08.2004, hereafter referred to as the Authorization Ordinance). The ordinance outlines a regime of individual licenses. The main text of the ordinance describes the different kinds of authorizations and the conditions through which hey are granted. The specific types of authorizations required for different types of services are described in individual annexes. Over the years several changes have been made to the Ordinance, most of which had to do with addition of new annexes to cover the authorization of new services. In its latest form (as of June 2007) the Ordinance prescribes the following types of authorizations:

- Operators where the state holds more than 50% ownership share are authorized through Authorization Agreements. This was originally designed for TTAŞ and its subsidiary in the mobile industry. Since the privatization of TTAŞ, authorization agreements have been replaced by concession agreements. Currently state owned satellite and cable TV company (Türksat) and the General Directorate of Coast Guard operate under an authorization agreement.

- Telecommunications services to be provided and/or telecommunications infrastructures to be built up or operated by a limited number of operators are authorized by a Concession Agreement if the services are provided on a national level and through a 1st Type Telecommunications License if they are provided on a regional or local basis. Both types of authorizations are to be provided through auctions. Currently TTAŞ and mobile operators are authorized through concession agreements. Broadband fixed wireless access services are to be authorized through 1st Type telecommunications licenses but no such licenses have been issued yet.

- 2nd Type Telecommunications License provides authorization for provision of services and operation of infrastructure that do not need to be provided through a limited number of operators. Long distance and international call services are authorized through 2nd Type Telecommunications Licenses (which are further divided into types A, B and C, as explained below. 2nd Type Telecommunications licenses have also been granted for satellite telecommunications services, satellite platform services, GMPCS mobile telephony services, directory services, telephone message services, data transmission services over terrestrial lines, PMR/PAMR services, infrastructure operation services and cable platform services.

- Finally, ISPs (both wired and wireless) are authorized through General Authorizations.

The licensing regime is the area which is most divergent from the EU regime. The Authorization Directive stipulates two types of authorizations: The first is rights of use, limited to cases where operators use a scarce resource such as frequencies, numbers, or rights of way. The second type is general authorizations, which should not require any explicit administrative decision or act, and where any procedural requirements are limited to notification only. In the case of Turkey, individual licenses are limited to narrowly defined services or activities. Because the boundaries of these activities are not always clear, the licensing regime adds to regulatory and legal uncertainty. In fact, the Council of State (the Turkish High Administrative Court) has recently cancelled the authorization of "cable platform services" on the grounds that it provides the operator with the opportunity to provide more than one service.

Another important difference between the Turkish and EU regime is that in Turkey "minimum fees" for different authorizations are determined by the Ministry of Transport. Further in the EU regime administrative charges are restricted to cover the administrative costs of the management,

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control and the enforcement of the authorization regime, whereas in the Turkish case there is no such stipulation. In fact, as discussed further in section 1.3.2.1 below, license fees are high in Turkey and act ostensibly as an instrument to screen entrants.

As of June 2007, there is no authorization yet for local telephone services ("fixed telecommunications services" in the Turkish parlance, which includes local calls as well as public phones and value added services). Hence competition for local calls is not yet legally possible.[49]

A draft Electronic Communications Law, which was presented to the parliament on October 2005, brings the licensing regime closer to that of the 2003 EU framework. However, this law has not yet been adopted. It had been discussed in the Parliamentary Committee and presented to the General Assembly for enactment. However, the government recently has withdrawn it from the General Assembly and returned to the Parliamentary Committee with no publicly stated reason.

It is without doubt that the Turkish licensing regime has acted as a constraint on new entry. At the same time, it suited the regulator's initial overly cautious approach to liberalization.

1.3.1.4. Access and Interconnection

The authority of the TA to impose access related obligations has been recognized in Law No. 406 (especially Art. 10, as amended by Law No. 4502). The TA has issued an Ordinance of Access and Interconnection first in May 2003; this has been replaced with a new Ordinance in June 2007 (see in section 1.4). The main logic of the current regime is similar to that in the EU. The TA does market analyses, on the basis of which it identifies markets susceptible to ex-ante regulation as well as operators with SMP. On the basis of this analysis it imposes obligations on operators. According to Art. 7 of the Ordinance, the TA can impose access obligations on SMP operators in case the operator does not allow access to other operators or requests unreasonable conditions and when the TA deems that this prevents competition or harms users. Article 8 states that SMP operators have interconnection obligations. The TA can impose interconnection obligations on any operator if that operator does not allow access to other operators or requests unreasonable conditions and when the TA deems that this prevents competition or harms users.

Other obligations that the TA can impose on SMP operators include:

- Non-discrimination (Art. 9)
- Transparency; including obligation to prepare sufficiently unbundled Reference Interconnection Offers. The TA may request changes in the RIO and the operator is obliged to follow them (Art. 10)
- Cost orientation; if the TA decides that interconnection tariffs are not cost-oriented, then it can directly determine these tariffs (Art. 11)
- Accounting separation and cost accounting (Art. 12)
- Carrier selection (Art. 15; this includes pre-selection as well).

By contrast, co-location and facility sharing obligations can be imposed on any operator (Articles 13 and 14, respectively).

Article 16/c states that operators that have interconnection obligations (which according to article 8 include all SMP operators) carry in any case non-discrimination, transparency and cost orientation obligations. Hence once the TA designates an operator as SMP as a result of market

49 It has been reported in the daily press that the TA has finally decided to go ahead with the authorization of local call services and is waiting fort he determination of minimum license fees by the Council of Ministers (July 30, 2007, http://turk.internet.com/haber/yazigoster.php3?yaziid=18772).

EdamENG.indd 45 1/3/08 2:19:23 PM

analysis (Art. 16/b), these operators are automatically imposed non-discrimination, transparency and cost orientation obligations. This represents a significant divergence from the EU regime, where obligations imposed on SMPs under in Articles 8-13 of the Access Directive have to be "proportional". This divergence arises mainly due to the Law No. 406, where article 10 states that all operators that have interconnection obligations have to meet such requests based on the principles of equity, non-discrimination, transparency and cost-orientation.[50] Accounting separation and cost accounting obligations, as well as carrier selection obligations are at the discretion of the TA.

In any case, the 2007 Ordinance contains significant changes relative to the 2003 Ordinance, and the changes bring the Turkish regime closer to the EU regime. First, in the 2003 Ordinance SMP operators had automatic cost accounting obligations. Further, in the 2003 Ordinance the TA had the authority to impose access obligations on any operator in situations where refusal to provide access or imposition of unreasonable terms was deemed to hinder the emergence of a competitive market, whereas now this is restricted to SMP operators. Finally, in the 2003 Ordinance, carrier selection could be imposed on any operator, whereas in the 2007 Ordinance this is limited to operators with SMP.

Operators are free to conclude interconnection agreements. In case an agreement cannot be a reached within 3 months, a party can request dispute resolution by the TK. In case the parties still fail to reach an agreement, the TK may impose the terms of an agreement. In the interim period, the TK can take temporary measures, including the determination of interconnection tariffs. (Art. 18).

The TA issued a Communiqué on Principles and Procedures Regarding Unbundled Access to the Local Loop (ULL) in July 2004. According to the Communiqué Türk Telekom has to meet all reasonable requests for full or shared access to the local loop, except when this would require building infrastructure for new access networks. The communiqué does not address bitstream access but states that the Authority may issue additional regulations for this. It also requires Türk Telekom to publish a reference unbundling offer. TTAŞ was to prepare an offer and present it to the TA within three months after the Communiqué took effect, subject to approval by the Authority. The TA had authority to make changes in the reference offer. The Communiqué was going to be effective on July 1, 2005. Developments in ULL and bitstream are discussed in more detail in the next section on Internet and Broadband.

1.3.1.5. Market Reviews and Identification of SMP Operators

The procedures for the designation of operators as having SMP have gone through some evolution in Turkey. The framework law of 4502 did not mention the term "operator with significant market power". It only mentioned the term "operator with dominant position" in Art. 6, where it was indicated that the TA had the authority to determine the upper limits and calculation methodologies of tariffs in cases where it determined that an operator was in dominant position in the related telecommunications service. The concept of SMP was introduced through subsequent secondary legislation, namely the Tariff Ordinance (2001) and the Ordinance on Access and Interconnection (2003). Following the latter, the TA issued two Communiqués (June 2003) to define dominance and SMP. "Significant market power" was defined as the power of an operator or group of operators to *influence* economic parameters such as the sale or purchase price of services that they sell to users or other operators, the quantity of demand or supply, market conditions, main telecommunications network components that are used to provide telecommunications services

50 Interestingly, Law No. 406 (as amended by Law No. 4502) doe snot contain the concept of "access" but only interconnection. The TA's Access Ordinance has been challenged on the grounds that the TA does not have the authority to impose access obligations since that is not mentioned in the law. However, the Council of State has rejected the case.

EdamENG.indd 46 1/3/08 2:19:23 PM

and access to users. By contrast, the term "dominance" was defined as the power of a single or multiple operators to *determine* economic parameters such as price, production and quantity of distribution. Hence dominance is a stronger concept, a dominant operator was also an operator with SMP but the reverse was not true. The confusion here again reflects both the lack of intellectual preparation of the Turkish authorities and the constraints the TA faced in being obliged to function in a framework law that did not reflect 2003 EU framework which the TA wanted to increasingly emulate.

In any case, based on the secondary legislation, in August 2003 the TA identified Turkcell as having SMP in the market for mobile services and both Turkcell and Telsim in the market for mobile call termination. In June 2004, Turkcell was designated as a dominant operator in the mobile communications market and in December 2004 as possessing SMP in the mobile call termination market. Telsim was no longer designated as having SMP.[51] These designations did not rely on any publicly available analysis of relevant markets.

In 2005, with a view to aligning to the prescriptions of Chapter 19 of the EU *acquis*, the TA launched a market analysis process. In the explanatory document entitled "The Concepts of Relevant Market and Significant Market Power" (March 2005, in Turkish)[52] the TA stated this would focus on the markets identified in the Recommendations of the European Commission and would engage the solicitation of the opinion of the public. The process ended in 2006. Note that, because Turkey has not yet started a formal process of transposition of the EU 2003 acquis for electronic communications, the TA is under no obligation to notify its market analysis decisions to the Commission.

By 2006, the results the following reports were published:[53]

- Access and call origination in mobile networks (December 2005)
- Call termination over mobile networks (December 2005)
- Call origination and transit services in the fixed network (February 2006)
- Wholesale call termination in the fixed network (February 20006)
- Market for access to the fixed network (February 2006)
- Relevant markets regarding call services over the fixed network (February 2006)
- Retail leased lines market and wholesale leased lines market (February 2006)
- Wholesale broadband access including bitstream (February 2006)
- Wholesale unbundled access market for broadband and voice, including bitstream (February 2006)

The analysis of the two remaining markets, the market for wholesale national market for international roaming on public mobile networks (n. 17) and broadcasting transmission services (n. 18), are being finalised by the Telecommunication Authority. [54]

While there is substantial overlap between the market definitions adopted by the TA and the

51 See TA "İlgili Piyasa Ve Etkin Piyasa Gücü Kavramları", March 2005, Ankara available at http://www.tk.gov.tr/srth/2005-R-0-1.pdf.

52 Ibid.

53 See http://www.tk.gov.tr/srth/piyasa-analizleri.htm

54 Frontier Economics (2007), *Country Analysis 2007*, A report for NATPII, January 2007, available online at http://www.natp2.org/midtermnews/Country%20analysis%202007.pdf (last visit: 29 July 2007).

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Commission recommendations, there are some divergences. For example, while in the European framework the relevant market for call termination over mobile networks are defined at the level of individual networks, the TA has treated this as a single market covering all operators.

Subsequent designations of SMP have been based on the market analyses. Hence in December 2005, after the analyses regarding mobile services were concluded, the TA issued a decision designating Turkcell as having SMP in the mobile access and call origination market, and Turkcell, Telsim and Avea as having SMP in the mobile call termination market. In another decision in February 2006 Türk Telekom was designated as having SMP in the relevant fixed markets.

Finally in January 2007, the TA issued a regulation on Rules and Procedures for the Designation of Operators with SMP. According to the regulation, the principles to be followed in market analysis are technological neutrality, transparency, non-discrimination and ensuring a competitive environment. Analysis of relevant markets identified by the TA is to be renewed at most every three years. The market analysis procedure entails identification of the relevant market, analysis of the degree of competition in the relevant market and identification of SMP operators. These principles are broadly in line with the EU approach. Art. 10 lists the following as obligations that can be imposed on operators with SMP: transparency, obligation to publish reference interconnection or access offers, non-discrimination, accounting separation, access, price control, and cost accounting. Art. 11 states that operators in the same market can be made subject to different obligations. Hence the regulation intended to clarify the legal framework for market analyses actually was issued after the market analysis exercise was completed.

Accounting separation and cost accounting were imposed on SMP operators in February 2004 with a transition period of two years, although the methodology to be used and the actual deadlines for implementing it are reportedly not clear.[55]

1.3.1.6. Retail Price Control

The control of retail tariffs is governed by the Tariff Ordinance (August 2001).[56] The Ordinance outlines procedures to be followed in the approval and auditing of telecom tariffs of operators with a monopoly or dominant position or those with significant market power. Note that the Ordinance provides the TA with the authority to "approve" rather than "set" tariffs. This is more restrictive authority than what was allowed in Law No. 4502 and reflected TA's desire not to be too intrusive. The distinction was barely noticed when the draft of the Ordinance was put out for discussion. It later became the legal basis through which TTAŞ challenged TA's decision that imposed on TTAŞ the obligation to provide bitstream access to ISPs (see section 1.3.2.4).

According to the Ordinance, the basic principles to be followed in tariff approvals include the following (Art. 6): tariffs need to be based on cost of efficient service provision, they should preclude both excessively high prices that may result from possession of SMP and large price discounts that may restrict competition. Tariffs also should be fair, should not discriminate among different users, and should not allow for cross-subsidization unless there is a justifiable reason.

The Ordinance stipulates two methodologies to approve tariffs (Art. 7): "cost of efficient service provision"[57], the "price-cap method applied to average prices of baskets of services". The cost of an efficient service provision is defined as the '*long-run incremental costs (LRIC) of providing these*

55 Frontier Economics (2007), cit.

56 The Ordinance was amended through an Ordinance to Amend the Tariff Ordinance (January 2007). The purpose of the change was to eliminate the definitions of dominance and SMP since these had become outdated.

57 That, in turn is defined as the sum of long run incremental cost plus that portion of common costs that can be attributed the service in question.

EdamENG.indd 48 1/3/08 2:19:23 PM

services plus an appropriate amount of volume-neutral common costs, both inclusive of an appropriate return on capital employed'. However, this requirement of LRIC modelling has not been implemented in practice since the Telecommunication Authority still needs to establish the exact cost modelling approach. All tariff approvals are currently based on international comparative analysis, but will soon become LRIC-based. The methods used for approval are determined for 2 years, the TA can extend that period for one more year.

The TA has made three determinations of retail price control since the issuance of the Ordinance ("price-cap communiqués", see Annex in section 1.4). In the first, issued in January 2002 and valid until end-2003, the TA imposed a price cap over two different service baskets: services provided over fixed lines, and, leased lines. With competition ahead, tariffs of Türk Telekom had to go through substantial rebalancing, it was thought that regulation through a price cap would provide Türk Telekom with the necessary flexibility. It was also stated in Article 4 of that communiqué that after January 1, 2003, leased line tariffs could be approved on the basis of the method of cost of efficient service provision and required TTAŞ to make the necessary preparation. In effect, cost-based regulation of leased line tariffs started in June 1, 2004 because TTAŞ was delayed making the necessary preparation in terms of cost accounting and accounting separation.

In the second determination at the end of 2003, the cap was revised and a single basket was defined but this time caps were introduced on individual products for which the TA deemed that insufficient rebalancing of tariffs had taken place. The basket included connection charges, transfer fees, monthly rental fee for PSTN, ISDN PA and ISDN BA services, and per minute charges for intra-city, inter-city international and internet calls. Of these, ISDN PA connection, transfer and monthly rental fees, international calls and internet calls have individual sub-caps.[58]

The most recent determination was made in January 2007 valid until the end of 2008. In this determination the service basket included 1) Relevant services in market of access to fixed telephone network: PSTN, ISDN BA, ISDN PA Connection, Transfer and Monthly Rental, and 2) Relevant services in the markets of call services across fixed network: Local, National, Internet, PSTN-GSM and International Call Services. ISDN PA Monthly Rental prices and local call prices were subject to individual caps.

In general, the caps used in these determinations are defined in terms of the rate of increase of the consumer price index minus a productivity actor. In the latest determination, the productivity factor was set at 3.3% for the basket and local calls, and at zero for ISDN Monthly rental prices.

Concession agreements granted to mobile operators also stipulate a price cap regime where caps are revised every six months by the regulator. Mobile operators are obliged to submit any tariff changes or proposals for new tariffs to the TA a week before publishing them. However, except for a brief period during a major macroeconomic crisis in 2001, the caps applied to mobile phone tariffs have not been binding in the sense that competition has driven prices well below the caps.

1.3.1.7. Universal Service

The design of the universal service regime is under the authority of the Ministry of Transport. The Universal Service Law was enacted in June 2005. Art. 3 of the law states that universal services will be provided at reasonable prices, taking into consideration the per capita gross domestic product of the country, and that measures will be taken to ensure that people with low income, disabled people and groups that need social support will be able to use universal services. Universal service policy will be conducted by the Ministry. The TA will be responsible for quality control.

The scope of universal service encompasses fixed telephone services, public phone services, printed or electronic directory services, emergency call services, basic internet services and passen-

58 These were international calls, dial-up charges for access to internet, and ISDN-PA leased lines.

EdamENG.indd 49 1/3/08 2:19:24 PM

ger transport services to places that can be reached only through sea transport and maritime emergency and security communications services. (Art. 4). Apparently the passenger transport services relate to two islands in the Aegean where private companies are not willing to provide services during the winter. Two additions were made later to this list by Council of Ministers decisions: i) services oriented to spread information technologies, including computer literacy so as to help the development of information society (February 2006), and ii) services regarding the provision of the digital broadcasting performed by the utilization of various broadcast media and technology via digital terrestrial transmitters to cover the entire settlements country-wide (April 2006)

The revenues of universal service consist of the following (Art. 6).

- 2% of the authorization fees collected by the TA
- 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 TA
- 20% of what remains in the budget of the TA budget after all expenditures are deducted

These percentages can be increased by up to 20% by the Council of Ministers. These revenues are collected in the public budget and allocated to the budget of the Ministry of Transport.

The net cost of universal service of an operator is to be calculated as the difference between net costs of the operator when the operator is under universal service obligations and the net costs if it were not under universal service obligations. However, in this evaluation, the benefits that the operator will receive because of providing universal service obligations will also be taken into account. (Art. 7) The method which will be used in the calculation of net cost will be determined by the Ministry of Transport. (Art. 8). Law No. 406 (as amended by Law No. 4052) had stipulated that Türk Telekom has universal service obligations. The new law on universal service has eliminated that stipulation. However Türk Telekom is still under universal service obligations as stated in the concession agreement signed with the TA.

In June 2006 the Ministry of Transport issued an Ordinance on Principles and Procedures for the Collection of Universal Service Revenues and Execution of Expenditures. The ordinance defines the funding mechanism for the universal service fund and also the procedure for compensating the costs incurred by the designated universal service providers.

Article 8 clarifies the mechanism for the designation of the universal service providers by the Ministry. First, the Ministry determines the relevant elements of the universal services and the specific locations where these services are to be provided. Then the providers of the universal services are designated on the basis of a tender procedure. In rural regions, where the cost of the service provision is high, the Ministry is also authorized to designate the providers of universal service on the basis of their market shares. In such cases, the designated providers have to "prove their costs" to be eligible for compensation from the universal service fund.

Article 10 explains the principles for calculating net costs of the universal service provision, based on the difference between the net costs of an operator when it provides universal service and those when it does not. The calculation of net costs will be based on long run incremental fixed and variable costs associated with the addition of each universal service component to the operator's existing services. This calculation includes an assessment of indirect benefits that the operator may obtain as a result of providing universal services.

Article 11 further provides that the Ministry may consider special measures for user groups with special social needs, low income or the disabled. In order to ensure that these groups can access universal services at affordable prices, the Ministry will determine the universal service pri-

EdamENG.indd 50 1/3/08 2:19:24 PM

ces based on cost information provided by the designated universal service provider. It can also determine prices directly, after obtaining an opinion of the TA.

The universal service legislation has not been applied yet. Hence, as of July 2007, only TTAŞ is designated as a universal service provider and there have been no further tenders to challenge that position. TTAŞ' designation as universal service provider is per article 10 of its concession agreement. Hence the current situation deviates from EU Directive on Universal Service which states that member states need to designate undertakings through an "efficient, objective, transparent and non-discriminatory designation mechanism, whereby no undertaking is a priori excluded from being designated" (Art. 8/2). Also, the increase in the scope of universal service executed by the Council of Ministers goes beyond the scope identified in the Universal Service Directive. Finally, as underlined by Akdemir et al. (2006), the fact that control over the universal service fund (USF) is allocated to the Ministry and there is no clear policy on what the fund can be used for puts further distance between the EU and the regime in Turkey. [59]

1.3.1.8. The Draft Electronic Communications Law

As mentioned above, a draft electronic communications law was presented to the parliament in October 2005. After being discussed in the relevant parliamentary committee and presented to the general assembly for enactment, it was recently withdrawn back to the committee. While the law presents a significant improvement over the current primary legislation, it still deviates from the EU framework in a number of important respects. The biggest improvement in the law is in the area of authorizations. The draft law prescribes two main types of authorizations: notifications and the granting of rights of use. If the notifying undertakings do not require allocation of resources (such as frequency), then the act of notification is sufficient for being authorized. In case the undertaking requests a resource, then the TA has to decide whether there is need to limit the number of undertakings. If there is no such need, then the TA issues a right of use within 30 days. In case a restriction is warranted and the activity requires a satellite position or national frequency band, then the start date of the service, the period of authorization and the number of operators are decided by the Ministry. Otherwise authorization procedures are carried out by the TA. In both cases, the TA implements procedures to ensure that resources are allocated efficiently through auctions.

In the area of access and interconnection, in terms of proximity to the EU framework, the draft law is actually behind the current secondary legislation (the 2007 Ordinance on Access and Interconnection) and needs to be revised. For example, the draft law stipulates that TA can impose access obligations on any operator (Art. 16) whereas in the Ordinance this is explicitly restricted to operators with SMP. In general, the Ordinance is closer to the EU Directives in terms of obligations that can be imposed on SMP and non-SMP operators.

1.3.1.9. Information Society Strategy and Action Plan

Turkey adopted an Information Society Strategy and Action Plan on June 28, 2006.[60] According to the Strategy, Turkey's process of transformation into an information society will be carried out around the following basic strategy priorities: Social Transformation; Adoption of ICT by Business; Citizen-centred Service Transformation; Modernization in Public Administration; A Globally Competitive ICT Sector; Competitive, Widespread and Affordable Communication Infrastructure and Services and Improvement of R&D and Innovation. The Strategy has an action plan with 111 actions under 7 strategic priorities. The Strategy will be the basic reference document for citizens, the public sector, the business world and the NGOs, in other words for all segments of the society.

59 For example, stakeholders have stated that a recent update of the Ministry's personal computer stock was financed by the USF.

60 See the document at http://www.bilgitoplumu.gov.tr.

EdamENG.indd 51 1/3/08 2:19:24 PM

Table 1-1 below shows the ambitious objectives pursued by the Strategy.

Table 1-1: The goals of Turkey's Information Society Strategy, 2006-2010

Social Transformation	**Current**	**2010**
Internet user penetration	14%	51%
Broadband subscriber penetration	2%	12,5%
Number of public internet access points	n.a	4,500
ICT adoption by business		
Enterprises having computer	87%	95%
Enterprises with broadband access	20%	70%
Citizen Oriented public service position		
Electronic public service provision	n.a	70%
Transactions realised electronically	n.a	33%
Provision on 20 basic public services of EU	53%	100%
User satisfaction	n.a	80%
Modernization of public management		
Electronic public procurement	n.a	90%
Savings on current expenditures	n.a	9%
Online back office services	n.a	100%
Positioning of Turkey in globally competitive IT sector		
IT sector in GDP	0,8%	2,2%
Exports (software and services) (million USD)	80	407
Competitive, widespread and affordable telecom infrastructure and services		
Broadband coverage	75%	95%
Cost of broadband to end-user/income per capita	5,4%	2%
R&D and innovation		
Share of R&D on GDP	0,8%	2%
Share of ICT R&D on total GDP	n.a	20%
Number of total researchers	28,964	40,000

Source: Developments in the Information Society: Turkey, presentation at the 1st European Summit: Observing the IT Society, Cakal, 2006.

As shown in the table, the goals set by the Turkish government are quite ambitious, and represent the will to "realize sustainable economic growth by increasing [Turkey's] global competitiveness and productivity as a result of the network effect, which will be created by constructing the relationship between and within the government, the citizens and the businesses based on the ICT".[61]

The expected impacts of such a comprehensive strategy include the following:

- An additional GNP growth of 2% annually, of which 1.4% will be through increased labour productivity and 0.6% through increased employment.
- Turkey's IT exports are targeted to increase to USD 400 million from its current level of USD 80 million, with an average annual growth rate of 38%.
- The domestic IT market is targeted to achieve an annual average growth rate of 24% and reach USD 9,160 million in 2010.
- Alleviating the tax burden on data and Internet services will enable expansion of communication services and increase productivity with a yearly 0.38% GDP growth rate as of 2010.

61 Information Society Strategy, July 2006, *cit.*, at 4-5.

EdamENG.indd 52 1/3/08 2:19:25 PM

- Monthly broadband access costs will be pulled down to 2% of per capita national income at the end of 2010, which is the average in OECD countries.

1.3.1.10. Beyond the Telecoms Framework

In this section, we briefly describe the alignment of Turkey's rules with the EU *acquis* beyond the 2002 regulatory framework for e-communications. As technological convergence is increasing the importance of rules on content, audiovisual services and data protection, these rules would dramatically impact the incentive to develop new products and services in Turkey in the years to come. In this respect, the 2006 EU Progress Report on Turkey highlighted that:

- *Audiovisual services.* "Turkey's alignment with the audiovisual *acquis* remains limited to some provisions concerning advertising and the protection of minors". The Turkish Law on the Establishment of Radio and Television broadcast reportedly creates problems in terms of definitions, jurisdiction, freedom of reception, major events, promotion of independent works and restrictions on the share of foreign capital in television enterprises. With regard to the administration of the broadcasting sector, the Radio and Television Higher Council (RTÜK) has so far not been able to reallocate frequencies and review the temporary licences effectively.
- *E-commerce.* "Turkey is not aligned with EU standards on electronic commerce and conditional services."
- *Cybercrime law.* "Legislation on cyber crime is not adopted".
- *Data protection*. "No law has been adopted so far. In April 2000, the government introduced a new bill proposing the establishment of a Council for the Security of National Information and its Duties within the Prime Minister's office. The Council was to address issues including data protection, encryption and security of information systems. The draft Bill was heavily criticized and was eventually dropped. Under the National Program for the Harmonization of Turkish Legislation with European Union Law, published in 2003, the Turkish Government has committed to harmonize its legislation. Accordingly, a Draft Law was adopted, which mainly follows EU Directive 95/46/EC.[62]"

As a result, relative to telecommunications per-se there seems a wider gap between Turkey and the EU on the framework that shapes the business environment for providers and users of e-communications services.

1.3.2. Overview of Market Evolution

Some data on the overall state of telecommunications markets in Turkey is provided in Table 1-2. Fixed line penetration ratio is about 26-27%, lower than the EU average of 45%. The mobile market has developed very fast in the last few years, but the penetration level (65 subscribers per 100 inhabitants in 2007) is still very low compared to Europe (an average of 103 subscribers per 100 inhabitants).[63] Internet and broadband penetration are also very low, though increasing.

Competition has existed in the mobile segment since the late 1990s and in the dial-up internet market. Competition has started to develop, albeit slowly, in fixed line domestic long distance and international calls. There is yet no ULL or bitstream, though the legal and regulatory infrastructure for these services has been put out.

62 The Draft Law is envisaged to govern issues such as the protection of personal data and fundamental rights and freedoms; recording and use of data within certain clear purposes in line with the rule of law; reliability and accuracy of data, its renewal and erasure when necessary; security of confidential personal data such as race, political opinion, religion, health, sexual life, and the right of persons regarding provision of information related to themselves.

63 European Commission, 12th Implementation Report.

EdamENG.indd 53 1/3/08 2:19:25 PM

Table 1-2: Basic telecommunications indicators for Turkey

	Main telephone lines (fixed lines) per 100 inhabitants	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
1990	12,0	0,1	0,5	..	..	0,0
1995	21,0	0,7	1,5	..	..	0,1
2000	27,0	23,6	3,7	0,0	2,2	3,7
2001	27,3	28,3	3,9	0,0	..	5,1
2002	26,9	33,2	4,3	0,0	..	6,1
2003	26,5	39,1	4,7	0,3	1,7	8,4
2004	26,5	48,1	5,1	0,8	2,1	14,2
2005	25,9	59,6	..	2,2	3,1	15,3

Source: ITU

There are no 3G/UMTS services yet. An auction for 4 UMTS licenses was set to take place in May 2007, but was cancelled. The Vice President of TK was quote as stating that the cancellation was due to the fact that there was insufficient interest in the tender. On June 16, 2007 the TA has announced that 4 licenses for IMT-2000/UMTS services and infrastructures will be awarded through auctions to be held on September 7, 2007. Only Turkcell participated in this tender and won one license on a bid of 311 million Euros plus VAT. The rest of the licenses were not sold.[64] The tender was eventually cancelled due to the insufficient number of bids.

1.3.2.1. Competition in Fixed Line Telephony

Entry into the fixed long distance and international call market is governed by three types of licenses: Type A is for operators which will use carrier pre-selection (CPS). Type B is for operators using carrier selection (CS) on a call-by-call basis. Finally, Type C license is reserved for operators providing service through a 10-digit access code (basically through calling cards). The fees for these licenses are quite high: there is a one-time fee of more than 200,000 € for type A, about 100,000 € for type B and about 50,000 € for type C licenses. In addition, each has an annual fee of 0.5% of annual sales or 1/15 of the one-time fee, whichever is higher. The fees were set high specifically as a measure to screen entrants.

The development of competition in the long distance call market has been extremely slow. The licenses were granted 4 months after the termination of monopoly rights of Türk Telekom.[65] However, these licenses could not become operational because it took a long time to conclude interconnection agreements with TTAŞ. Originally, TTAŞ was supposed to have completed technical preparations for Type B and Type A licenses by November 2004 and May 2005 respectively, but this never materialized. Operators holding Type B licenses, concluded first interconnection agreements with Türk Telekom in March 2006. Five operators holding Type A licenses (Superonline, Global Iletişim, Borusan Telekom, Koc.net and Dogan Telekom) were able to sign signed interconnection agreements with TTAŞ in July 2006. As of July 2007, there are 12 Type A, 13 Type B and 9 Type C licenses. In 2005, more than 50 operators had obtained licenses, but some exited and others merged.[66] Currently Type C licenses are fully operational; carrier selection and pre-selection services are provided on a very limited basis.

64 As of yet (September 10, 2007), it is not clear whether the fact that there was only one participant at the auction will generate legal problems.

65 A total of 27 licenses were granted at that time: 7 Type A, 13 type B and 11 Type C licenses.

66 Daily Referans, 29.11. 2006; interview with Doğan Telekom.

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The evolution of interconnection policy is revealing in this regard. The initial offers of TTAŞ were about 2.7 and 3.7 Eurocents/min for in-zone and out-zone areas, respectively.[67] Many operators refrained form signing agreements with Türk Telekom and applied for dispute resolution by the TA. In September 2004 the TA announced Standard Interconnection Reference Tariffs (SIRT). The Tariffs announced in the SIRT were not mandatory. However, it was understood that if operators failed to conclude interconnection agreements and apply to the TA for dispute resolution, the TA would impose the interconnection tariffs determined in the SIRT.[68]

The rates determined in the SIRT are listed in Table 1-3 below. For comparison, the table also lists the EU averages of call termination on the fixed incumbent's network taken from the European Commission's 12th Implementation Report, as well as more recent SIRT determinations of the TA. The table shows that the SIRT tariffs show a declining trend. In fact, initially there was a large gap between the tariffs determined by the TA and the EU average. This difference started to diminish substantially starting the end of 2006. The initial tariff for October-December 2004 was higher than not only the EU average of 2004, but even the Commission's recommended best practice in 1998 (which was 0.9-1.8 Eurocents for single transit and 1.5-2.6 Eurocents for double transit, see European Commission Implementation Report, 1998). High access charges imply lower profitability for new entry. Clearly the interconnection tariffs determined by the TA do not suggest that TA was in a hurry to introduce competition at the time. As will be discussed in more detail in the next section the attitude of the TA in the mobile industry was much more pro-competitive.

The market share of new entrants in fixed line call services is still very small, though increasing in international calls. In 2005-2006, about 50% of TTAŞ revenues are obtained from local calls, whereas the share of domestic long distance and international calls are 16 and 4.6%, respectively.[69] The revenue share of calls from TTAŞ to GSM operators is about 27%. New entrants' market share (in terms of call minutes) in long distance calls is still very low (about 5%). New entrants' share in outgoing international calls is about 14%, and that in incoming international calls has increased from 39% to 67% between 2005-2006. Another area where new long distance operators are having an impact is in calls from fixed line to GSM with a market share in terms of call minutes of 34% in 2006.

Table 1-3: Standard interconnection tariffs set by the Telecommunications Authority

Effective during	Call Origination and call termination on TTAS network				EU Average (*) Ykr/min	
	In-zone area		Out-zone area			
	Ykr/min	Eurocent/min	5,90	Eurocent/min	Single Transit	Double Transit
01.10.2004 - 31.12.2004	4,10	2,28	5,10	3,28	1,01	1,61
01.01.2005 -30.09.2005	3,40	1,89	3,70	2,83	0,94	1,39
01.10.2005 - 01.03.2007	2,00	1,11	3,00	2,06	0,86	1,25
01.03.2007-	1,89	1,05	3,00	1,67		

€1 = 1.8 YTL
Note: net of taxes
(*) Source: European Commission 12th Implementation report, Annex 2 (2006), Figure 22.

67 At the then current (September 2004) exchange rate of 1 Euro= 1,875,000 TL. In-zone versus out-zone access areas refer to the level at which physical interconnection is made in the network hierarchy. This two-way classification is different from the three-way classification used by the EU, namely local, single transit and double transit. As a rough approximation, in-zone area can be taken as being between the local and single transit switches, and out-zone area to a level between single and double transit.

68 The underlying interconnection charges are currently based on international benchmarks and margin analysis, but the TA is aiming to determine cost-based charges in the long term.

69 Data from Karabacak (2007), especially chapter 8.

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Karabacak (2007) reports that between 2003-2006 TTAŞ revenues from fixed call services have declined by about 45%, reversing an increasing trend since the 1960s. Several factors account for this, including significant reductions in tariffs that have occurred since the start of liberalization at the end of 2003. However, there are also signs that TTAŞ is increasingly facing competition from mobile operators. There is an almost 35% decline in domestic long distance call minutes, where as shown above the new long distance operators have made little inroad. The competitive threat in domestic long distance calls seems to be from the mobile operators.

The threat of entry has had a significant impact on long distance and international call charges. One important change occurred in the summer of 2004, when TTAŞ reduced its international cal tariffs by 50-70%. Table 1-4 provides data on fixed line call tariffs in comparison to EU averages. The table shows that monthly rental fees are lower than the EU average. Local calls and domestic long distance calls are close to EU averages in nominal terms, but higher when corrected for PPP. By contrast, international calls seem to be lower than the EU average in nominal terms, and close to EU average in PPP.

In the beginning of 2007, TTAŞ announced another radical change in tariffs, to be effective March 1, 2007. This time fixed monthly fees and local call tariffs were *increased* by about 23% and 18%, respectively, whereas tariffs of domestic long distance and international calls and calls to GSM operators were reduced by another 50-60%. The fact that TTAŞ reduced tariffs in the competitive segments and increased tariffs of calls where it still held effective monopoly position caused an outrage. The TA approved the tariffs. Again, there was no formal analysis to back the decision, but it was argued that TTAŞ had not increased local call charges for two years even though the inflation rate was above 10%.

Table 1-4: Fixed line call tariffs (Eurocents, 2006)

	Türk Telekom	Türk Telekom PPP	Turkey alternative operator	EU 25 Average
Standard Monthly Rental residentail users (incl. VAT)	5.8	10.4		14.3
Standard Monthly Rental business users (incl. VAT)	4.9			14.0
3 minute local call	10.9	19.4		13.1
10 minute locall call	36.0	64.3		36.5
3 minute domestic long distance call	29.8	53.2	25.2	25.0
10 minute domestic long distance call	90.0	160.7	80.0	73.9
10 minute international call to UK	1.3	2.3	1.0	2.3
10 minute international call to USA	1.3	2.3	1.0	2.1

Source: Cullen International (2007)
PPP factor for Turkey: 0.56

The Turkish Competitive Telco Operators Association (Telkoder) filed a petition against the TA decision approving the tariffs. The Council of State (the high administrative court of Turkey) issued an injunction against the TA decision.

1.3.2.2. Privatization of Türk Telekom

Attempts to privatize TTAŞ started in the 1990s. Law No. 4000 (dated 1994), which separated telecommunications services from the Ministry and established TTAŞ as a joint stock company gave the Ministry the authority to determine rules and procedures to sell 49% of the company's shares. The constitutional court struck down the articles related to privatization on the ground that privatization had to be done not through a ministerial decision but through a law. Another attempt in 1995 was also struck down in by the Constitutional Court on the grounds that the authority to determine the tender conditions for the sale of Türk Telekom could not be delegated to an administrative agency (in this case the High Council of Privatization) and that these also

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needed to be determined by law.[70] Several articles of the Privatization Law (1994) were also cancelled by the Constitutional Court during those years on similar grounds. The legal basis for the privatization of Türk Telekom was finally completed through amendments to the Privatization Law and the enactment of Law No. 4161 (in 1996). Accordingly, 51% of TTAŞ were to remain in government hands, 20% was to be sold as a block to a consortium of strategic investors, 14% to be floated on stock markets and 5% to be sold to employees and 10% to be transferred to the postal administration. A tender was held in 2000 with no success. Then, Law No. 4673 was enacted in 2001 this time stipulating that 1% golden share would be retained by the Treasury, employees would be entitled to 5% share and the rest would be available for block sale or IPOs. This law stipulated a 45% limit on foreign ownership. This limit was later removed through Law No. 5189 in adopted in June 2004.

Finally a tender was held in July 2005, and Oger Telecom, a subsidiary of TTAŞ purchased 55% of the shares of TTAŞ. Telecom Italia was a junior partner in the winning consortium; however, they sold their shares in TTAŞ and Avea in 2006.

TTAŞ now operates under a 25-year concession agreement with the TA. A potentially problematic aspect of the concession agreement is related to what happens upon the termination of the contract. According to the agreement, TTAŞ may request from the TA the renewal of the contract. There are no guidelines on how the TA is supposed to decide on whether to renew the contract or not. If the contract is not renewed, then the contract specifies that TTAŞ' infrastructure is to be handed over to the TA or to an institution identified by the TA. This clause introduces significant uncertainty and is likely to fundamentally affect TTAŞ' investment incentives during the final years of the contract.[71] Similar clauses exist in the concession agreements of the mobile operators.

1.3.2.3. Developments in Mobile Communications[72]

The Turkish mobile telecommunications industry consists of three GSM (900) operators, Turkcell, Vodafone (formerly Telsim) and Avea. The industry was launched in 1994 when Turkcell and Telsim entered the market signed through revenue sharing agreements with TTAŞ. Remarkably, and in contrast to many European countries, the authorities did not push the incumbent fixed operator into this market and both Turkcell and Telsim belonged to private industrial/financial groups. The founding partners of Turkcell were Sonem Holding (currently Telia Sonera), a leading Finnish telecommunications company and Çukurova group, the third largest conglomerate in Turkey, which was active in a wide range of industries, in particular the banking sector. Telsim was a partnership between Rumeli Holding, a Turkish group owned by the Uzan family, active in a variety of sectors including energy and banking.

In 1998 the two operators were granted concession agreements (each costing 500 million USD). 1998 can be treated as the year of introduction of true competition in the industry for two reasons. First, under the revenue agreements, the two operators did not have control over retail tariffs which were controlled by TTAŞ. Under the concession agreement tariffs were under the control of operators themselves (subject to caps). Second, the licenses made the operators the residual claimants of profits, thereby providing much stronger incentives for investment and network rollout.

Data in Table 1-5, obtained from ITU World Telecommunications Indicators shows the substantial reduction in 3-minute call charges from over 1 USD in 1997 to about 60 cents in 1998.

70 See Atiyas and Oder (2007) for details on the evolution of privatization policy n Turkey.

71 This uncertainty is partly reduced by the concession regime in Turkey. The Concession Law of 1910 has some provisions that would allow the contractor to recuperate the cost of investments under certain conditions.

72 This section draws heavily from Atiyas and Doğan (2007)

EdamENG.indd 57 1/3/08 2:19:27 PM

According to data in a competition inquiry carried out during that period Turkcell investment increased from 136 million USD in 1996 to over 1 billion in 2000.[73]

Table 1-5: Indicators for the mobile industry

	Coverage of population (%)	Mobile cellular telephone subscribers - (Total, 1000)	Mobile cellular telephone subscribers per 100 inhabitants	Revenue from mobile communication (1000 US$)	Revenue per subscriber	Mobile cellular connection charge (US$)	Mobile cellular monthly subscription (US$)	Mobile cellular - price of 3-minute local call (peak - US$)
1994	..	175	0.3	60,590	347	338	6.8	0.9
1995	..	437	0.7	142,763	327	262	5.5	1.0
1996	..	806	1.3	302,181	375	184	6.1	1.1
1997	..	1,610	2.5	621,506	386	153	12.3	1.5
1998	50.2	3,506	5.3	416,985	119	..	5.8	0.6
1999	..	8,122	12.1	2,303,847	284	29	4.8	0.5
2000	50.2	16,133	23.6	3,484,559	216	NA	3.4	0.6
2001	87.5	19,573	28.3	2,819,831	144	NA	2.9	0.6
2002	88.2	23,323	33.2	2,816,250	121	NA	0.0	0.5
2003	95.0	27,888	39.1	3,655,993	131	NA	NA	0.6
2004	95.0	34,708	48.1	4,764,767	137	NA	NA	NA
2005	96.3	43,609	59.6	6,418,805	147	NA	NA	NA

Source: ITU

The authorities decided to issue three additional GSM licenses in 2000. Two of the licenses were going to be sold through competitive tenders and one license was going to be given to Türk Telekom which would finally establish a subsidiary to operate in the mobile market. In the event, the authorities were able to sell only two additional licenses.[74] The first license was bought at 2.5 billion USD by Is-TIM, a consortium consisting of TIM, the mobile subsidiary of Telecom Italia, and Is Bank, a private bank in Turkey. The third license was bought by Türk Telekom at the same price as paid by Is-TIM. Is-Tim started operations in March 2001 under the brand name Aria. Türk Telekom's subsidiary, Aycell, started operations in December 2001. In 2003 Aria and Aycell were merged to form Avea. In 2005 Telsim was bought by Vodafone.

As can be seen from Table 1-5, mobile penetration increased significantly after new entry, from about 28% in 2001 to 60% in 2006. One can also note the decline in revenue per subscriber from over 200 USD to below 150 USD, possibly a reflection of new entry as well. Table 1-6 shows the evolution of operators' market share in Turkey before and after new entry. The table shows that Turkcell instituted dominance in the market right from the start, and new entry did very little to break that dominance. This is especially interesting since the authorities' approach to competition in the mobile industry has been much more aggressive than their stance in the fixed line segments. As discussed below, this was evident in their approach both to national roaming and interconnection. Despite this more aggressive approach, however, the mobile industry is still highly concentrated.

73 Quoted in Atiyas and Doğan, 2007.

74 The failure to sell the third licenses has been attributed to bad auction design. See Atiyas and Doğan (2007) for details.

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Table 1-6: Mobile operators' market shares

Mobile Operators	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Turkcell	78.0	68.0	80.0	76.9	68.5	69.2	69.0	67.0	67.3	67.9	67.0	63.0
Telsim	22.0	32.0	20.0	23.1	31.5	30.8	31.0	29.2	25.4	19.6	19.0	20.5
Aria	--	--	--	--	--	--	--	2.7	5.1	--	--	--
Aycell	--	--	--	--	--	--	--	1.1	2.1	--	--	--
Avea	--	--	--	--	--	--	--	--	--	12.5	14.0	16.5

Source: Atiyas and Doğan (2007) Table 2

As discussed in more detail in Atiyas and Doğan (2007) the answer lies in the fact that the mobile industry exhibits significant first mover advantages that arise from asymmetric subscriber bases. Further two important characteristics of the industry, namely network externalities and switching costs further reinforce these first mover advantages. The authorities had a number of instruments to reduce these first mover advantages: roaming policy, the interconnection regime and number portability. The Turkish authorities tried to implement roaming policy but the incumbents were able to render this policy ineffective through legal challenges. TA's interconnection policy, especially in comparison to that in the fixed line market were more favorable to new entrants, but the entrants did not make good use of it. Finally, number portability was never implemented during this period; the Ordinance on Number Portability was only issued in 2007 and as of September 2007, it is not yet operational. These issues are discussed in more detail below.

The importance of first mover advantage was already apparent during the early years of the industry. Turkcell entered a few months earlier than Telsim. In addition, Telsim's activities were suspended between November 1995 and July 1996, further constraining its growth. Turkcell established an initial lead that Telsim was never able to fully catch up with. Before new entry, Turkcell's market share was about 70%. In turn, the fact that the authorities waited for 7 years before issuing new licenses put the new entrants at a serious disadvantage. Table 1-6 shows that Turkcell's market share did drop somewhat after new entry. Telsim's loss of market share to new entrants was larger. In any case, after 4 years of entry, the new entrants' market share was still below 20%.

One important problem that new entrants face after delayed entry is that incumbents have a significant advantage due to already established coverage. With no or very low coverage initially, it is difficult for new entrants to attract subscribers until they also roll out their network. Aware of this problem, the Turkish authorities tried to implement mandatory national roaming was already mentioned in article 6 of Law No. 4502 which stated "mobile telecommunication, data operators or operators of other services and infrastructure as determined by the Authority are also required to satisfy reasonable, economically proportionate and technically feasible roaming requests of other operators". In 2000 the TA issued Principles and Procedures to be followed in Mediations regarding Disagreements on National Roaming, and in 2002 the Ordinance on Principles and Procedures for Making Roaming Agreements. Those provided the legal basis on which the TA would intervene to enforce mandatory roaming. The policy was that the parties would first try to reach an agreement among themselves. If that failed, and if there was a request for dispute resolution, the TA would intervene with the authority to impose the terms of an agreement.

When the incumbents and new entrants could not conclude roaming agreements, the TA did intervene and determine the terms of an agreement in November 2001. The incumbents applied both to the civil court and the administrative court and were able to obtain injunctions against the decision of the TA. They also applied to the for international arbitration at the International Chamber of Commerce's (ICC) International Court of Arbitration with the request that Turkcell had no obligation to sign a roaming agreement with the terms and conditions determined by the TA.

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Mandatory roaming would only have been effective if it was implemented without much delay, because the concession agreements of the new entrants required them to reach a coverage of 50% in 3 years and 90% in 5 years. Hence the delays caused by the legal challenges were really sufficient to render the policy ineffective. In 2003 Is-TIM also filed a lawsuit at the ICC for damages against the TA on the grounds that promised roaming policy was not made available. Finally, the deadlock was broken when in a meting between the Italian and Turkish prime ministers it was decided that Is-TIM would merge with Aycell.

Another problem that new entrants may face has to do with the existence of network externalities. In countries where the "calling party pays" principle holds, the cost of a call that terminates on a rival's network (off-net calls) depends on the mobile termination charge that a mobile operator pays to its rival. When that charge is high, the perceived cost of an off-net call is higher than a call terminating on the operator's own network, even though the physical cost of the two calls is not very different. That may create a wedge between on-net and off-net retail tariffs. That, in turn, makes an operator with a larger subscriber base more attractive to potential customers, since in a larger network, it is likely that a higher proportion of a subscriber's call will be on-net. This is called a "tariff-mediated network externality" and further exacerbates the first mover advantage of incumbents. Regulators may try to counter this externality through their interconnection policy, that is, by regulating mobile termination rates.

Just before Aria entered the market in March 2001, the two incumbent mobile operators renewed their interconnection agreement and increased charges for terminating calls from 1.4 US cents/min to 20 US cents/min. The new entrants also signed interconnection agreements at 20 US cents/min, even though that meant that their off-net calls would be high and would thus create a unfavorable network externality. They could have requested for lower termination charges or seek dispute resolution from the TA, but they chose not to do so, apparently expecting that high termination charges would yield high revenues from incoming calls, and apparently disregarding the fact that they would have difficulties attracting subscribers in the first place.

These interconnection agreements lasted until 2003, when the Access and Interconnection Ordinance came into effect and which required that existing agreements be revised in light of the ordinance. This time the parties failed to reach an agreement. The TA intervened and in September 2003 determined interconnection charges, setting termination charges for calls terminating at Aria and Aycell networks at 233,750 TL/min, which, at the prevailing exchange rate was about 14 Eurocents/min. Termination charges for calls terminating at Turkcell and Telsim networks were set at 178,750 TL, or about 11 Eurocents/min. In the European Union, in July 2003 the weighted average of mobile termination charges was 13.7 eurocents/min for SMP operators, and about 16.4 eurocents/min for non-SMP operators. Hence the termination charges determined in Turkey were a bit lower than the weighted average in the EU.

Later, in October 2004 the TA issued the SIRT. The SIRT is important because it can be taken to reflect the overall stance of the TA regarding the development of competition. The determinations in successive SIRTs are given in Table 1-7. What the Table shows is that the determinations for mobile termination rates are significantly lower than the EU averages found in the 2006 Implementation Report. Compared with the data in Table 1-3, it would be safe to conclude that the TA's stance in the mobile markets was more in favour of new entrants than in the fixed markets. There is one more conclusion that can be drawn from these comparisons: In Turkey, the wedge between charges for call termination on the fixed network and those for call termination on mobile networks is smaller than in Europe. Hence overall, it can be said between the fixed incumbent and the mobile industry, the TA has been more favourable towards the former.

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Table 1-7: Mobile call termination charges: SIRT vs. EU average

Standard Interconnection Reference Tariffs				EU Average (*)	
Effective during	**Imposed on**	**Ykr/min**	**Eurocent/min**	**SMP**	**date**
01.10.2004 - 31.12.2004	SMP operators	15.60	8.67	14.58	July 2004
01.01.2005 -30.09.2005	SMP operators	14.80	8.22	12.53	October 2005
01.10.2005 - 01.03.2007	SMP operators	14.00	7.78	11.40	October 2006
01.03.2007-	Turkcell	14.00	7.78	NA	
	Vodafone	15.20	8.44		
	Avea	17.50	9.72		

1 Euro = 1.8 YTL
(*) Source: European Commission, 12th Implementation Report 2006

The initial interconnection agreements significantly constrained the competitiveness of new entrants. Just before new entry occurred, Turkcell introduced a new tariff package significantly reducing the tariffs for on-net calls and increasing those on off-net calls. The existence of significantly asymmetric subscriber bases meant that consumers would compare entrants' off-net tariffs with those of incumbents' on-net tariffs. The entrants' off-net tariffs were constrained below by the high termination rates. Aria responded to this situation initially by offering tariffs that did not discriminate between on-net and off-net, but overall, Aria's off-net prices were significantly higher than Turkcell's on-net prices. This constrained Aria/Avea's ability to capture market share.

Finally, a few words can be said on the level of retail prices. It is notoriously difficult to compare prices because of the variety of packages. Atiyas and Doğan report that tariffs in the Turkish mobile industry are relatively high. According to data in OECD (2005) on a PPP basis, Turkcell tariffs were among the highest in Europe in 2004. A similar message comes from the comparison against European operators. Data on mobile tariffs presented in Cullen International (2007, see figures 42-44) are nominal. But with a PPP factor of 0.56 (see Table 1-4) PPP adjusted tariffs would be above the median values in EU.

More recent data are provided in Table 1-8, taken from the OECD Communications Outlook 2007. The table shows that among OECD countries, Turkey has the fifth most expensive charges for OECD low usage mobile call basket and the most expensive for the high usage basket.[75]

1.3.2.4. Internet and Broadband

There are currently 73 ISPs operating in Turkey. Private ISPs have been operating since the second half of the 1990s, and Türk Telekom's internet subsidiary, TTNet, was launched in 1998. TTNet both operated the internet backbone and provides internet access services to end users. TTNet was legally separated from Türk Telekom and established as a joint stock company on April 26, 2006. This was a condition put forward by the Competition Authority for the approval of the privatization of Türk Telekom.

According to ITU data in 2005 there were 3.1 internet subscribers and 15.3 internet users per 100 inhabitants in Turkey. Cullen International (2007) reports 18.1 internet users per 100 inhabitants and 75 internet users per 100 households. The number of internet users in Turkey is much lower than the EU average of close to 40 per 100 inhabitants. According to the most updated OECD statistics, the Internet access rate is higher, at 19%, in urban areas, while in rural areas it's stuck at 6 %. Meanwhile, 19% of men use the Internet as opposed to only 9% of women.

The market for dial-up internet services has traditionally been more or less competitive in Turkey. However, recent data suggests that this may be changing. Cullen International (2007, Figure 73) suggest that the share of TTNet has increased from about 50% in 2004 to over 80% in 2006.

75 Another important problem in the mobile industry is the very high taxes, discussed in section 3.7.

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Table 1-8: OECD basket of mobile telephone charges (2005, USD PPP)

Country, Service	Low usage	Medium usage	High usage
Denmark, TDC Mobil	68.82	89.16	184.39
Sweden, Tele 2 Comviq	87.92	184.70	319.07
Finland, Elisa	99.89	177.91	296.79
Norway, Telenor	111.20	219.21	386.77
Luxembourg, Tango	112.84	216.33	400.14
Netherlands, Vodafone	119.63	187.99	341.80
Germany, T-Mobile	123.55	411.43	703.18
Iceland, Siminn	142.61	335.96	580.99
Switzerland, Sunrise	145.11	369.24	496.18
UK, T-Mobile	170.53	392.61	490.76
Belgium, Mobistar	175.51	437.56	651.47
Canada, Rogers	177.14	474.95	513.59
Portugal, Vodafone	178.44	471.49	891.74
USA, Cingular	190.31	629.04	636.92
Austria, Mobilkom	193.43	379.32	640.38
Ireland, Vodafone	202.95	390.22	552.50
Poland, Orange	209.79	414.37	845.22
New Zealand, Vodafone	221.38	441.97	655.23
Korea, SK Telecom	225.62	328.43	548.63
Hungary, Pannon	230.48	491.66	641.10
Italy, Vodafone	233.39	576.57	797.98
France, SFR	239.68	409.86	619.70
Australia, Optus	243.57	426.73	815.83
Slovak Republic, Orange	255.40	504.70	951.35
Spain, MoviStar	258.02	525.13	999.81
Turkey, Telsim	280.31	635.07	1 165.94
Greece, Cosmote	302.47	451.36	680.63
Czech Republic, O2	302.98	673.37	1 066.33
Mexico, Telcel	309.30	434.01	727.71
Japan, KDDI au	319.71	574.33	888.90
OECD average	197.73	408.49	649.70

Source: OECD (2007)

According to OECD broadband statistics[76], as of December 2006, Turkey, with a total of 3.8 subscribers per 100 inhabitants, ranks 29th among 30 OECD countries. The only country with a lower broadband penetration rate is Mexico (3.8). The OECD average was 16.9 and the EU15 average was 18.6 subscribers per 100 inhabitants. The share of the incumbent is over 99%. Private entry so far is in the form of pure resale.

TTAŞ started to provide ADSL access in 2003, as the sole provider of that service. In February 2004 the TA instituted a resale arrangement for a small portion of the ADSL ports installed by TTAŞ (with a margin allowed to resellers of 18%), but this attracted little enthusiasm from private ISPs. In October 2004, the TA Board decided to launch bitstream access and adopted a decision on bitstream access. Türk Telekom was providing two types of retail ADSL products: those whose tariffs depended on the amount of usage and those that did not. Usage-dependant tariffs were lower provided that subscribers' monthly downloads were below pre-specified amounts (3 GB and 5 GB). Bitstream access provided to ISPs was priced on a retail-minus basis and allowed a margin of 40-50% for ISPs relative to TTAŞ' non-usage-dependent retail products. However, margins relative to usage dependant retail products were lower. The initial reaction of the ADSL community was that based on these margins, it was impossible to compete with TTAŞ' usage-dependant products.

76 Available at http://www.oecd.org/sti/ict/broadband.

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In any case, TTAŞ challenged the TA decision and the decision was struck down by an administrative court on the grounds that the TA had authority to approve tariffs offered by TTAŞ, but not to dictate tariffs.

In July 2005 TTAŞ made a new tariff offer for bitstream access. This time the margin between TTAŞ non-usage-dependant retail ADSL tariffs and bitstream access tariffs allowed margins of about 30-35% to ISPs, again relative to non-usage-based TTAŞ retail tariffs. Pure resale was still available at an 18% margin. The ISP response to that offer was again that while the offer allowed competition in non-usage-based ADSL products, the allowed margin against TTAŞ usage-based products was still negative.[77] Moreover, the ISPs also complained that the problem of bitstream access was not dealt with in a comprehensive manner; there were many non-tariff issues that needed to be settled to make bitstream access feasible. One ISP applied to the TA for dispute resolution in May 2006 which was concluded in an agreement in February 2007. As of July 2007, this is the only bitstream agreement available in the industry.

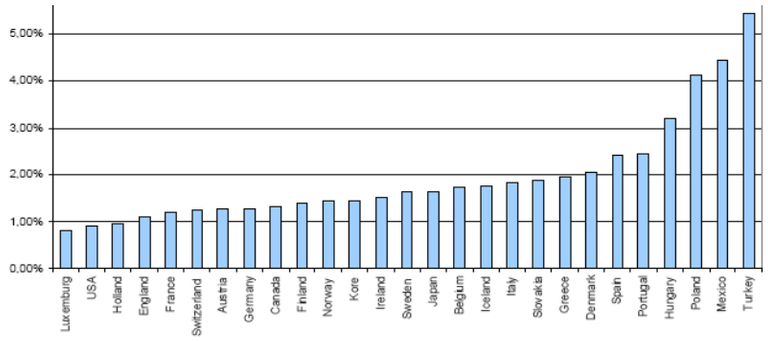
These problems seems to have pushed the TA to take a more structured approach to the issue of wholesale broadband access and in March 2007 the TA requested from TTAŞ to prepare reference offers for wholesale broadband products. In June 2007 TTAŞ came up with draft reference offers both for resale and bitstream ADSL and the TA has initiated a public consultation process on these offers.

In the meantime, TTAŞ' draft reference unbundling offer was put up for consultation on December 2005 and finalized in November 2006. Two ISPs, Netone and Superonline, signed LLU agreements with TTAŞ in May 2007.[78] As of July 2007, there is no service provision yet through bitstream or ULL.

The initial intent of the TA was somewhat in line with the "ladder of investment" approach (ERG, 2005, Cave, 2006). One of the findings of the "Broadband Competition Report" ERG (2005) is that there is a migration by new entrants from pure resale to bitstream access, and unbundled access, suggesting that entrants are moving "up" the investment ladder, from those steps with lowest investment to those with higher investment. The TA wanted to take quick action on pure resale and bitstream and have especially bitstream readily available to ISPs even before TTAŞ' reference unbundling offer would be ready. However, TTAŞ success in challenging the TA decisions, as well as TA's initial tendency to see bitstream purely as a matter of pricing seems to have delayed bitstream from becoming a commercial reality.

Broadband services in Turkey are expensive. In 2005, Turkey had the highest ratio of broadband access costs to average per capita income among OECD countries.

Figure 1-6: Ratio of broadband access costs to average per capita income, 2005



Source: OECD Communications outlook 2005

77 See http://turk.internet.com/haber/yaziyaz.php3?yaziid=13460

78 http://turk.internet.com/haber/yazigoster.php3?yaziid=18324

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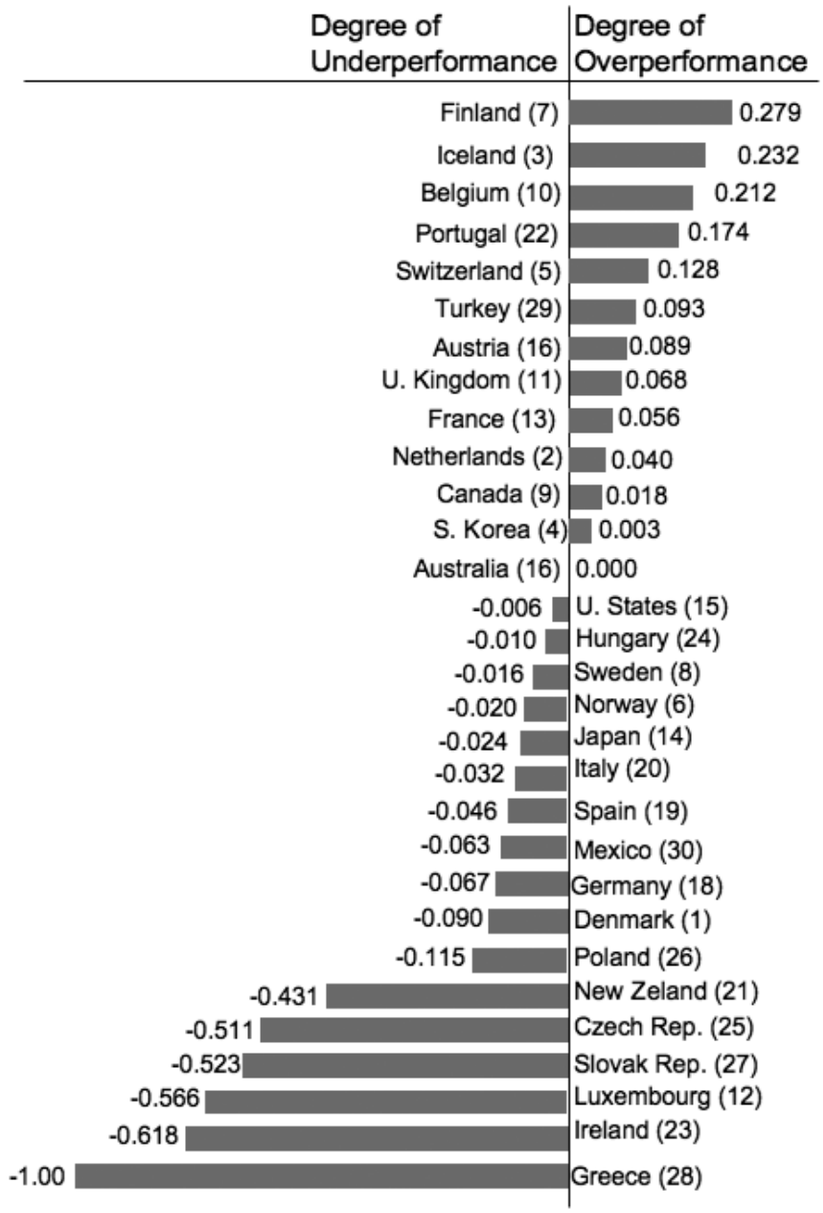
The relative underdevelopment of broadband in Turkey is certainly not surprising, given that the Turkish economy still exhibits a significant margin for development. At the other extreme, some authors have observed that broadband performs relatively well in Turkey. The Broadband Performance Index developed by Ford, Koutsky and Spiwak (2007) ranks countries through a regression based on a number of variables, which include expectations, price levels, GDP per capita, level of education, income inequality, the percent of the population living in the country's largest city, the number of telephones (landline and mobile) per 100 persons, etc.

As shown in Figure 1-7 below, Turkey ranks fifth in terms of performance relative to all the abovementioned variables. In this respect, it is the country that exhibits the starkest difference between the OECD ranking and the BPI ranking.

Figure 1-7: Turkey in the Broadband Performance index, at December 2006



Source: Ford, Koutsky and Spiwak (2007) on OECD data

As regards advanced services, Turkey has experienced the introduction of double-play packages on the market. Prices of these services are still quite high, as shown in Table 1-9.

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Table 1-9: Double play prices (voice and data) in OECD Countries, USD, September 2005

Company	Type	Country	Price USD (PPP)	Price USD	Down (kbits/s)	Bit Cap (MB)
Arcor	ADSL	Germany	48.23	54.98	6000	
Og Vodafone	ADSL	Iceland	49.89	80.33	6000	2000
Dial Telecom	ADSL	Slovak Rep.	50.44	29.76	512	
T-Com	ADSL	Germany	54.66	62.31	6016	
Hanaro	ADSL	Korea	55.74	47.94	50000	
Glocalnet	ADSL	Sweden	56.11	69.02	24000	
Versatel	ADSL	Belgium	63.50	69.85	1000	500
Jazztel	ADSL	Spain	70.08	65.88	4000	
Intemode	ADSL	Australia	70.40	75.33	24000	30000
Ote	ADSL	Greece	71.92	64.73	1024	
Bluewin	ADSL	Switzerland	72.47	103.63	2400	
Hive	ADSL	Iceland	73.34	118.08	12000	
Tele2	ADSL	Switzerland	74.12	106.00	2400	
Cybercity	ADSL	Denmark	74.28	106.22	3072	
Bt	ADSL	Uk	81.48	91.25	2200	15000
Cegecom	ADSL	Luxembourg	85.16	94.53	2000	25000
Eircom	ADSL	Ireland	86.30	115.64	2048	16000
İnode	ADSL	Austria	111.40	124.77	4096	2000
Telmex	ADSL	Mexico	113.59	80.65	1024	
Slovak Telecom	ADSL	Slovak Rep.	118.05	69.65	1024	
Nextra	ADSL	Czech Rep.	125.97	75.58	4096	
GTS Datanet	ADSL	Hungary	136.93	90.37	3008	
Vivodi	ADSL	Greece	149.14	134.23	4096	
TP	ADSL	Poland	196.41	117.85	6144	
T-Com	ADSL	Hungary	200.00	132.00	2048	
Dialog	ADSL	Poland	221.86	133.12	2000	
Portugal Telecom	ADSL	Portugal	243.19	201.85	8000	
Turk Telecom	ADSL	Turkey	265.29	185.70	2048	
Cesky Telecom	ADSL	Czech Rep.	276.00	165.60	1024	

1.3.2.5. Cable TV

TTAŞ initially invested in traditional unidirectional cable TV infrastructure until 1994 in 9 cities. This development was stopped due to budgetary constraints. Then in 1997 TTAŞ made revenue agreements with private operators to build and operate infrastructure entailing cables that would allow two-way traffic of data and voice in 11 additional cities. In 1998 the earlier investments were turned into revenue sharing agreements. These agreements stipulated that investments, maintenance and repair of the network were carried out by the operators whereas content provision and subscriber services were done by TTAŞ. The agreements were for 10 years and at the end of the 10 years the network was going to be taken over by TTAŞ.

According to ITU data, in 2005 there were about 1.2 million cable TV subscribers, and the number of cable modem subscribers was a low 50,000. Hence, even though initial roll out of the cable TV infrastructure started in the 1990s, the contribution of cable TV to broadband development has been very small. Internet services over the cable TV network are provided only by TTNet.

The lack of development of the cable TV network was at least partly due to insufficient incentives. Especially as the end of the contract period approached, the operators became less and less keen in investing in infrastructure that they would eventually hand over to TTAŞ (Decdeli, 2004).

Another important development regarding the cable TV network occurred during the privatization of TTAŞ. As part of its review of the privatization at the pre-notification stage, the Competition Authority gave the opinion that the Cable TV infrastructure, including all rights to

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own and operate it should be organized as a separate legal entity within a year of transfer of ownership of Türk Telekom. [79] The basic reasoning of the CA in its decision was that the cable TV was potentially a network through which facilities based competition could be introduced into the industry.[80] The cable TV network was indeed separated from the TTAŞ, and it was placed under the ownership of Türksat, the state-owned satellite operator.[81] As indicated above, in the same decision, the Competition Authority also requested that Türk Telekom's internet business unit, TTNet, be legally separated from Türk Telekom - by creation of a separate subsidiary.

The TA issued on February 2005 an authorization for the cable TV operators called Cable TV Platform Licenses. This was designated as Annex 10 to the Authorization Ordinance. Cable platform services were defined as the one-way and two-way provision of all kinds of sound, data, image and radio/TV signals over the cable platform network, hence they include telephone services as well as radio, TV, Internet and data. The authorization includes provision of local wireless Internet services. Finally, it also includes establishment of infrastructure. The authorization requires a type 2 telecommunications license valid for 20 years. The actual issuance of licenses were delayed because the Council of Ministers decided the minimum fees only in December 2005. Then, TA issued first licenses for cable TV broadcasting services to three operators Kablonet, Ultra Kablo and Interaktif on April 2006, and to Topaz on June 2006.

However, cable TV providers are currently in a legal dispute with Türksat. Cable TV providers have revenue sharing agreements with Türksat that expire in 2007. Türksat claims that once cable TV providers have obtained own licenses, revenue sharing agreements are no longer valid, and the cable TV network infrastructure must be returned to Türksat and the operators have to build their own infrastructure.

In the meantime, the authorization of cable platform services was cancelled by the Council of State on the grounds that separate authorizations had to be issued for the provision of different services, adding to the legal confusion surrounding cable TV.

1.3.2.6. The Role of Competition Law Enforcement

Turkey seems more aligned with the EU *acquis* in the field of competition policy.[82] As indicated above, even though Law No. 2183 does not provide a clear-cut division of labor between the TA and the Competition Authority, the current tendency is that the CA does not investigate allegations of violation of Competition Law in areas that are regulated by the TA. The CA did have a number of important decisions in the industry.

The first important decision in the mobile industry was on allegations put forward by Telsim in September 1999 that Turkcell's exclusive agreements with handset distributors and dealers distorted competition and acted as barriers that impeded Telsim's entry. In effect, Turkcell was able to tie the sale of handsets of some major mobile phone brands (such as Ericsson) to the purchase of a Turkcell subscription, effectively making it costly for Telsim to attract subscriptions among consumers who favor those brands. Mobile handsets in Turkey were often sold with operators' SIM cards and subscriber lines, a practice that apparently developed to prevent sale of handsets that were not compatible with the GSM standard. The investigation revealed that Turkcell's agre-

79 "The prior opinion of the Competition Board on the Privatization of Türk Telekom," (in Turkish) at http://www.rekabet.gov.tr/word/gorus/telekom.doc

80 This decision was not without controversy. While the TA did not issue a public statement on the issue, the then president of TA was quoted as saying that divestiture of the cable TV network was not necessary, that legal separation was sufficient and any competition concerns could be addressed by the TA (Interview in the Turkish daily Hürriyet, 31.10.2004). In the end the CA prevailed.

81 This was done through Law No. 5335 (Official Gazette, April 27, 2005).

82 See Renda et al. (2007).

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ements with distributors of major brands of handsets such as Ericsson and Panasonic prevented these distributors from marketing Telsim SIM cards and subscriber lines. In effect, these exclusionary clauses restricted end-users' ability to use these brands of handsets with Telsim subscriber lines; in other words, these clauses made it more difficult for potential Telsim subscribers to access these handsets. Since these were popular handsets, the exclusionary clauses made it more difficult for Telsim to attract subscribers. Turkcell effectively penalized distributors that did not accept exclusionary agreements by reducing the amount of business Turkcell did with these distributors and/or by reducing handset subsidies. Turkcell was also found to use its dominance in the mobile calls market to distort competition in headset market by discriminating in favor of a distribution company with which it has ownership ties. The Competition Authority decided that Turkcell violated the Competition Law and imposed a fine of about USD 5 million.

Another important decision in the mobile industry was on roaming. When Turkcell and Telsim failed to provide roaming agreements to new entrants Aria and Aycell, CA launched an investigation to assess whether this amounted to an infringement of Competition Law. The CA first concluded that Turkcell and Telsim had joint dominance over the GSM infrastructure market. The Board then argued that Turkcell and Telsim had effectively refused providing roaming services and that this refusal amounted to an abuse of dominant position by denying access to an essential facility. Normally the essential facility doctrine covers instances where a competitor lacks a realistic ability to duplicate a facility that it needs in order to provide its services. In the Turkish roaming case, the entrants eventually were obliged to construct a GSM infrastructure due to their license conditions. Hence the CA argument of essential facility was not that the entrants did not have an ability to duplicate the GSM infrastructure, but that full roll out of the facility would take time and that the passage of time would make it more difficult for Is-TIM to attract subscribers. The CA listed technical, legal and economic difficulties that would prohibit the installation of infrastructure in a short period of time (say one year), and that delays in attaining full coverage would seriously increase the cost of attracting subscribers, and the resulting delay in revenues would jeopardize the viability of the company and reduce its ability to compete with the incumbents. The investigation was concluded in June 2003 and Turkcell and Telsim were handed fines of USD 15.4 million and USD 6.1 million respectively. This decision of the Board was cancelled by Council of State.

The CA also had a number of important decisions in the fixed line market. One important decision was launched in 2001, on allegations that TTAŞ abused its dominant position in the internet and internet infrastructure markets by, inter alia, refusal to supply infrastructure elements, especially for broadband internet services, raising lease line tariffs applied to competitors of TTNet in a discriminatory manner, and below-cost retail pricing by TTNet. The Board decided that TTAŞ abused its dominant position by keeping tariffs charged to both residential and (broadband) corporate users of internet services below the cost of lines it was leasing to ISPs. The Board handed a fine of 1.1 trillion TRL (almost USD 700 million at the prevailing exchange rate). In another decision in 2003, the CA forced TTAŞ to cease acquiring new ADSL subscriptions until the TA would come up with regulations regarding access. In 2005 the Board investigated whether the failure of TTAŞ to allow independent ISPs to provide internet services over the cable TV network amounted to an abuse of dominant position. The CA decided that TTAŞ did abuse of dominant position, but did not impose a fine because TTAŞ was found to be working with the TA with the purpose to open up the cable TV network to internet service providers.

The CA has received a large number of complaints from alternative operators in the last few years regarding anti-competitive practices by TTAŞ. The CA has refused to act on many of them mainly on the grounds that the allegations related to areas that were regulated by the TA. For example, in 2005 an independent ISP complained to the CA that a TTAŞ discount campaign for ADSL services for teachers and students constituted an abuse of dominant position. The CA decided that the campaign was conducted with the approval of the TA and therefore could not be

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investigated under competition law. Again in 2005 there was a complaint that TTAŞ was creating difficulties for long distance service providers by various delaying tactics on issues such as interconnection agreements and technical preparations needed for the alternative operators to launch their services. The CA basically decided that the right address for such complaints was the TA.

A recent important decision of the CA concerns an ADSL "summer campaign" launched by TTNet that entailed discounts in retails prices reaching 50%. According to press reports, the CA asked TTNet to terminate the discounts. TA's intervention in the retail broadband market is not surprising since the market is not regulated. Still, the TA decision on this case is not published yet hence the specific logic that the TA has used is not yet known.

Overall, these development in competition policy testify that Turkey, just as the EU, applies *ex ante* regulation and *ex post* competition policy as complementary instruments, not as alternative routes to market liberalization – as occurred, for many years, in the US.[83]

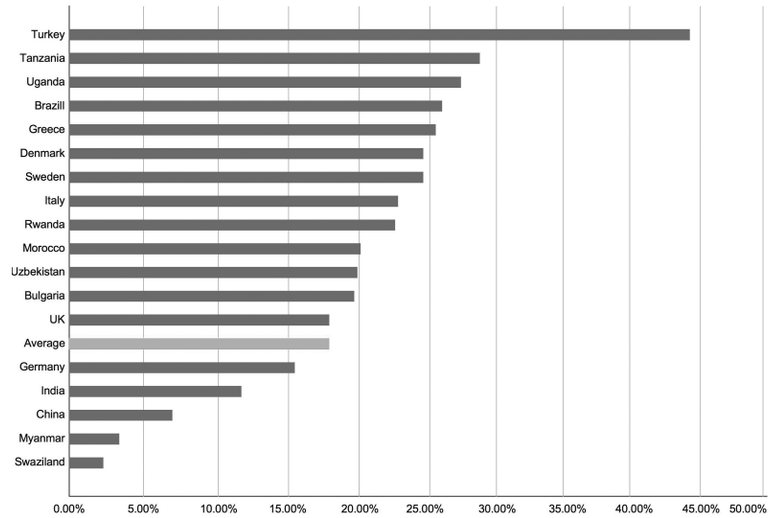
1.3.2.7. Taxation of Mobile Charges

In Turkey, 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, Turkey exhibits the highest tax rate worldwide with over 60%. Mobile operators in Turkey pay more than 60% of the money they earn from their customers as taxes, compared to an EU average of around 20%. A Turkish operator pays 80% of a typical pre-pay customer's first-year revenues directly to the government.

Such a high tax rate inevitably exerts a restrictive effect on the penetration rate. With lower rates, a much higher market penetration could have been achieved instead of the current 60%.

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". More recently, 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', as depicted in Figure 1-8 below.

Figure 1-8: Tax as a share of total cost of mobile ownership (TCMO)



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

83 See, e.g. Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004).

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1.3.3. Prospects of Turkey's Adoption of the EU Acquis in the Telecommunications Sector

As Turkey approaches the debate on the new telecommunications law, it is important to take stock and assess what impacts could be expected in terms of productivity and growth from the full alignment of Turkey's regulatory regime with the EU *acquis*. In this respect, the previous section led us to conclude that in 2006 several legal changes in Turkey have paved the way for a greater alignment with the *acquis*, although some of these changes are yet to fully take effect in the market. In particular, the TA seems to need to be more speedy and effective in enforcing and operationalizing its interventions. In addition, the individual licensing regime seems to constitute a major burden for operators wishing to enter the market. In the mobile sector – certainly the most promising sector for potential investors – taxation may hamper the growth of the penetration rate, as well as the transition towards 3G and more advanced mobile broadband technologies. Finally, spectrum policy still relies on an inflexible "command and control" management, with neither secondary markets nor auctions to allocate frequencies to more valuable uses.

Against this background, the European Commission has issued rather satisfactory statements on the ongoing alignment of Turkey with the EU *acquis* in the field of telecom services. By contrast, Turkey was found not to be aligned with EU standards on electronic commerce and conditional services, and "overall alignment in this area remains limited", as highlighted by the European Commission in its 2006 Progress Report on Turkey. Also, significant 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".

As a more general note, there is scope to improve Turkey's business climate and regulatory effectiveness in the next few years. Authoritative economic studies have found that Turkey's greatest potential does not lie in the alignment with the *acquis*, but in the improvement of the institutional stability, regulatory transparency and accountability, and in the reduction of corruption.[84] As recalled by Burnham (2007), Turkey still ranks rather low in both the World Bank's Doing Business and in the Global Economic Forum's Global Competitiveness Rankings. Also, Renda et al. (2007) report that Turkey's competition law still suffers from a number of enforcement problems. More generally, the positive relationship between regulatory effectiveness and investment levels has been confirmed in several occasions by the ECTA Scorecard and by authors, such as Jones and Salsas (2006).

As a result, it is fair to state that Turkey could reap significant benefits from a further alignment with the EU *acquis*. However, this depends on whether the *acquis* is correctly implemented. The precondition for achieving growth and jobs as a result of better telecommunication regulation is above all the achievement of regulatory certainty and a business environment conducive to investment and innovation. In this respect, a lot can be done to improve the TA's institutional capacity and competences.

Were Turkey to effectively undertake regulation of fixed and mobile telecommunications, the first visible effect that would follow would be a reduction in prices. A recent paper by Akdemir et al. (2007) calculates the potential price reduction that would be observed if Turkey aligned its regulatory framework with the EU *acquis* and then adopted a liberal telecommunication policy similar to that implemented in the UK and Finland.

The authors use a range of restrictiveness indexes, such as those used in Boylaud and Nicoletti (2000), Warren (2000) and Kimura et al. (2003) and determine the *ad valorem* equivalent of barriers to the telecommunications services industry to derive a potential impact on prices. The result

84 See Lejour and De Mooij (2005).

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is that telecom prices would fall by an **average 33.53%**, with enormous benefits for the economy. In particular, Table 1-10, reproduced from Akdemir et. al. (2007), shows the restrictiveness index scores for telecom services as derived by Warren (2000), which shows that in 2000 Turkey ranked very low compared to almost all the EU27, with the exception of Malta.

Table 1-10 - Restrictiveness index scores for telecom services, EU27 and Turkey

Economy	Domestic Index					
	Restrictions on establishment			Restrictions on ongoing operations		
	Restrictions on direct investment in fixed network services	Restriction on direct investment in cellular mobile phone services	Restriction on establishement total	Restrictions on cross-border trade	Restrictions on ongoing operations total	Domestic index total
Finland	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
United Kingdom	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Netherlands	0,0150	0,0150	0,0300	0,0000	0,0000	0,0300
Denmark	0,0000	0,0333	0,0333	0,0000	0,0000	0,0333
Germany	0,0247	0,0247	0,0493	0,0000	0,0000	0,0493
France	0,0250	0,0250	0,0500	0,0000	0,0000	0,0500
Sweden	0,0667	0,0333	0,1000	0,0000	0,0000	0,1000
Belgium	0,0167	0,0167	0,0334	0,0667	0,0667	0,1001
Austria	0,1000	0,0333	0,1333	0,0000	0,0000	0,1333
Italy	0,0851	0,0518	0,1369	0,0000	0,0000	0,1369
Luxembourg	0,1000	0,0667	0,1667	0,0000	0,0000	0,1667
Ireland	0,1333	0,0600	0,1933	0,0000	0,0000	0,1933
Estonia	0,1170	0,0170	0,1340	0,0667	0,0667	0,2007
Spain	0,1197	0,0597	0,1793	0,0333	0,0333	0,2127
Lithuania	0,1333	0,0333	0,1667	0,0667	0,0667	0,2333
Greece	0,1338	0,0271	0,1609	0,1000	0,1000	0,2609
Czech Republic	0,1170	0,0170	0,1340	0,1333	0,1333	0,2673
Hungary	0,1087	0,0020	0,1107	0,1667	0,1667	0,2774
Romania	0,1333	0,0333	0,1667	0,1333	0,1333	0,3000
Portugal	0,1017	0,0083	0,1100	0,2000	0,2000	0,3100
Slovak Republic	0,1400	0,0667	0,0667	0,1333	0,1333	0,3400
Poland	0,1267	0,0333	0,1600	0,2000	0,2000	0,3600
Latvia	0,1370	0,0503	0,1873	0,2000	0,2000	0,3873
Bulgaria	0,1533	0,0667	0,2200	0,2000	0,2000	0,4200
Cyprus	0,1667	0,1667	0,3333	0,1333	0,1333	0,4666
Turkey	0,1667	0,1000	0,2667	0,2000	0,2000	0,4667
Malta	0,1667	0,1667	0,3333	0,2000	0,2000	0,5333

Source: Warren, T. 2000, 'The identification of impediments to trade and investment in telecommunications services', in Findlay, C. and Warren, T. (eds) 2000, Impediments to Trade in Services: Measurement and Policy Implications, Routledge, London and New York.
Note: The restrictiveness indexes are calculated from Warren 2000. The domestic and foreign restrictiveness index scores ranges from 0 to 1. The higher the score, the greater the restrictions for an economy.

The price reduction effect found by Akdemir et al. (2007) reverberates on consumption in all sectors of the economy. To account for the nature of telecom services as input of other commodities, the authors build a price vector for the 97 sectors in which the Turkish economy can be divided. Without taking into account the increased demand that would follow from a price reduction in each of the sectors – which would require a complex calculation of demand elasticities for each and every sector – the authors reach a conservative estimate of the potential welfare increase from Turkey's alignment with the EU *acquis* and implementation of a UK-like or Finland-line telecoms

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policy. The result is an increase in Turkish GDP of 0.428%.

It is useful to assess this figure in light of the estimated "Economic cost of non-Lisbon" as calculated by the European Commission in 2003. At that time, the EU15 were about to start implementing the 2002 framework in a situation in which, also due to the imperfect functioning of the 1998 package, the telecoms market was still dominated by incumbent firms, and most markets had yet to unleash the true welfare and growth potential of telecoms liberalisation. At that time, the Commission estimated that the full liberalization of the telecommunication and electricity markets would lead to GDP and employment levels increase of 0.4% and 0.6% respectively, four years after the liberalization, and a GDP level increase of 0.6%, ten years after liberalization.[85]

More recently, the Commission also calculated that increasing total EU R&D expenditure from 1.9% to 3% of GDP by 2010 (in order to reach the Lisbon target), when compared to a *status quo* scenario (no increase in R&D spending) would lead to a GDP level increase of 1.7% by 2010 (0.25% per year), increases of Total Factor Productivity (0.8%), employment (1.4%) and real income (3%) by 2010 and further GDP level increases of 4.2%, 7.5% and 12.1% in 2015, 2020 and 2030, respectively.[86]

As Turkey exhibits one of the lowest per capita GDP level in OECD countries, it seems fair to assume that the growth potential would be even higher, if Turkey were to follow the i2010 strategy and reach the corresponding ambitious objectives in term of R&D investment over GDP (3%) by 2010.[87] The goal currently set by the 2006-2010 information society strategy is 2% of GDP.

However, faced with such a challenge, Turkey may take advantage of the European experience with the 2002 regulatory framework in the past few years, and move faster towards the realisation of the "information society for all". As the major weaknesses of Turkey are low fixed-line and broadband penetration and higher, but still less that satisfactory mobile penetration, then extending universal service, mobilising valuable spectrum resources and removing taxation from mobile retail services appear as key priorities for the next few years.

1.3.4. Evaluation and Recommendations

Even though significant progress has been achieved in the introduction of competition in the telecommunications industry, Turkey is still in the early stages of competition and much remains to be done to improve the regulatory framework. Accordingly there are significant potential welfare gains from further development of competition.

1.3.4.1. Adopting a "Policy Mix" Tailored to Turkey

As we observed in the previous sections, aligning Turkey's regulatory framework with the EU *acquis* is a useful, but not decisive step for Turkey to enter the digital era. The European experience suggests that the countries where static and dynamic competition has developed more rapidly are those where infrastructure-based competition exists, and that those countries that do not have a legacy cable infrastructure should carefully look at expanding the number of local loops over time to liberalize fixed-line retail markets, but mostly to broadband wireless access technologies as a possible shortcut towards the emergence of New Generation Networks.

This is only an example of a more general principle that can be drawn from the observation of national experiences in EU and non-EU countries: the peculiar geography and the technological

85 European Commission, Chapter 2 - Structural reforms in labour and product markets and macroeconomic performance in the EU, in: The EU Economy: 2002 Review.

86 European Commission, *A 3% R&D effort in Europe in 2010: an analysis of the consequences*, study prepared by the Research Directorate General of the European Commission, 2004.

87 See http://trendchart.cordis.lu/tc_article.cfm?ID=3475&NEWSID=20.

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endowment of a given country are essential factors in the definition of the right policy mix. For example, where a legacy cable infrastructure is not present – *i.e.* in those markets that would be called "0.x" or "1.x", following a definition coined by Eli Noam – the road to infrastructure-based competition may entail short-run service-based competition, *i.e.* a careful application of the investment ladder and a limited degree of market micromanagement.[88] At the same time, alternative access technologies should be promoted in order to ensure sustainable long-run competition.

But this, again, is only part of the story. Both supply-side and demand-side policies are needed to help the emergence of the information society. On the supply-side, besides access obligations, also spectrum availability and policies to encourage investment in telecom infrastructure are essential to improve fixed-line penetration. In metropolitan areas, FTTx technologies may have a business case in Turkey, if demand is adequately stimulated. However, evidence that the 3G auction was postponed from May to September 2007 for lack of interest on the side of operators reveals that the demand for such advanced multimedia services is still poor in Turkey. Here, the removal of overly burdensome taxation and policies aimed at the gradual reduction of mobile charges appear as key priorities for the Turkish government.

Moreover, devising the right policy mix for the digital era also entails the enactment of effective legislation in the field of content and applications. In the layered architecture of digital platforms, the incentive to deploy innovative services crucially depends on whether network operators will be able to reap revenues from traffic prioritization, as well as from advertising. This, in turn, calls into question important issues such as the net neutrality debate, recently addressed, *i.a.*, by the UK regulator Ofcom in its consultation document on New Generation Networks.

Finally, the quality of the customer experience is essential to stimulate the transition towards the information society. In this respect, consumers are often the weakest link of modern business models: operators competing for the attention of the final users are then called to offer multi-play bundles where end users are offered an integrated and comprehensive set of services, which include premium content, killer applications and the use of DRM, privacy-enhancing technologies and integrated payment systems that enhance consumer confidence and thus boost internet use.

1.3.4.2. Issues in the Regulatory Framework and Capacity

The 2003 Regulatory Framework of the EU has provided the TA with an important set of principles and guidelines to follow. The emerging regulatory framework is increasingly inspired by that in the EU, but there are a number of important divergences. The most glaring is the authorization regime, which is cumbersome, costly and acts as a barrier to entry. Improvements in the authorization regime require changes in primary legislation. The second area is universal service. The current (extended) scope of universal service is beyond those specified in the Universal Service Directive. Even though procedures for designating operators with universal service obligations and their financing are close to the EU regime, the legislation is not yet implemented.

In part, the difficulties faced by the TA reflect the fact that initially it was caught between the old (1998) and the new (2003) framework of the EU. The Framework Law No. 4502 (or the amendments it introduced to laws No. 406 and 2183) was largely inspired by the 1998 framework but the TA itself tried to orient itself towards the new framework. Hence, at this point the most important action that needs to be undertaken is possibly the enactment of a comprehensive electronic communications law to provide a sound legal basis for ex-ante regulation. The draft law currently at the parliamentary committee may be a good start but needs to be revised to better reflect the basic approach in the EU framework.

Second, besides a more solid legal foundation, it seems important that the authorities adopt a com-

88 See Noam, E. (2005), *American Telecom 2005: Directions for Change,* October (available at http://www.thinktel.org/documenti/051117-250.pdf).

EdamENG.indd 72 1/3/08 2:19:33 PM

prehensive medium term policy framework to guide the sequencing of policy actions. It seems a document, say a "white paper", would be helpful in developing a more precise forward looking approach. This seems important especially since, in many instances, delays in new entry and competition have occurred despite significant intent and effort by the TA to enhance competition, reflecting the absence of a cohesive, strategic outlook. A case in point is the policy of mandatory national roaming discussed above. In that case, the incumbents used the legal system to delay the enforcement of regulations until they became irrelevant. Another important example is the TA's effort to introduce bitstream access. In that case as well, the incumbent used the legal system to delay enforcement. It also turned out that mandating bitstream in an effective manner required an approach that went beyond determination of tariffs and margins, and regulation of non-price elements as well. In both cases, more foresight capacity would have enhanced the effectiveness of implementation. In the case of roaming, that would have required including roaming obligations into the concession agreements of the incumbents. In the case of bitstream, it would have entailed a more comprehensive approach that focused on non-price elements of bitstream access from the start.

Delays in the development of competition also reflect some degree of ambivalence especially on the part of the Ministry. This was especially true before the privatization of TTAŞ, when liberalization and new entry was delayed apparently to increase the sale value of TTAŞ. This stage of the process of liberalization is now over. However, it still seems that a stronger political commitment by the Ministry to further the development of competition is necessary. In principle the cause of competition should be foremost owned at the policy level, by the Ministry, and the TA should be accountable to the political level in terms of implementation. Currently, ownership at the political level seems lacking.

One important factor that affects the overall quality of regulation is the extent to which regulatory authorities are transparent and accountable. Enhancing accountability enhances regulatory independence, decreases the threat of regulatory capture, improves incentives for better regulation, reduces regulator discretion, increases regulatory credibility and reduces regulatory uncertainty.

Relative to traditional administrative agencies, independent regulatory authorities in Turkey are more transparent and accountable. Importantly, undertaking public consultations on draft secondary legislation has become a routine practice. However, there is still much that can be done in order to enhance accountability. First, even though ordinance and communiqués are published in the Official Gazette, and posted on TA's website, the TA is not obliged to publish Board decisions. Whether or not to make public its decisions is left to the discretion of the Board. The Board does publish some of its decisions on its website but this is true only for a subset of is decisions.

Second, the TA is not required to provide justifications neither for draft secondary legislation, nor for the final form of the secondary legislation, nor for the Board decisions. It is also not required to make public technical reports prepared by its staff that the Board uses in reaching its decisions. Hence, for example, when the Board approves the tariffs of the incumbent operator, or determines access charges it does not disclose how those decisions are reached. An obligation to make public the reasoning behind regulations and decisions would impose a tighter discipline on the TA and would greatly enhance its accountability.

One reason why the TA may be timid in disclosing the background to its decisions may be that the TA may still have insufficient technical capacity to fully justify its decisions; in other words, in some cases it employs rules of thumb and judgments which are hard to provide explicit justifications for. Or else, it may be employing models which are not yet fully developed. Another reason could be that it is worried about making itself more vulnerable to appeals and legal challenges. However, even on that count, it is not clear that lack of transparency always works in favor of the TA. Insufficient justification allows more discretion to appeal bodies and may induce them to "fill in the blanks".

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A related issue is that in public consultations, the TA does not make public the opinions it has received. This probably reduces the collective learning impact of public consultations. However, there is some progress in that respect. The final reports on market analyses do contain information about comments received during the consultation and the TA's responses to these comments. [89]

In relation to transparency and accountability, the founding law of the Competition Authority provides a better example. The CA has to publish at the official gazette all the Board decisions. Moreover, Board decisions need to include justifications, as well as a summary of the analysis and main conclusions of the committee that carries out the investigation in anti-trust and merger cases. Even in that case, however, the full report of the investigation committee is not made public.

Another issue that needs to be raised in terms of transparency has to do with appeals against the regulations and decisions of the Board. The decisions of administrative courts and the Council of State are not made public. The Council of State is not required to publish all its decisions, and indeed some of the important decisions in the field of telecommunications regulation cannot be found on its web site.[90] Making these decisions public on the TA's web site would add significantly to transparency.

Several stakeholders have also raised their concern that the TA currently lacks the ability to enforce most of its decisions and obligations on to SMP operators. For example, Türk Telekom has failed to meet deadlines imposed on it in several occasions (for example, in submitting its reference unbundling offer). In many occasions, this failure to comply has remained unpunished by the regulator, creating significant concerns as to the enforcement capabilities of the Telecommunication Authority.

1.3.4.3. Specific Actions

In light of the conclusions drawn in the previous sections, the following "decalogue" seems to depict the most appropriate strategy for Turkey to enter the information society:

1. *Penetration.* Promote investment in telecom infrastructure and consequently on the deployment of fixed and mobile broadband networks, to bridge the digital divide;
2. *Universal service.* Enhance transparency in the destination of the universal service fund, to be used to promote internet access and usage in both metropolitan and rural areas, *e.g.* through deployment of Wi-Fi and WiMAX technologies;
3. *Number portability.* Operationalize the number portability regulation;
4. *Full alignment with the acquis.* Enact laws to align with the *acquis* on online data protection and online privacy, cybercrime, audiovisual services;
5. *Taxation.* Drastically reduce the burden of taxation on mobile services, to encourage use of mobile phones and boost mobile penetration rates;
6. *Wholesale access policy.* Carefully enforce mandatory network sharing in fixed-line networks, while at the same time establishing a clear migration path towards *ex post* competition policy when sufficient competition has developed in the fixed-line sector;
7. *Convergence.* Merge/coordinate the competencies of the TA and the radio and television regulator (RTUK), to adequately account for technological convergence;

89 For example, the TA does not keep minutes of public hearings since – as was reported by Handan Karacabey of the TA of Turkey in a response to the ITU Global Regulators Exchange Database - "it causes a formal mood preventing a sincere and efficient discussion."

90 A case in point is the Council of State decision cancelling the authorization of cable platform services.

EdamENG.indd 74 1/3/08 2:19:34 PM

8. *Independence.* Enhance the status, independence and powers of the TA;

9. *Better regulation.* Enact a comprehensive electronic communications law; increase the transparency and accountability of regulators; in particular, replace the individual licensing regime with a general authorisation regime;

10. *Enforcement of law*. Improve enforcement in the fields of IPRs, regulatory decisions, anti-piracy laws, etc.

1.4. Annex: Main Ingredients of the Regulatory Framework for the Türk Telekom Industry

General

Amending Law No. 4502 January 2000 - Monopoly rights of Türk Telekom will be terminated on December 31, 2003. The TA is established as an independent regulator. Also has provisions on issues such as interconnection,

Law No. 4673, May 2001. The law transfers licensing authority from the Ministry of Transport to the TA.

Law No. 406 – Telegraph and Telephone Law, originally dated 1924.

Law No. 2183 – Wireless Law, originally dated 1983.

Authorization

March 2001 - Telecommunication Services Regulation (replaced by Ordinance on the Authorization of Telecommunications Services and Infrastructure in 2004)

August 2004 – Ordinance on the Authorization of Telecommunications Services and Infrastructure (Official Gazette, August 26, 2004). The original ordinance included 9 Annexes for the authorization of GSM mobile services, satellite telecommunications services, satellite platform services, GMPCS mobile phone services, telephone message services, ISP services, data transmission over terrestrial lines, PAMR services, and long distance telephone services, respectively. The Ordinance was later amended to include cable platform services (Annex A10, February 2005-cancelled by the Council of State), broadband fixed wireless access (Annex A11, February 2005), infrastructure services (Annex A12, September 2005), directory services (Annex A13, July 2006).

Access and Interconnection

May 2003 - Ordinance on Access and Interconnection May 2003 (Official Gazette, 23.05.03)

December 2003 - Communiqué On Principles And Procedures Regarding Co-Location And Facility Sharing (Official Gazette, December 31, 2003 No. 25333)

July 2004 - Communiqué on Principles and Procedures on Unbundled Access to the Local Loop (Official Gazette, July 20, 2004; amended in 2007 through Communiqué on Making Changes on Communiqué on Principles and Procedures on Unbundled Access to the Local Loop, Official Gazette, June 14, 2007).

September 2004 – TA issues Standard Interconnection Reference Tariffs

October 2004 - The TA adopts a decision on ADSL resale and bitstream access (Board Decision No. 2004/535 of October 6, 2004, not published in the official gazette).

June 2007 -Ordinance on Access and Interconnection (Official Gazette, 14 June 2007).

EdamENG.indd 75 1/3/08 2:19:34 PM

Retail Price Control

August 2001 –Tariff Ordinance (Official Gazette, August 28, 2001 no. 24507)

January 2002 - Communiqué on Principles and Procedures to Apply Price Cap Regulation to Türk Telekom Tariffs (Official Gazette, 11.01.2002) (Price Cap Communiqué I)

December 2003 –Price Cap Communiqué II (Official Gazette, December 31, 2003)

January 2007 – Ordinance to Amend the Tariff Ordinance (Official Gazette, January 7, 2007).

January 2007 – Price Cap Communiqué III (Official Gazette, January 16, 2007)

Market Analysis / SMP Operators

June 2003 – Communiqué on Principles and Procedures Regarding the Determination of Operators with Significant Market Power (Official Gazette June 3, 2003, No. 25127)

June 2003 - Communiqué on Principles Regarding the Determination of Operators with Dominant Position (Official Gazette June 3, 2003, No. 25127)

January 2007 - Regulation on Rules and Procedures on the Determination of Operators with Significant Market Power (Official Gazette, No. 26396, January 7, 2007)

Universal Service

June 2005 – Law No. 5369 - Law on the Provision of Universal Service and Amendments to Some Laws (Official Gazette 25.06.2005).

June 2006 - Ordinance on Principles and Procedures Regarding the Collection of Universal Service Revenues and making Universal Service Expenditures (Official Gazette, June 29, 2006)

Other

September 2000 – TA issues Principles and Procedures to be followed in Mediations regarding Disagreements on National Roaming

March 2002 – Ordinance on Principles and Procedures for Making Roaming Agreements

February 2004 - Regulation for Numbering

February 2004 – Ordinance on the Processing of Personal Information and Protection of Privacy (Official Gazette, 26.02.2004)

May 2006 – Ordinance on Rights of Way in Telecommunications Services

February 2007 – Number Portability Ordinance

EdamENG.indd 76 1/3/08 2:19:34 PM

EdamENG.indd 77 1/3/08 2:19:34 PM

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2. Energy

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EdamENG.indd 79 1/3/08 2:19:35 PM

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2.1. Introduction

The reform and restructuring of the energy industries in Turkey is relatively recent. While private participation existed in some segments, a more thorough and ambitious program of restructuring was launched in the early 2000s. Primary laws were followed by a comprehensive set of secondary legislation, especially in electricity. Most of the legal and regulatory effort was inspired by the advances in the European Union (EU). In fact, as argued in more detail below, the legal framework established in Turkey through the Electricity Market Law of 2001 was at least as competitive, if not more, than the 1996 Electricity Directive of the EU. However, progress so far has not been impressive.

The purpose of this Chapter is to review the restructuring process of electricity and gas industries in Turkey in light of the EU *acquis*. The process of regulatory reform in the EU is rewieved, as well as progress with implementation and an overview of market outcomes is presented. Then evaluates the emerging regulatory framework in Turkey is evaluated and progress with implementation is described. While there are certain gaps between the Turkish and EU frameworks for electricity, it is argued below that the real reason behind the disappointing performance in terms of restructuring lies not so much in lack of harmonization or a pro-competitive legal and regulatory framework, but inconsistencies between the economic incentives embedded in the reform strategy, especially as regards to market prices.

The paper is organized as follows: Section 2.2 reviews the regulatory framework in the EU, and examines implementation across member states and asseses the impact of reform on market outcomes. Section 2.3 discusses the regulatory framework in Turkey as well as problems and dilemmas faced in implementation.2.2. Energy Market in the EU

2.2.1. Review of the EU Energy Regulatory Framework

The creation of an internal market for energy was not part of the Single European Act of 1986, which launched the EC-1992 programme, i.e. the EU internal market. However, the implementation of the internal market soon required action in the electricity and gas markets. The energy sector was quickly affected by public procurement rules and tax and environmental legislation. However, the real pressure came with the implications for competition policy.[1] The existence of nationalised energy grids and national policies of autarchy in the sector created a particularly difficult environment for the realisation of a single market.

Initial steps concentrated on increasing the interconnection of gas and electricity grids of the Members States[2] and transparency[3]. Following these initial, cautious steps, the EU moved towards full liberalisation of the energy market from the mid-nineties onwards, resulting in the adoption of two liberalisation packages. A third liberalisation package was recently adopted by the Commission.

1 A more detailed description can be found in : Jacques Pelkmans and Ole Jess Olsen (1996), *Towards a Single market for Utilities.* CEPS Working Party Report.

2 Council Directive 90/547/EEC of 29 October 1990 on the transit of electricity through transmission grids, followed by the Council Directive 91/296/EEC of 31 May 1991 on the transit of natural gas through grids.

3 The Council Directive 90/337/EEC of 29 June 1990 to improve the transparency of gas and electricity prices charged to industrial end-users was a first attempt to ensure that competition was not distorted in the common market, by introducing energy price transparency. Directive 90/547/EEC on electricity foresaw the interconnection of major European grids so as increase trade of electricity and transfers between electricity grids and lay down the measures by which the Member States were called upon to facilitate the transit of electricity between high voltage grids.

EdamENG.indd 81 1/3/08 2:19:35 PM

2.2.1.1. The First Liberalisation Package

The first liberalisation package of Europe's energy markets arrived with two Directives concerning common rules for the internal market in electricity and gas (96/92/EC and 98/03/EC) respectively. Both directives "fixed a minimum level of competition at member state level by way of common rules while progressively bringing down barriers to cross-border trade."[4]

The 1996 electricity directive concentrated on the full liberalisation of energy generation and introduced a six-year phase-in period to allow large and medium-sized companies to choose their supplier and the freedom to construct independent distribution grids. It foresaw unbundling the accounts of integrated companies, coupled with a number of additional access rules to guarantee non-discriminatory grid access.

The 1998 gas directive chose the same approach in principle, but with two modifications: first, the transition period was to be ten years to accommodate long-term investment needs, and second, the unbundling provisions were lighter to avoid undermining EU companies' bargaining powers with non-EU suppliers. The gas directive allowed each power generator to choose its own supplier.[5]

These directives were, however, unable to ensure the unrestricted and non-discriminatory third-party access to networks due to vertical integration of generation and distribution activities. The markets remained highly concentrated and lacked liquidity and competition was virtually non-existent.

2.2.1.2. The Second Liberalisation Package or the So-Called Acceleration Package

In response to the limited success of the first liberalisation package two new electricity and gas directives[6] entered into force in 2003 as well as two regulations on cross-border trade in electricity and gas.[7] The second liberalisation package recognized the fact that there existed important shortcomings towards the creation of an internal market for electricity and gas. Notably, both Directives 2003/54/EC on electricity and 2003/55/EC on natural gas considered that "concrete provisions are needed to ensure a level playing field in generation and to reduce the risks of market dominance and predatory behaviour, ensuring non-discriminatory transmission and distribution tariffs, through access to network on the basis of tariffs published prior to their entry into force, and ensuring that the rights of small and vulnerable customers are protected."[8]

In the meantime the Lisbon European Council on 23 and 24 March 2000 established the Lisbon Agenda, calling for the rapid completion of the internal market. Both directives were therefore meant to speed up the liberalisation of the electricity and gas sectors and identified the remaining obstacles as being the limited access to the networks, tariffication issues and different degrees of market opening between the Member States. The second liberalisation package, or oth-

4 Christian Egenhofer & Kyriakos Gialoglou, "Rethinking the EU Regulatory Strategy for the Internal Market", CEPS Task Force Report No. 52, December 2004, p. 14.

5 *Ibid.*

6 Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC. Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC.

7 Regulation (EC) No 1228/2003 of the European Parliament and of the Council of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity. Regulation (EC) No 1775/2005 of the European Parliament and of the Council of 28 September 2005 on conditions for access to the natural gas transmission networks.

8 *Ibid.*

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erwise called the 'Acceleration' package provided for the full opening of markets to competition for non-household customers as of 1 July 2004 and for all customers by 1 July 2007.[9] The Directives also stressed the fact that the non-discriminatory access to networks can only be ensured if there exists legal unbundling into separate entities for distribution and transmission where vertically integrated undertakings exist. The Directives made a clear distinction between legal unbundling and ownership unbundling and stressed that it was still too early in the liberalisation process to press ahead with ownership unbundling. Another way of ensuring non-discriminatory access to networks was the establishment of national regulators having a minimum set of competences (such as fixing and approving tariffs) set down by the Directives.

In addition, the second liberalisation package mandated regulated third-party access (TPA) and published network tariffs, reinforced public service obligations especially for vulnerable customers and introduced monitoring of security of supply. For electricity it also set up mandatory electricity labelling for fuel mix and for selected emissions data. The regulation on cross-border electricity trade provided for common tariff structures (including tariffs for cross-border trade), rules for congestion management and the requirement to provide information on interconnection capacities. The proposed regulation on access conditions to the gas networks attempted in a similar way to remove barriers to natural gas trade. It addressed partial or non-compliance with agreed guidelines for a transparent and cost-reflective system for cross-border trade.[10]

The electricity and gas Directives (2003/54/EC and 2003/55/EC) also established consumer rights in the energy field along with safeguards for vulnerable citizens, however, these rights need further clarification in view of full market opening.[11] Finally, both directives also repealed the previous directives and were to be implemented by 1 July 2004.

2.2.1.3. The Need for a Third Liberalisation Package

Commission Reports in 2005[12] and an inquiry on the energy markets completed in 2007[13] indicated that the second gas and electricity directives had not yet been properly implemented. Many member states presented only a patchy implementation, which benefited incumbent utilities, which were former public run, and often remain under government control as the state continues as major shareholder, in some cases up to 100%. These factors also still allowed for the continuation of vertically integrated production and distribution.

The March 2006 European Council Conclusions also called for "ensuring full, effective and transparent implementation of existing legislation", making reference to the incomplete implementation of the second liberalisation package. The March European Council urged Member States to develop regional energy cooperation, notably through adequate interconnection, which would lead to the further development of the EU internal market. The EU leaders also recognised the need to strengthen cooperation and coordination between regulators and system operators by strengthening the coordinating role at a Community level of the European Energy Regulators Group for Electricity and Gas (ERGEG).

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9 Christian Egenhofer & Kyriakos Gialoglou, "Rethinking the EU Regulatory Strategy for the Internal Market", CEPS Task Force Report No. 52, December 2004, p. 15.

10 Christian Egenhofer & Kyriakos Gialoglou, "Rethinking the EU Regulatory Strategy for the Internal Market", CEPS Task Force Report No. 52, December 2004, p. 15.

11 European Commission press release IP/07/1026, "Towards a European Charter on the Rights of Energy Consumers, Brussels", 5 July 2007,

12 Communication from the Commission to the Council and the European Parliament, "Report on progress in creating the internal gas and electricity market, Brussels, 15 November 2005, COM(2005) 568 final.

13 Communication from the Commission, "Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report)", COM/2006/0851 final.

EdamENG.indd 83 1/3/08 2:19:36 PM

The European Regulators' Group for electricity and gas (ERGEG) was set up by the European Commission Decision 2003/796/EC[14] on 11 November 2003. It is an Advisory Group of independent national regulatory authorities, with the mission to assist the Commission in consolidating the Internal Market for electricity and gas. Its Members are the heads of the national energy regulatory authorities in the 27 Member States.

The inquiry into the European gas and electricity sectors was released together with the EU Energy Policy Package on 10 January 2007[15] assessing the prevailing competitive conditions and establishing the causes of the perceived market malfunctioning. The Energy Sector Inquiry identified a number of key areas in which competition was not functioning well[16] and called for urgent action in the following four areas: (1) achieving effective unbundling of network and supply activities, (2) removing the regulatory gaps (in particular for cross border issues), (3) addressing market concentration and barriers to entry, and (4) increasing transparency in market operations.[17]

In parallel to the Inquiry the European Commission also published a communication on prospects for the internal gas and electricity market[18] in which it set out its intentions concerning regulatory proposals to be made in order to address the shortcomings uncovered by the Inquiry and previous reports. The European Commission considers it necessary to tackle two main elements in the forthcoming third legislative package: (1) strengthen the powers and independence of the energy regulators, so as to allow for the proper and efficient regulation of the cross border issues relating to gas and electricity network access, and (2) push for ownership unbundling, recognizing that the legal and functional unbundling of network operators that are vertically integrated with production and supply activities is by itself not sufficient to ensure equal access to the networks for all suppliers.

2.2.1.4. Next Steps Towards Completing the Internal Energy Market

The Spring 2007 European Council (Brussels, 8-9 March 2007) adopted a comprehensive energy Action Plan for the period 2007-2009 based on the Commission's Communication "An Energy Policy for Europe", in which the Council endorsed the Commission's views and mapped out the concrete steps which need to be taken towards completing the internal energy market. The Council agreed on the need for:

- Effective separation of supply and production activities from network operations (unbundling), based on independently run and adequately regulated network operation systems which guarantee equal and open access to transport infrastructures and independence of decisions on investment in infrastructure;
- Further harmonisation of the powers and strengthening of the independence of national energy regulators;

14 2003/796/EC: Commission Decision of 11 November 2003 on establishing the European Regulators Group for Electricity and Gas, OJ L 296, 14.11.2003, p. 34–35

15 Communication from the Commission to the Council and the European Parliament, "An Energy Policy for Europe", COM(2007) 1 final, Brussels, 10 January 2007.

16 Key areas in which competition does not function well: market concentration/market power, vertical foreclosure (most prominently inadequate unbundling of network and supply), lack of market integration (including lack of regulatory oversight for cross border issues), lack of transparency, price formation, downstream markets, balancing markets, and liquefied natural gas (LNG).

17 Communication from the Commission, "Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report)", COM/2006/0851 final, Brussels, 10 January 2007.

18 Communication from the Commission to the Council and the European Parliament, "Prospects for the internal gas and electricity market, COM(2006) 841 final, Brussels, 10 January 2007.

EdamENG.indd 84 1/3/08 2:19:36 PM

- The establishment of an independent mechanism for national regulators to cooperate and take decisions on important cross-border issues;
- The creation of a new Community mechanism for Transmission System Operators to improve coordination of network operation and grid security building on existing cooperation practices;
- A more efficient and integrated system for cross-border electricity trade and grid operation, including elaboration of technical standards;
- The enhancement of competition and security of supply through facilitated integration of new power plants into the electricity grid in all Member States, in particular encouraging new market entrants;
- Relevant investment signals contributing to the efficient and more secure operation of the transmission grid;
- Increased transparency in energy market operations;
- Better consumer protection, e.g. through the development of an Energy Customers' Charter.

The Council mandated the Commission to come forward with new legislative proposals, by building as much as possible on existing legislation. The European Commission has released the new proposals in September 2007. The proposed "third legislative package" includes the following measures: [19]

- Separation of production and supply from transmission networks: The main proposal of the Commission regarding separation is "ownership unbundling", that is, not allowing a single company to own transmission and be engaged in generation and supply activities. A single entity would still be allowed to hold non-controlling minority interests in transmission and generation. However, such a minority shareholder would not be able to hold blocking rights in both undertakings. The Commission also provides a less-preferred option, namely allowing common ownership but requiring the transmission network be operated by an "independent system operator" (ISO), which would be an entity that would be entirely separate from the vertically integrated company. The Commission also decided that the current unbundling rules (i.e. legal and functional unbundling) are sufficient for distribution system operators.
- The proposals require that companies from third countries which wish to acquire significant interest or control over an EU network will have to comply with the same unbundling requirements as EU companies. This provision, dubbed the "Gazprom clause" in the press, is largely regarded as a reciprocity provision targeting the Russian company.
- The Commission proposes to enhance the powers of national energy regulators. Regulators would be given a clear mandate to cooperate at the European level and have powers to monitor compliance with unbundling and transparency regulations, review transmission investment plans, monitor market opening and promote competition in cooperation with competition agencies.
- It is proposed to enhance transparency by requiring companies to keep data on operational decisions for five years at the disposal of national regulatory and competition authorities as well as the Commission.
- The proposals also have provisions to facilitate cross-border trade, among others, through

19 See European Commission (2007e and 2007f).

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the establishment of a European level cooperation agency with binding decision powers to complement national regulators. There are also measures to enhance cooperation between transmission system operators.

- There are proposed provisions to provide exemptions to new infrastructure from third party access obligations for a pre-determined period.

2.2.1.5. Energy Security, Efficiency and Renewable Energy

In addition to the liberalisation package, other decisions and regulations affect the energy sector. Environmental and energy security concerns have prompted the introduction of targets on production methods and decisions on security. These affect the energy sector and simultaneously affect the regulatory aspects of a liberalised sector.

For renewable energy, the European Commission already set a target in 1997 to increase the share of renewable energy to 12% in 2010. [20] In 2001 the EU adopted the target of increasing the share of electricity produced from renewable sources of energy to 21% of electricity production by 2010.[21]

In March 2007 the Council calls for a binding target of 20% of energy to come from renewables, based on the renewable Energy Roadmap by the European Commission.[22]

In addition to the targets on renewable energy, the EU has a system of CO^2 trading the Emission Trading System (ETS)[23], which forces polluting industries to buy carbon credits, thus creating an effective tax on carbon emissions. Such a carbon cost incites industries to adopt cleaner technologies if the cost is punitive enough. It reduces the competitive interest of using dirty fuel, such as coal based energy production (unless effective carbon capture technology is adopted).

2.2.2. State of Implementation of the Energy Liberalisation Regulations

To create at EU level efficient and liberalised electricity and gas markets, the following conditions are necessary:

- Harmonisation of the legislation governing the energy and gas sectors in the member states.
- Create the infrastructure to allow interconnectivity between markets
- Deconcentration of the energy suppliers nationally
- Unbundling of the of transmission and distribution system operators
- Elimination of discriminatory third party access to the network, in particular as regards preferential access being granted to incumbents for historical long term contracts
- Elimination of regulated prices preventing entry to new market players

The European Union's regulatory framework addresses these needs and is regularly adapting it

20 Communication from the Commission, Energy for the Future: Renewable Sources of Energy, White Paper for a Community Strategy and Action Plan, COM(97)599 final (26/11/1997).

21 Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity Market.

22 Renewable Energy Road Map Renewable energies in the 21st century: building a more sustainable future, COM(2006) 848 final, Brussels, 10.1.2007

23 Directive 2003/87/EC of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

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to counter new or remaining barriers.

The agenda of liberalisation is dominated by the Directives 96/92/CE and 2003/54/CE and the regulations on cross border trade. The Directives concentrate on opening the market to new entrants and increasing the choices for consumers. It also should open the energy distribution networks to new companies.

There is a common scheme in the liberalisation process.

- A vertical segmentation of producers and distribution networks and the privatisation of national monopolies.
- Open competition for production and commercialisation, and the independence of the distribution network, usually remaining a monopoly but with open access to all producers under equal conditions, necessary - as these are natural monopolies - for optional economies of scale.
- The creation of exchange systems and markets for producers, distributors and consumers.
- The creation of national system operators to guarantee the equilibrium between supply and demand and the quality of supply.

This is a complex process, and in those countries where production and distribution were totally integrated and nationalised such changes are very complex and politically delicate.

Due to the freedom offered by the Directives in the modality of implementation, the process of liberalisation has created a large number of national and regional markets which are highly isolated. Far from the single market objective and in some cases reducing rather than increasing the number of suppliers, by opening the market to large mergers and acquisitions.

2.2.2.1. Legal Harmonisation and Implementation – Progress and Barriers

Member States have a weak record in implementing the EU 'liberalisation directives', with virtually all of them behind schedule to ensure the correct functioning of the markets as specified in the Directives. Although the framework for energy regulation is largely in place in the Member States, there remain significant problems of implementation – both in terms of effective unbundling of wholesale and retail operators and in view of the need to open up retail electricity and gas markets in line with the Community timetable.

Directives by nature allow member states a certain level of discretion in the implementation; this is part of the powers conferred by the subsidiarity principle. In the case of the energy markets this has created not only varying speeds of implementation, but also varying legislative frameworks across member states, de facto building new indirect barriers to internal as well as cross border trade in energy.

In late 2006, the Commission launched 34 infringement procedures against 20 Member States for violation and non transposition of the existing Directives. Apart from the obstacles to competition in the energy market outlined in the inquiry, the present report also identified the main deficiencies of the transposition of the new internal market directives as being: regulated prices, insufficient unbundling, discriminatory third party access to the network, insufficient competences of the regulators, lack of transparency on regulated supply tariffs and insufficient indication of the origin of electricity. The report concluded that: "the persistent nature of these infringements, almost two and a half years after the obligation to transpose the Directives on 1 July 2004, clearly demonstrates the insufficiencies and shortcomings of the current EC legal framework arising from

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the Directives." [24]

When comparing the behaviour of member states in the implementation of the Directives the existing power of the incumbent energy companies is clearly visible. As a result the speed and steps of liberalisation in each Member State has often reflected the interest of the large energy producers, often former nationalised energy industries. The result has been a cartelisation in the gas and electricity markets, strengthening rather than weakening national or regional monopolies, such as the industry sector in France, dominated by EDF for electricity and GDF for gas or an existing oligopoly in Germany.[25]

This selective interpretation of the Directives has for example allowed large incumbent national companies to maintain a monopolistic or oligopolistic control over pricing while using the liberalisation process to acquire other companies in other European countries. Analysts often refer to EDF as a clear case, where domestically the Directives have been implemented in its favour, allowing the company to avoid the discomforts of open competition while taking advantage of the possibility to acquire foreign European utilities, which in cases have near to monopoly powers in the regions these operated. This may threaten to reduce the benefits of free cross border energy trade, allowing companies to influence prices on both sides of the border. It also creates an asymmetric market in the EU, where countries limiting liberalisation and protecting incumbent companies allow those to create unfair competitive conditions to companies in countries where liberalisation has been more complete.

A combination of increasing prices (not explainable by increasing oil prices alone) and the consolidation rather than the fragmentation of the energy companies in Europe prompted the European Commission to launch an inquiry in 2005, which was completed in 2007. The result of the inquiry suggest that effectively, trade between countries is limited, allowing for strong national disparities in price levels, and that prices in national markets are in most countries dominated by one or a few companies. Monopoly and oligopoly power are still present. The enquiry blames national authorities for failing to implement directives in full. It also transpires that national regulators are either influenced to rule in favour of the national incumbent companies, or do not have the power to enforce price liberalisation principles.

In addition, there have been blatant examples of government intervention to favour national companies. The acquisition by EDF (France) of SUEZ (Belgium) was highly politically charged, with a forced intervention of the French government. In another case, Italy's ENEL acquisition of Spanish ENDESA was marred by strong obstructionist interventions by the Spanish government.

The existing regulatory framework thus leaves considerable scope for companies to abuse widespread dominant positions. The largest incumbents, in particular those operating long established power plants, are making large profits and introducing considerable imbalances in the sector.

2.2.2.2. Different Approaches to Liberalisation

Three particular cases are often presented as examples of different approaches, the ones of France, Germany and the UK. These three countries represent quite different initial starting situations and therefore also contrasting liberalisation practices and implementation speeds. France for example represents an extreme case of a totally nationalised energy sector with integrated production and distribution systems, a large state monopoly with overall control. For Germany, energy production was concentrated in the hands of a small number of federal industries which today has created an oligopoly. The UK liberalised the energy market before liberalisation became an EU objective, and

24 Ibid.

25 Durant G. (2006), Gas and electricity in Europe: the elusive common interest, Policy Brief, ECP, Brussels

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thus the starting point was very much in line with the Directives. For Britain the liberalisation at EU level represents the adoption of their model in other countries, and an opportunity for UK energy players to gain access to other EU markets.

France

The energy sector was in its entirety publicly owned. Electricité de France (EDF) and Gaz de France (GDF) were entrusted with monopoly powers with respect to production, transmission, distribution, and the import and export of electricity (in the case of EDF) and distribution, transport, and the import and export of gas (in the case of GDF). Nevertheless, the energy sector was relatively efficient and national ownership of energy production and distribution had very strong political and social support. Liberalisation transformed EDF and GDF into shareholding companies. The state retained control over 80% of the shares and legally it cannot have less then 70%.

Based on this situation France did not embrace energy market liberalisation easily and was very slow in implementing the energy directives. For example, the law for deregulation of electricity was adopted a year later than the directive of 1996 required. Other laws on electricity and gas were adopted with very strong delays. France has also made sure that only the bare minimum of the Directives are adopted, in the slowest possible timeframe, and breaching the deadlines of the Directives. According to the Commission the opening of the market has occurred largely at theoretical level only.

For electricity, in July 2006, competition to EDF was only for 4,8% of the national market, and for small and medium enterprises only 0,6% of the energy is produced by a competitor. Foreign imports were only of 0,03% of the energy.[26]

The end of the monopoly by EDF and GDF were seen as an attack on the French public service by the European Commission and a risk for the services of common public interest guaranteed by the state. The regulations however allow for those interests to be guaranteed by the energy operators, which can be publicly or privately run.

The cautious liberalisation process in France is claimed to be biased towards maintaining the central role of the EDF and GDF. Looking at the electricity market (Figure 2-1), the result is quite striking. EDF today is by far largest single electricity producer in Europe.

In fact the Commission is very critical towards France, considering that state interference, weak regulatory bodies and planned lack of transparency severely hinder the creation of a competitive market.

The regulators (Commission de Régulation de l'Energie) CRE is the independent administrative body in charge of ensuring the correct functioning of the electricity and gas markets. However, it shares the responsibility with the government, which has a veto power over its tariff settings.

EDF and GDF dominate still the electricity and gas, production, import and transmission and distribution. Juridical unbundling has occurred for the transmission, but ownership is not separated.

Liberalisation in principle allows consumers to search for competitors. Yet as the regulated network dominates the energy sector nearly completely, choice is more fictitious than real. France keeps regulated prices for existing private customers, with price liberalisation only open for new connections after 1 July 2007. The European Commission has condemned the practice as it distorts pricing and may affect negatively new entrants, if a large share of the potential customers is

26 Commission staff working document SEC(2006) 1709, Accompanying document to the Communication from the Commission to the Council and the European Parliament, Prospects for the internal gas and electricity market, Implementation report COM(2006) 841 final.

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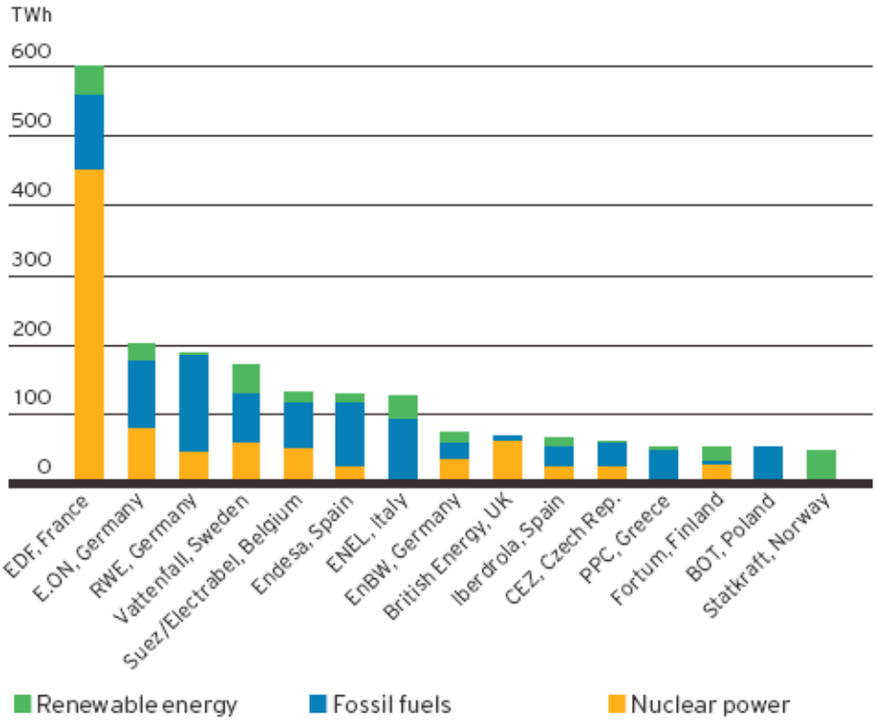
captured under a subsidised price level by EDF. The price is considered to be well below the market price. 50% of the consumers still ignored the theoretical possibility of changing supplier.

Figure 2-1: Electricity production of major companies



Source: Vattenfal (2006), p. 31

A particularity which needs consideration is the large share of state ownership of the major producers: EDF is 85% state owned, Vattenfall in Sweden by 100%, EnBW in Germany is owned by EDF by 45.01%, Enel in Italy is 32.2% owned by the Italian state, Fortum in Finland by 50.82% to mention some.[27]

What is clear is that state interests and the interest of the company are strongly linked. The large state control over EDF has caused some concern with its acquisitions of foreign electricity companies. EDF is suspected to maintain a dominant position and profitability thanks to indirect state protection, which then allows it to have particular strength in acquiring foreign assets, an issue that will be discussed in a latter section.

While officially France has accepted the unbundling of production and distribution and allowed for competition, the market still seems to be controlled by a monopolistic player. EDF has in the last minute adapted to the minimum requirements allowing for choice for individual consumers on 1 July 2007, but services are run by subsidiaries which often have preferential agreements or are controlled by the main body. EDF still controls the whole network, and with a large state control of the company, the state has a strong influence at all levels.

Unbundling has largely been interpreted as the creation of EDF subsidiaries, rather than the appearance of various fully independent operators. Liberalisation is still far from becoming a reality and the rules adopted seem to reinforce rather than reduce cartelisation. EDF controls through a subsidiary RTE transmission and 95% of the distribution. It controls all exports, but in 2005 the regulator banned the preferential treatment of EDF in the networks.

27 Vattenfall 2006 annual report

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For gas, GDF shares the market with the energy company Total. GDF controls 88% of the transport sector and 96% of the distribution through a subsidiary.

Gaz and electricity run preferential tariffs, which the government defends under the banner of universal service obligation for vulnerable customers, but the tariff is unrelated to the circumstances of the consumers. The European Commission opened infringement procedures also in this area.

Similar problems as in France can be found, for example, in Belgium, Greece and Poland.

Germany

In Germany the market seems to be characterised by an oligopoly [28] of companies with a high vertical integration. This together with low interconnectivity allows these operators to capture the market and restrict imports.

Nevertheless, a new and more powerful regulatory body is bringing improvements to the market, but progress is low and the German markets are complex. The oligopolistic nature of the market prevents the easy identification of ensuing market distortions contrary to the strong interventionist and monolithic influence of the two energy giants of France.

Unbundling is still only legal and functional, and only for Transmission System Operators (TSOs). Distribution System Operators (DSOs) are excluded from the unbundling requirements except those serving more than 100.000 customers. No ownership unbundling is foreseen.

The Government has been far less obstructionist than France, granting the regulators (the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen (BNA)) far reaching powers, without a veto power of the state and transparent systems when disputes arise. The area where regulators have little power in relation to the security of supply, especially in the gas sector, which depends on imports.

Generally, the unbundling obligations are taken seriously by the German authorities, even if the Government is not very favourable to ownership unbundling, but prefers a well regulated legal and functional unbundling, including the physical separation of the companies, even under shared ownership.

The United Kingdom

The UK has led the way in the privatisation of the energy sector across the world and not just within Europe. The process of liberalisation in the UK has been a driving force of the EU liberalisation process. The regulated monopolistic elements of the sector (transmission and distribution) operate separately from generation and supply. The UK has an entirely privately-owned industry, with all consumers free to switch their supplier.

The liberalisation process has been a precursor to the Commission directives and has affected their format. The Conservative government under Margaret Thatcher considered necessary to reduce public intervention in the sector to improve efficiency in the market. The UK was the first undertaking such a move worldwide, even if in Japan, energy operators have been private since 1951.

While initial liberalisation started as early as 1983, which allowed private energy producers access to the networks, a process of complete privatisation and unbundling of the sectors was undertaken in 1992. This is considered to have increased efficiency and reduced prices. Before, the UK was serviced by nationalised vertically integrated utilities in four regions of the country serving the specific regions. Liberalisation radically changed the energy sector, with companies completely

28 Durant G. (2006), Gas and electricity in Europe: the elusive common interest, Policy Brief, ECP, Brussels

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privatised. Today 10 major companies compete in the market for 80% of the power generation, with another 40 operating in the remaining 20%.

Table 2-1: Main electricity generating companies

Company	Capacity (MW)	Percentage of total UK capacity
British Energy	11,551	15
Npower (RWE, Germany)	9,886	13
Powergen (E.ON, Germany)	9,154	12
Scottish & Southern	7,852	10
ScottishPower	6,137	8
EDF Energy (France)	4,820	6
Drax	3,945	5
Centrica	3,139	4
International Power	2,756	4

Source: Pond R. (2006), Liberalisation, privatisation and regulation in the UK electricity sector, Privatisation of Public Services and the impact on quality, employment and productivity (PIQUE), FP6, (CIT5-2006-028478), p. 8

The nationalised BNFL runs four nuclear power stations which are all due for decommissioning over the next three years.

Interestingly, since 1998, energy generation companies were allowed to purchase retail providers, allowing for vertical integration to reappear. However, the energy regulator required legal separation of functions.

The level of activity in the market is very high with consumers switching companies with ease. 42% of consumers have switched suppliers since 1998 and monthly switches in 2006 have reached the hundreds of thousands a month. However, the savings for consumers failed to materialise for many consumers as prices rapidly change.

The UK is the most liberalised member state in the energy sector. The present concern in the UK is that unfair competition by incompletely liberalised markets in other EU countries may harm British utilities.

Implementation across Markets

To see how member states have advanced in the process one can observe the 17 infringement proceedings for the lack of application of the energy directives. It is clear from the list that implementation remains problematic.

Table 2-2: Letters of Formal Notice for Directives 2003/54/CE and 2003/55/CE

Member State	Observations	Market
AUSTRIA Electricity+gas	1) Absence of, or insufficient legal unbundling of transmission and distribution system operators in order to guarantee their independence 2) Insufficient competences of the regulators in relation to the directives, in particular with respect to the possibilities to file complaints to the regulator 3) Preferential access for certain historical contracts in the market of electricity and gas 4) absence of some regional laws	GAS EL+GAS EL+GAS EL
BELGIUM Electricity + gas	1) Absence of formal designation of transmission operator 2) Discriminatory system of third party access to the transmission and distribution systems and the insufficient transparency of the connection tariffs 3) exemption of regulation for certain new investments	GAS EL+GAS EL+GAS

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Member State	Observations	Market
CZECH REPUBLIC Electricity + gas	1) Absence of, or insufficient legal unbundling of transmission and distribution system operators in order to guarantee their independence 2) non publication of conditions for access to storage discriminatory system of third party access to the transmission and distribution systems and the insufficient transparency of the connection tariffs 3) Absence of the notification of the public service obligations 4) Preferential access for certain historical contracts in the market of electricity and gas	EL+GAS GAS EL+GAS EL+GAS
ESTONIA Electricity	1) absence of independence of the transmission system operator and distribution system m operator in the management 2)Insufficient competences of the regulators in relation to the management ad allocation of interconnection capacity 3) existence of regulated prices which block arrival of new suppliers 4) Absence of the notification of the public service obligations	EL EL EL EL
FINLAND Electricity	Absence of, or insufficient functional unbundling of transmission and distribution system operators in order to guarantee their independence	EL
FRANCE Electricity + gas	1) Absence of, or insufficient legal unbundling distribution system operators in order to guarantee their independence 2) Existence of regulated prices which block the arrival of new suppliers 3) Absence of the notification of the public service obligations 4) Preferential access for certain l contracts in the market of electricity 5) non publication of commercial conditions for access to storage	EL+GAS EL+GAS EL+GAS EL GAS
GERMANY Electricity	1) Absence of the notification of public service obligations 2) Preferential access for certain historical contracts in the market of electricity	EL EL
GREECE Electricity+gas	1) Absence of, or insufficient legal and management unbundling of transmission and distribution system operators in order to guarantee their independence 2) Freedom to choose supplier 3) absence of the notification of the public service obligations	EL GAS EL
IRELAND Electricity+gas	1) Absence of the notification of the public service obligations 2) Absence of legal unbundling TSO 3) Regulated prices	EL+GAS EL+GAS EL+GAS
ITALY Electricity+gas	1) Absence of, or insufficient functional unbundling of transmission and system operators in order to guarantee its independence 2) absence of /or insufficient unbundling of distribution system operators in order to guarantee their independence 3) Existence of regulated prices which block the arrival of new suppliers 4) Preferential access for certain historical contracts in the market of electricity and gas	GAS EL+GAS EL EL
LATVIA Electricity	1) Existence of regulated prices which block the arrival of new suppliers 2) Absence of the notification of the public service obligations	
LITHUANIA Electricity + gas	1) delay in the entry into force of legal unbundling of transmission and distribution system operators 2) Discriminatory system of third party access to the transmission and distribution systems and the insufficient transparency of the access conditions 3) Absence of the notification of the public service obligations	EL GAS EL+GAS
POLAND Electricity + gas	1) Absence of, or insufficient legal unbundling of and distribution system operators in order to guarantee their independence 2) Absence of the notification of the public service obligations 3) Preferential access for certain historical contracts in the market of electricity 4) No labelling provisions in national legislation	EL+GAS EL+GAS EL EL
SLOVAKIA Electricity+gas	1) Absence of, or insufficient legal unbundling of transmission and distribution system operators in order to guarantee their independence 2) Absence of the notification of the public service obligations 3) Preferential access for certain contracts in the market of electricity	EL+GAS EL+GAS EL
SPAIN Electricity+gas	1) Existence of regulated prices which block the arrival of new suppliers. 2) Absence / insufficient functional and accounting unbundling of transmission and distribution system operators in order to guarantee their independence	EL GAS
SWEDEN Electricity	1) Absence of, or insufficient functional unbundling of and distribution system operators in order to guarantee their independence 2) Insufficient competences of the regulators in relation to the directives, in particular for fixing the tariffs of access to the networks	EL EL
UNITED KINGDOM Electricity	Preferential access for certain historical contracts in the market of electricity	EL

Source: Europa press release MEMO/06/152 Date: 04/04/2006

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2.2.3. Impact Assessment of the Present EU Regulatory Framework

The underlying reason for the liberalisation of the energy industry is largely motivated by expected efficiency improvements in addition to the creation of a single European market. A more efficient supply of energy should contribute to the competitiveness of the European economy: reducing costs, increasing quality of service and increasing welfare. The efficiency increases are in production, allocation and in dynamic terms.

Productive efficiency is mainly related to cost-minimisation and profit-maximisation behaviour of companies, which requires efficiency in production. Allocative efficiency arises from the existence of real market prices ensuring the undistorted allocation of resources in the economy. Dynamic efficiency ensures that only companies able to produce efficiently under competitive prices and costs will remain, thus competition would also encourage innovation, the market dynamism increases.

It is difficult to assess market efficiency in all member states, but studies by London Economics (2007)[29] and CPB (2006)[30] show that there are indications that we are far from operating in an efficient and perfectly competitive market. The distortions also may cause unintended negative effects, such as the creation of cartels and regional monopolies.

The indications that there is a problem in the market has been the limited price approximation in the EU and the existence of prices which seem to be above the levels expected in a competitive market. As lower prices are usually expected compared to the non liberalised sector, this is a worrying conclusion. The studies reveal an excessive market power of incumbent operators in a number of countries. These operators shifted from being state controlled to be semi-parastatal monopolists with large control on the distribution and transport networks, which are often dependent subsidiaries. Efficiency in the allocation of resources has thus not occurred.

Price reductions are seen in more liberalised and market incentive based systems of regulation and operation. The UK and the Netherlands show the lowest transmission costs, lowest prices and high price convergence. Both countries are well interconnected and trade in electricity. Price convergence can also be found in the Northern countries which are interconnected Nord Pool.

According to the CPB (2006) it is difficult to determinate the extent of any change in dynamic efficiency, but one of the effects of new market rules has been a fall in the level of R&D for innovation into fundamental research, such as fuel cell technology or clean coal-technology. The firms' incentives have changed towards costs reduction technologies and consumer services. However, the quality of allocation of R&D spending pre-liberalisation cannot be determined, thus it is not possible to determine if this is a deterioration of efficiency or a reduction of previously misallocated resources.

2.2.3.1. Changes in Market Structure

Operators have reacted quickly to the process of liberalisation through the financial markets, which is not surprising. Companies have used the lack of proactive regulation, weak regulatory bodies and soft roles in unbundling requirements. The electricity companies started a merger and acquisition process which has increased market concentration.

Very few member states applied reforms which induced a fragmentation of the industry and thus it is the norm rather that the exception that some national utilities control more than 60%

29 London Economics (2007), Structure and Performance of Six European Wholesale Electricity Markets in 2003, 2004 and 2005, DG Competition report

30 CPB (2006), Liberalisation of European energy markets: challenges and policy options, CPB document No 138

EdamENG.indd 94 1/3/08 2:19:39 PM

of the domestic wholesale market (Table 2-3) and shares are similar in the retail market. Some of those national utilities are also still largely state owned. Furthermore, the companies have also acquired companies in other EU member states making a future EU competitive market less effective.

Table 2-3: Market power of largest electricity producers and gas distributors

	Wholesale market				Retail market			
	Electricity		Gas		Electricity		Gas	
	Companies with production capacity over 5%	C3, share of largest 3 producers in % a	Companies with production capacity over 5%	C3, share of largest 3 shippers in % a	Companies with market share over 5%	C3, % share of largest 3 suppliers for industrial and small customer groups b	Companies with market share over 5%	C3, share of largest 3 suppliers for industrial and small customer groups b
Austria	5	54	1	80	5	60	4	-
Belgium c	2	95	2	-	92 to 100	92-100	3/5	90-100
Denmark	10	40	2	97	-	-	3	92 and 100
Finland d	10	40			5	35-40		
France	1	96	2	98	1	91 and 96	2	-
Germany	5	72	5	ca. 80	4	-	1	-
Greece	1	97			1	97 and 100		
Ireland	2	93	5	84	3	99	3	100
Italy	5	65	3	62	6	33 and 93	5	54 and 33
Luxembourg	1	88	1	-	4	94 and 95	4	93
Netherlands e	4	69	1	85	3	83	3	83
Portugal	3	76			2	98		
Spain	3	69	4	73	5	82 and 85	5	72 and 90
Sweden	10	40	1	78	3	50	-	-
UK	8	39	7	36	6	65 and 59	6	53
Norway f	10	40			4	95 and 31		
Estonia	1	95	1	100	1	95	1	100
Latvia	1	95	1	100	1	-	1	100
Lithuania	3	92	4	92	3	100	2	100
Poland	7	45	1	100	6	50 and 47	7	-
Czech Rep.	1	76	-	-	3	95	7	51 and 57
Slovakia	1	86	1	-	1	86 and 100	1	100
Hungary	7	66	2	100	7	7 and 51	7	77 and 79
Slovenia	3	87	1	100	6	67 and 77	6	-
Cyprus					1	100		
Malta					1	100		

Source: EC(2005), based on Regulators data.
a Data for Sweden, Norway, Denmark, Finland relate to entire Nordic market
b Where C3 differs per customer group, we first give C3 for the group of large industrial users and then C3 for the group of small (residential) users.
c Belgium: C3 shows the range for Flanders and Wallonia. No data for Brussels region.
d Finland: C3 shows the range for middle and small custumer groups
e The Netherlands: C3 indicates the market share for small customers
f Norway data from 2003
Data Source: CPB (2006), Liberalisation of European energy markets: challenges and policy options, CPB document No 138

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This market power distribution and the state control of the companies (85% for EDS or 100% Vattenfall) becomes a concern, specially if those acquire the assets and control of other EU companies, such as EnBW in Gemany owned by 45,01% by EDF. It is ironical that a state that defends the right to national "champions" with a resistance for foreign ownership has no ideological problem in acting as a free market player in purchasing foreign utility companies. Lack of unbundling and break up of state monopolies have allowed the emergence of large players which could dominate price setting in the EU even with much stronger cross border trade.

European utilities have quickly moved to establish their positions, faster than the legislative changes. Some acquisitions have involved considerable funds reflecting the sectors' expected benefits from expanding their control in the market. Consequently, more than two-thirds of the European market is now concentrated in the hands of eight large companies, with the Europe-wide four-firm concentration ratio at 50%. The ownership structure is complex with partial shareholding in many cases, making an analysis of the consequences difficult.

This horizontal integration triggered the concern of the European Parliament, which called for the dismantling European giants, specially state owned companies[31]. It is an anathema in the EU to have state controlled companies buy foreign utilities, given that their market power is artificially maintained.

In the same document, the Parliament calls for the complete unbundling of distribution and transport infrastructures for gas and electricity. The present framework for unbundling does not require the full separation of the companies, thus allowing for subsidiaries of the producer to run this infrastructure.

2.2.3.2. Unbundling

In a state controlled energy market, it was normal to have vertical integration between producers and transmission and distribution channels for electricity and gas. However, the opening of the market with the maintenance of utility giants has induced a number of merger and acquisitions of vertically integrated companies, or have re-integrated the downstream sectors.

However, according to the EU Directives on the liberalization of the electricity and natural gas market, the management of both transmission and distribution networks has to be legally and functionally unbundled from commercial activities by 2007. In the case of transmission networks this has been the case, but less for the gas sector.

Furthermore, concerns on the lack of obligatory ownership unbundling has created a situation in which producers and the transmission and distribution networks are owned by one and the same company, even if legally and managerially independent. The European Commission considers this a cause for reported barriers to entry for new utilities. In particular in the gas market it appears that third party shippers are subjected to higher access procedures compared to historical suppliers. Distribution system operators often remain closely linked to the supply business of the incumbents in several of EU countries. Table 2-4 presents the level of unbundling.

31 P6_TA(2006)0110, 'Security of energy supply in the European Union', European Parliament resolution on security of energy supply in the European Union

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Table 2-4: Level of unbundling of network operators

	Electricity		Gas	
	TSO a	DSO	TSO a	DSO
Austria	yes	no	yes	yes
Belgium	yes	yes	yes	yes
Denmark	yes and ownership	yes	yes and ownership	yes
Finland	yes, state overlap	yes		
France	yes, state overlap	no	yes, state overlap	no
Germany	yes	no	partly	no
Greece	yes, state overlap	no		
Ireland	yes, state overlap	no	no	no
Italy	yes and ownership	see note b	yes and ownership	yes
Luxembourg	yes	no	no	no
Netherlands	yes and ownership	yes	yes and ownership	yes
Portugal	yes and ownership	see note b		
Spain	yes and ownership	see note b	yes	see note b
Sweden	yes, state overlap	yes	yes and ownership	no
UK	yes and ownership	yes	yes and ownership	yes and ownership
Norway	yes, state overlap	yes		
Estonia	yes	yes	no	no
Latvia	yes	no	no	no
Lithuania	yes, state overlap	yes	no	no
Poland	yes, state overlap	no	yes	no
Czech Rep.	yes, state overlap	no	no	no
Slovakia	yes, state overlap	no	no	no
Hungary	yes, state overlap	see note b	yes	no
Slovenia	yes, state overlap		yesc	no
Cyprus	no			
Malta	-			

Document No 138, December 2006; EC(2005), based on Regulators data.
a "State overlap" where the state owns the TSO and also has a shareholding in one or more suppliers.
b In Italy, Portugal, Hungary (electricity) and Spain (electricity and gas) the DSO is also a default supplier. However, suppliers to non-regulated customers must be legally unbundled.
c Incorporating corrections.

Even in the UK where unbundling was large and where liberalisation ensured fragmentation of producers, a level of re-integration horizontally and vertically has been accompanied by increased retail supply margins.

Vertical separation of networks and competitive activities can yield significant benefits for total welfare, but vertical integration between retailing and generation appears to have a strong commercial rationale, inciting utilities to maintain a level of control offer in the retailing network. The utilities can integrate their operational risk into retailing.

National regulators have not shown much interest in stopping the trend, and the tendency of governments to foster national champions may have played a role. In fact national competition bodies have hardly reacted to reintegration inducing the European Commission to start using its competence through competition policy, but the Commission's influence in mergers within countries is not strong. Table 2-5 ranks the level of unbundling in the electricity sector. While for transmission some progress has happened, the same cannot be said for distribution.

Initial structural differences and the flexibility allowed by the first Directives have meant that member states have adopted different approaches to separate the functions of production, trans-

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mission, distribution and transport. Effective separation of transmission system operators from generation is important for effective wholesale competition. Recognising this, the separation of transmission system operators has generally been more stringent than for distribution system operators, and more countries have applied ownership or at least legal separation.

Table 2-5: Extent of network unbundling for electricity

	Transmission System Operator Score/5	Distribution System Operator Score/5
Austria	4	3
Belgium	4	3.5*
Denmark	4	3
Finland	5	1.5
France	4	1
Germany	4	1.5
Greece	1	0
Ireland	3	3
Italy	5	3
Luxembourg	1	1
Netherlands	5	3
Portugal	5	3
Spain	5	4
Sweden	5	4
UK	5	4.5
Norway	5	1.5

• TSO: Ownership unbundling, Yes=1, No=0;
• DSO: Legal unbundling, Yes=1, No=0
• Published accounts, Yes=1, No=0
• Compliance officer, Yes=1, No=0
• Separate corporate identity, Yes=1, No=0, Often=0.5
• Separate locations, Yes=1, No=0, Partly=0.5
** Brussels region not yet legally unbundled and no compliance officer in Flanders region.*
Source: Tooraj and Pollitt (2005)32, based on European Commission (2005)

Despite the years of preparation for the liberalisation of the energy markets active competition for household consumers remains the exception in the electricity sector and is almost totally absent from the gas sector. The official liberalisation for households on the 1 July 2007 has rarely been followed by a freedom to choose between companies. Price regulation and monopoly power still dominate the sector.

In the gas sector the situation is considerably worse than in the electricity sector, as the level of vertical integration was higher and the infrastructures less simple to unbundle. In particular a rather limited capacity for gas storage facilities is under the control of former incumbent gas companies that control imports and distribution and often allows preferential access based on historical contracts. Even in the liquid gas market contracts between transport companies and distribution companies are still dominated by historical links and block the access of new entrants.

2.2.3.3. Cross-Border Network Development

As the yearly benchmarking exercise by the Commission in 2006[33] demonstrates, the develop-

32 J. Tooraj and Pollitt M. (2005), Electricity Market Reform in the European Union: Review of Progress toward Liberalization & Integration, CEEPR, March 2005

33 Communication from the Commission to the Council and the European Parliament, "An Energy Policy for Europe", COM(2007) 1 final, Brussels, 10 January 2007

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ment of cross-border networks in the electricity sector has been slower than anticipated and is only relatively well integrated between Nordic countries, in the Nord Pool exchange, and between Germany and Austria. The EU electricity market is for the moment fragmented into regional markets.[34] In the Nord Pool area the system is sufficiently integrated through a bidding system which sets the flows a day ahead. The system automatically optimises flows.

Unsurprisingly, price convergence in the northern countries has increased. However, no system of cross-border trade functions down to the retail level, only at wholesale through TSOs. Customers need still to purchase the energy through their national grid operators.

The overall cross-border trade in the EU reaches only 10% of the energy in use. Trading is still hindered by national barriers and does not reach the potential. Auctions for supply of energy are dominated by national incumbents and still vertically integrated systems, giving preferential access to domestic incumbents. This is against the ruling of the Court of Justice in case C-17/03[35], which forbids preferential treatment. Legal action against such cases has been started by the European Commission.

A signal that cross border trade is still not fully functional is the differences of tariffs between countries to use the transmission network. Work is still ongoing to harmonise ratification practices, especially on the network tariff to connect a generator to the transmission network, which can affect the access to an integrated network of producers in different geographical locations in Europe, affecting the level playing field.

2.2.3.4. Liberalisation and Renewable Energy

The greening of the electricity sector has been relatively successful, despite the targets on renewable energy as a whole well behind schedule, electricity production is expected to be produced by nearly 19% from renewable sources by 2010. The performance varies between member states. Only nine are expected to reach the national targets for renewable energy: Denmark, Germany, Finland, Hungary, Ireland, Luxembourg, Spain, Sweden and the Netherlands.

The European Commission considers the completion of the market liberalisation a central cornerstone of the renewable energy policy, as free markets encourage efficiency improvements in production. There are, however, concerns over the overall effect. If a liberalised system is more effective and costs of production and thus prices for consumers fall, this could increase demand for energy.

There is also the disturbing discovery that liberalisation has reduced R&D in alternative energies, even if it is unclear if previous subsidised levels of research were efficiently used.

Another central instrument to increase efficiency is the EU's emission's trading system. Carbon taxes should incite the energy sector to use cleaner technologies. The system is under review to create incentives for investing in low carbon technologies, while avoiding damage to the competitiveness of energy intensive industries.

2.2.3.5. Conclusions

The energy markets in the European Union are still far from being fully liberalised. Member States have generally used the subsidiarity rights granted by the Directive to protect the national incumbent companies. This is damaging the creation of a single market for energy and jeopardi-

34 Regions are: UK and Ireland, Central Western Europe, Iberian Peninsula, Italy, Norther Europe, Baltic countries, Central and Eastern Europe, South East Europe

35 Vereniging voor Energie, Milieu en Water and Others v Directeur van de Dienst uitvoering en toezicht energie, OJ C 182 of 23.7.2005, p.2.

EdamENG.indd 99 1/3/08 2:19:41 PM

ses the benefits in productive, allocative and dynamic market efficiency emerging from effective competition.

Partial or "selective" transposition or interpretation of the Directives has allowed former national state monopolies to maintain monopolistic powers in their region or country. Horizontal and vertical integration has occurred and four operators control 50% of the energy market in the EU. Consequently these companies have a considerable control over market prices.

Unbundling of transport, transmission and distribution networks for electricity and gas need preferably a separation of ownership. Results show that legal and managerial formal independence does not guarantee fair operation of these services.

The Commission will need to use all its powers as competition watchdog to counter the distortions caused. Cross-border trade has to be increased and interconnectivity needs to be reinforced to increase the competitive pressure on prices across Europe, and balance better the supply potential of each member state.

Liberalisation of the energy markets is, however, causing unease for the security of supply, especially in the gas market. The Commission insists that liberalisation is a guarantee for energy security, as prices respond to market needs better.

The European Commission should observe carefully if the level of R&D and the investments to improve energy efficiency are sufficient for the challenges ahead. Liberalisation seems to have reduced the incentive to invest in future capacity.

2.3. Restructuring in the Turkish Electricity Industry

In 2001, Turkey launched an ambitious program to restructure her electricity industry by adopting Law No. 4628 (the Energy Market Law, EML) aiming to introduce competition into a previously vertically integrated industry through liberalization and privatization. In the new market structure, generation and retail supply are to develop competitively whereas transmission and distribution are regulated so as to ensure non-discriminatory access to all market participants. The law also established the Energy Market Regulatory Agency (EMRA) and gave it the task of designing and implementing the regulatory infrastructure of the new regime. When it came out, the Law was rightly hailed for providing a regulatory framework that was even more advanced than the regulatory framework prevailing in Europe at the time.

However, progress since then has been very slow. Most of the needed regulatory infrastructure (secondary legislation, ordinances, communiqués etc) has been prepared and adopted. Significantly, a balancing market has been launched in August 2006, allowing for the first time the formation of a market clearing price for electricity albeit on the basis of a very short term time horizon. However, there have been significant regressions and set backs as well, as reflected most recently in the surprise and last minute cancellation of the privatization of three distribution companies in January 2007. The most important factor behind the cancellation seems to be the government's wish to minimize any risks, especially of increases in retail prices, before the elections in that took place in July 2007.

Electricity demand has been growing at 7-8% annually and investment needs over the next decade is expected to remain at 2-3 billion USD per year. The expectation is that under restructured electricity markets, the majority of this investment would be undertaken by the private sector. More importantly, it is widely accepted that public resources to finance an investment drive of this magnitude is not available. So far, this investment response has not been forthcoming. So Turkey is faced with a strange paradox where demand is soon to outstrip supply but this does not generate any supply response, despite a general environment that wants to support private investment. The reasons behind this paradox are examined below.

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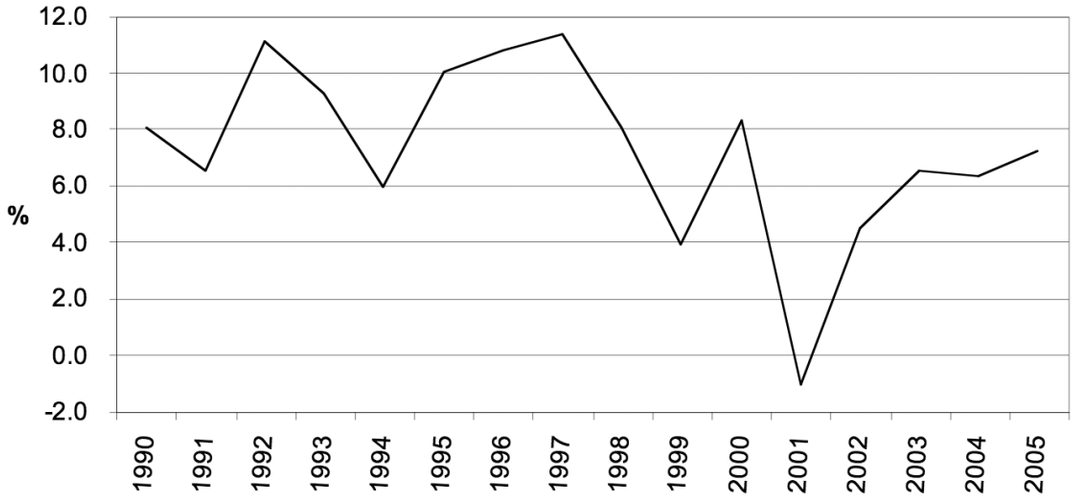
2.3.1. The Current Structure of the Industry

2.3.1.1. Demand, Capacity and Production

Electricity consumption has been growing fast in Turkey, averaging about 6-8% per year except for 1999 and 2001, when consumption was low due to negative economic growth. 1999 was the year of the devastating earthquake and 2001 was the year of a severe economic crisis when GNP declined by more then 9% (Figure 2-2).

Figure 2-2: Electricity consumption growth (%)



Imports and exports exist but have been negligible in the last few years. As of 2005, total capacity is about 39 GW. Table 2-6 provides data on distribution of capacity by type of fuel. The distinguishing feature is the increase in the share of gas-based plants at the expense of both coal and hydro, a relic of times when natural gas prices were low. Concomitant with the increase in the share of gas has been an increase in the share of the private sector in installed capacity (Table 2-7). The share of the private sector has reached 38% in 2005 (up from 18% in 2000).

As of 2005, total generation is about 162 TWh. The share of gas-based production is about 45% (Table 2-8). The share of the private sector in generation is even larger than its share in capacity, reaching 55% in 2005. About 11% of all generation is carried out by the so-called auto-producers (Table 2-9). The category "production companies" includes plants built under BOT and BO[36] contracts (34% of total generation in 2005) and independent power producers (IPPs) (7%).

Table 2-6: Installed capacity by primary sources (MW)

	Coal		Fuel Oil		Natural Gas		Other		Total Thermal		Hydro		Total	
		%		%		%		%		%		%		%
1990	5,206	32	1,202	7	2,210	14	918	6	9,536	58	6,764	41	16,318	100
1995	6,374	30	1,149	5	2,925	14	626	3	11,074	53	9,863	47	20,954	100
2000	6,989	26	1,261	5	7,044	26	759	3	16,053	59	11,175	41	27,264	100
2003	8,239	23	2,331	7	11,510	32	895	3	22,974	65	12,579	35	35,587	100
2005	9,117	23	2,253	6	13,774	35	759	2	25,902	67	12,906	33	38,844	100

Source: TEIAŞ

36 These contracts are explained in section 2.3.2.1.

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Table 2-7: Installed capacity by legal status (MW)

	EUAS	Privatization Programme	Autoproducers	Production companies	Mobile Plants	TORs	Total
1990	14729	0	1194	16	0	0	16318
1995	18858	0	1345	35	0	0	17670
2000	21252	0	2996	1985	91	330	27264
2003	20113	1680	4542	7806	796	650	35587
2005	20905	1680	4062	10797	750	650	38844

Source: TEIAŞ

Table 2-8: Generation by source (MW)

	Coal		Natural Gas		Total Thermal		Hydro		Total	
		%		%		%		%		%
1990	20,181	35	10,192	18	34,315	60	23,148	40	57,543	100
1995	28,047	33	16,579	19	50,621	59	35,541	41	86,247	100
2000	38,186	31	46,217	37	93,934	75	30,879	25	124,922	100
2003	32,253	23	63,536	45	105,101	75	35,330	25	140,581	100
2005	43,193	27	73,445	45	122,242	75	39,561	24	161,956	100

Source: TEIAŞ

Table 2-9: Generation by legal status (MW)

	EUAS		Under Privatization		Autoproducers		Production Companies		TORs		Total	
		%		%		%		%		%		%
1990	52,854	92	0	0	3,361	6	23	0	0	0	57,543	100
1995	78,195	91	0	0	5,625	7	126	0	0	0	86,247	100
2000	93,234	75	0	0	15,962	13	12,039	10	1,141	1	124,922	100
2003	60,506	43	2,591	2	23,127	16	45,461	32	4,317	3	140,581	100
2005	66,931	41	6,531	4	17,087	11	66,409	41	4,121	3	161,956	100

Note: Production Companies include BOT, BO and IPP plants

2.3.1.2. The Need for New Capacity

In the 1990s worries about insufficient capacity and perceptions that public finances would not allow large public investment projects had led governments to encourage private investments under build-operate-transfer (BOT) and build-operate (BO) contracts. The severe macroeconomic crisis of 2000-2001, which resulted in an unprecedented economic recession proved these forecast wrong and Turkey found itself in a temporary situation of excess capacity in the early 2000s.

This situation is changing fast and capacity projections recently prepared by TEIAŞ[37] point to an impending capacity shortfall. The TEIAŞ report makes capacity projections under two demand scenarios prepared by the MENR. The high and low demand scenarios (where demand grows by 8.4 and 6.3% per annum, respectively). Under the high demand scenario, capacity already available, under construction and capacity which has been licensed by EMRA and which is expected to become available, just meets peak demand with no reserves available, in 2013. Reserves start falling below 26% after 2009. To maintain a reserve ratio of 28-29%, additional capacity needed amounts to 1075, 3843 and 7689 MW in 2009-2011. Under "normal" or "project" producti-

37 TEİAŞ "Turkish Electricity Energy 10 Year Production Capacity Projection (2006-2015)", June 2006 (in Turkish), Tables 22, 23 and 24.

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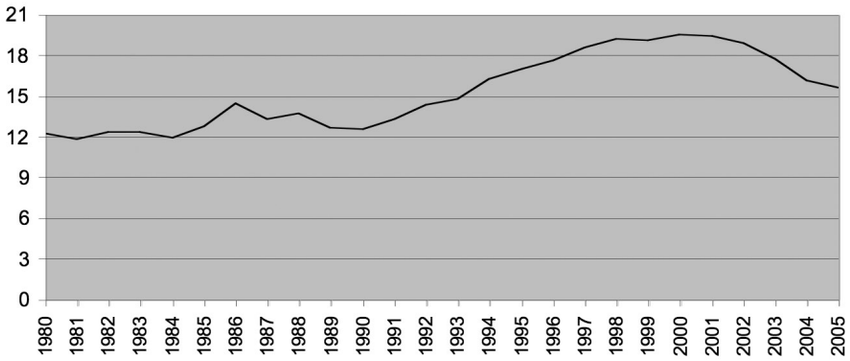
on conditions, supply generated by existing capacity, capacity under construction and capacity licensed by EMRA and which is expected to become available starts to outstrip demand, with no reserves, by 2011. The report also makes projections under the assumption of rain shortfalls (called "reliable" production in the report). Under reliable generation, demand starts to outstrip supply by 2009. These are projections made under the assumption of no fuel shortages. Capacity shortfalls would appear earlier, for example, if it is assumed that gas based plants produce not at full capacity, but at level of production projected in 2006 (about 75% capacity).

2.3.1.3. A Complicating Factor: Distribution Losses

As of 2005, the average ratio of losses, including technical losses and theft, to total billed and unbilled consumption was about 16% (Figure 2-3). A further complicating factor is that loss ratios vary significantly across distribution regions. In two regions in eastern and south eastern Anatolia the ratio of losses to total (billed and unbilled) consumption are around 50-60%. In terms of absolute level of losses, the European part of Istanbul comes out as the region with second highest volume of losses (Table 2-10).

Figure 2-3: Loss-and-theft ratio in electricity (% of total supply)



Source: TEDAŞ

Loss ratios are highest in provinces that have suffered most from violence associated with clashes between the army and Kurdish separatists, suggesting the presence of deeply rooted social factors as well as serious weaknesses in the rule of law. There is anecdotal evidence that theft is also high in shanty towns in some urban centres (most notably in Istanbul) and that in some cases industrialists engage in large amounts of theft in areas where law enforcement is weak.

The high level of losses creates complications for restructured electricity markets. High variability in losses creates high variability in distribution costs and cost-based pricing would create inter-regional inequalities in pricing. This would be both politically unacceptable and highly unfair on paying consumers.[38] Under the current regime, these differences are handled through massive cross subsidies implicit under uniform retail tariffs applied by TEDAŞ. As discussed below, the way the authorities intended to deal with this problem changed over time.

38 See Bagdagioglu et. al. (2007) for an analysis of potential impact of cost-reflective prices on households.

EdamENG.indd 103 1/3/08 2:19:43 PM

Table 2-10: Technical losses and theft in distribution regions (2006)

Distribution Company	(%)		Distribution Company	MWh
VANGÖLÜ	63.8		DİCLE	6,513,057
DİCLE	57.8		BOĞAZİÇİ (Istanbul Batı)	2,214,967
ARAS	29.4		TOROSLAR	1,409,364
ÇORUH	12.3		VANGÖLÜ	1,333,906
BOĞAZİÇİ (Istanbul Batı)	12.3		BAŞKENT	934,460
FIRAT	11.7		GEDİZ	804,740
TOROSLAR	10.9		AYEDAŞ (Istanbul Doğu)	795,333
AYEDAŞ (Istanbul Doğu)	10.2		ULUDAĞ	696,032
SAKARYA	10.1		ARAS	587,206
BAŞKENT	9.6		SAKARYA	562,610
YEŞİLIRMAK	9.5		AKDENİZ	437,929
TRAKYA	9.3		MERAM	410,164
GÖKSU	9.3		TRAKYA	368,334
AKDENİZ EDAŞ	8.9		MENDERES	359,343
ULUDAĞ	8.8		YEŞİLIRMAK	356,222
ÇAMLIBEL	8.5		OSMANGAZİ	313,131
MERAM	7.8		GÖKSU	284,698
OSMANGAZİ	7.2		ÇORUH	262,177
MENDERES	7.1		FIRAT	252,913
GEDİZ	6.5		ÇAMLIBEL	164,806

Source: TEDAŞ

2.3.2. The Legal and Regulatory Environment[39]

2.3.2.1. Brief History

For most of its history, the Turkish electricity industry was dominated by a vertically integrated and state-owned enterprise, the Türkiye Elektrik Kurumu (TEK). In 1993 TEK was separated into the Turkish Electricity and Transmission Company (TEAS) and the Turkish Electricity Distribution Company (TEDAŞ).

During the 1980s and 1990s several laws were passed to attract private capital into the industry through build- operate-transfer (BOT), build-operate (BO) and transfer-of-operating-rights (TOR) contracts. The first law setting up a framework for private participation in electricity was enacted in 1984 (Law No. 3096). This law formed the legal basis for private participation through BOT contracts for new generation facilities, TOR contracts for existing generation and distribution assets, and the auto-producer system for companies wishing to produce their own electricity. Under a BOT concession, a private company would build and operate a plant for up to 99 years (later reduced to 49 years) and then transfer it to the state at no cost. Under a TOR, the private enterprise would operate (and rehabilitate where necessary) an existing government-owned facility through a lease-type arrangement. In 1994 Law No. 3996 and Implementing Decree 5907 were enacted to enhance the attractiveness of BOT projects. They authorized the Undersecretariat of the Treasury to grant guarantees and provided tax exemptions. An additional law was enacted in 1997 for private sector participation in the construction and operation of new thermal power plants through a licensing system rather than concession award. The build-operate-own (BOO) law (Law No. 4283) again provided guarantees by the Treasury. Under the BOO model, investors retain ownership of the facility at the end of the contract period.

39 Previous reviews of the regulatory environment in electricity include Atiyas and Dutz (2005), Güney (2006) , Atiyas (2006), and Hepbaşlı (2005).

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A typical BOT, BOO, or TOR generation contract, signed between the private party and TEAS or TEDAŞ, includes exclusive "take or pay" obligations with fixed quantities and prices (or price formulas) over 15–30 years. Hence in fact they are similar to power purchase agreements. However, public opinion about these contracts has been highly critical. There are several reasons for this. First, some of these contracts have been awarded without a competitive bidding procedure. Second, especially BOT contracts were heavily front-loaded with high capacity charges to allow for early recovery of investment costs; hence especially in the early years, electricity purchased was purchased by the state from these projects at very high prices. Third, there have been allegations in reports prepared by the Turkish High Court of Accounts as well as other official audit bodies that there have been irregularities in the design and implementation of these contracts. At the least, it is believed that the state did not negotiate these contracts sufficiently rigorously and obtained poor bargains: the government has retained most of the commercial risks, while providing the private sector with substantial rewards, especially in the form of Treasury-provided guarantees to cover critical commercial take-or-pay payment obligations, such as minimum electricity generation levels and minimum quantities of gas in power station gas purchase contracts, at associated predetermined prices in U.S. dollars over the life of the contracts. On the other hand, project owners contend that the high initial prices were a reflection of Turkey's high international risk rating which translated into a high cost of capital for these debt financed energy generation projects.

One important legacy of these efforts in the electricity industry has been that the public sector became unwilling to develop contracts with private investors. As will be discussed below, this became a primary reason why privatization has become a major component of the Turkish reform process in electricity.

In 2001 the Turkish Parliament passed Law No. 4628 (The Electricity Market Law, EML) which provided a radically new regulatory and legal framework for the organization of the Turkish electricity industry. The EML envisaged a thorough restructuring of the industry to introduce competition, liberalization of both supply and demand, and created a variety of roles for private participation.

2.3.2.2. The Market Structure Envisaged Under the EML

The EML was landmark legislation in that it contained elements that are deemed crucial for the restructuring of the electricity industry towards a more market oriented system with significant participation by the private sector. These were liberalization of entry on the supply side, allowing consumers to choose their suppliers on the demand side, unbundling of transmission and distribution from generation and retail supply, and ensuring that all interested parties have access to the network.

The main components of the new structure of the electricity industry under the EML are as follows:

The EML established a new Energy Market Regulatory Authority (EMRA) as the regulator of energy markets with wide powers to issue secondary legislation. EMRA is governed by its own board. Its main functions include implementing the licensing regime, preparing and implementing secondary legislation for the electricity and gas (and later oil) markets, regulating distribution and transmission activities and the provision of retail services to non-eligible consumers (see below), monitoring compliance and imposing penalties and fines in cases of non-compliance.

The model envisaged in the law consisted of a bilateral contracts market supplemented by a balancing mechanism and financial reconciliation. The National Load Dispatch Centre (NLDC) established in TEIAŞ would operate the balancing mechanism. The Market Financial Reconciliation Centre (MFRC) would then settle the accounts of all market participants. While initially the EML did not mention a spot market, the current plan is that a day-ahead market will be es-

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tablished. The MFRC started operations in 2003. After months of trial operations, the balancing mechanism was launched in August 2006.

EML introduced further vertical separation of publicly owned assets by unbundling generation and transmission. It thus created, in addition to TEDAŞ, the Turkish Electricity Generation Company (EUAS), and Turkish Electricity Transmission Company (TEIAŞ), each organized as a separate legal entity. EUAS took over and managed all state owned generation assets. TEIAŞ owned and managed the transmission system, and was also responsible for balancing and settlement of power transactions among the market participants.

The Law also created Turkish Electricity Wholesale Company (TETAŞ). TETAŞ was formed as a transitional entity that would take over all the existing contracts (i.e. the BOTs, BOs and TORs) and would also act as the single buyer of electricity produced by EUAS for a transitional period. The main purpose of TETAŞ was to deal with the stranded cost of the exiting contracts, that is, it would dilute the high cost of stranded contracts with cheaper electricity obtained from EUAS so as to reach a reasonable wholesale cost of electricity.

On the demand side, customers that consume more than a specified threshold of power were deemed eligible consumer. That threshold was specified as 9 GWh/year and was to be reset every year by EMRA. As of January 2007, it is set at 3 GWh.

EML stipulates the following type of activities:

- Generation: To be provided by EUAS, private generation companies operating with a generation license, auto-producers and auto-producer groups which are fundamentally established for self-consumption but which may sell up to a certain ratio (which used to be 25% and has been set at 30% until end-2008) of their output in the competitive market (they have to obtain a generation license if the amount of electricity they sell to the market surpasses that limit).
- Transmission: would be performed by TEIAŞ, which will remain under state ownership.
- Distribution: To be performed by TEDAŞ, its affiliates and private sector distribution companies that will be created through privatization. Distribution companies may provide retail services if they obtain a retail license.
- Wholesale: To be provided by TETAŞ and private wholesale companies
- Retail: Carried out by retail companies and distribution companies holding a retail license. Retail companies can provide services to customers in any region; there are no regional constraints.
- Export and import of electricity can be undertaken by TETAŞ, private sector wholesale companies, retail companies and distribution companies holding a retail license.

EML imposed the following restrictions:

- Generation companies may have affiliate relations with distribution companies but they cannot have control over one.
- The total market share of a generation company cannot exceed 20% of Turkey's total installed capacity.
- A distribution company may set up generation facilities in its region but the total electricity they generate cannot be over 20% of consumption in that region. Also, the amount of electricity they can purchase from their own or affiliated generation companies cannot exceed 20% of total consumption in that region. This restriction was later removed through Law

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No. 5398 (July 2005) which stipulates that distribution companies can set up their generation facilities and may purchase electricity from them provided the price of the electricity is not higher than the "average national wholesale price".

- Market share of private wholesale companies not subject to regulation cannot exceed 10% of total consumption
- Accounting separation: Legal entities holding licenses for multiple activities were obliged to keep separate accounts for each of these activities.

Viewed from the perspective of the EU electricity directive (2003/54/EC), then, the Turkish model entailed liberalization of supply through a licensing approach, liberalization of demand by allowing an increasing ratio of consumers to choose their suppliers, and accounting separation between different activities. In addition the Turkish program undertook some structural measures by separating the state owned transmission company from distribution, generation and supply, and putting upper limits on market share of generation. The degree of unbundling stipulated between distribution on the one hand, and generation and retail on the other, was lower than those stipulated in the 2003 electricity directive. The issue of unbundling will be discussed in more detail below.

Regarding access, the EML stated that transmission and distribution licenses would ensure third party access to the transmission and distribution systems on a non-discriminatory basis. Among the various options available at the time in the European Union, the EML preferred regulated third party access (rTPA) over negotiated third party access (nTPA). Under rTPA the terms of access are not left to bilateral negotiations but access tariffs are directly regulated by regulatory authority. This approach is considered a more effective means to ensure non-discriminatory access.

Prices of transactions in electricity would be freely determined by private parties, except for those tariffs which are regulated by EMRA. The main tariffs which are regulated are listed Table 2-11. Regulated tariffs are proposed by the respective institutions and approved by EMRA. Proposals for the subsequent year have to presented before the end of October in the current year and EMRA is expected to approve them by December 31 of the current year. If EMRA does not approve the tariffs, it requests that they be revised. Table 2-11 summarizes tariff regulation in the electricity industry.

Table 2-11: Regulated prices

Activity	Regulated Price/Charge	Method
Transmission	Connection Charge	Project based
	Use of System Price	Revenue Cap
	System Operation Price	Revenue Cap
Distribution	Connection Charge	Project based and Standard Connection Charge
	Use of System Price	Revenue cap
Retail	Retail Service Price	Revenue Cap
	Average Retail Price	Price Cap
Wholesale (TETAŞ)	Average Wholesale Price	Cost based

Source: The tariff regulation and associated communiqués.

Distribution and transmission connection charges are intended to cover the costs (connection assets and costs incurred in their construction) users incur when they connect to the grid. Users of the distribution system are also subject to a standard connection charge that depends on connection capacity and distance. Transmission and distribution system use charges, transmission system operation charges and retail service charges are regulated through revenue caps. The average retail price applied to non-eligible users is subject to a price cap. Retail prices for eligible consumers are not regulated.

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Finally, the TETAŞ wholesale price is intended to cover average costs of wholesale electricity.

The most important step in the restructuring of the industry was the privatization of generation and distribution assets. The EML mentioned privatization but did not provide a timetable. It also stated that companies, as a result of privatization, "cannot have a market share that will enable them with a control power in the electricity generation, transmission and distribution sectors." Transmission assets would remain under public ownership.

The law also attempted to provide instruments that would potentially be used to protect consumers from the asymmetries that could be generated by the high and variable distribution losses mentioned above. It stated that "in cases where consumers in certain regions and/or in line with certain objectives need to be supported, such subsidy shall provided in the form direct cash refunds to consumers without affecting the prices". The authority to design such subsidies was given to the Council of Ministers.

2.3.2.3. Implementation Strategy of the New Market Model

The execution of the new framework has been governed by the "Strategy Document" (SD)[40], issued in March 2004, which provided an outline and timetable for the next steps of the implementation of the EML.

The Turkish strategy for restructuring relies heavily on privatization. Rather than introducing competition where possible while generation assets are under public ownership, the strategy makes the privatization of distribution assets a crucial step in the success of the overall restructuring program. Hence, according to the SD privatizations starts with distribution and is to be followed by generation. The stated reason for this sequencing was the hope that successful privatization of distribution companies would create credible contractual counterparts for existing and especially new entrant generation companies. It s generally believed that if distribution companies remained under state ownership, managers would be unwilling to sign contracts with the private sector, especially given the public suspicion about the BOT, BO and TOR contracts signed under the previous regime.

In the mean time generation assets would be grouped into portfolio generation companies (excluding some hydro generation assets, which would continue to sell their output to TETAŞ). The basic principles to be followed in the creation of portfolio companies were attaining financial feasibility and preventing market power. The privatisation of generation plants would start after the establishment of Market Management System within TEIAŞ and after significant progress in the privatisation of distribution companies.

As part of the transition period, the SD stipulated that several types of transitional or vesting contracts have been implemented. These included

- Transitional contracts between TETAŞ and EUAS hydroelectric plans. Some hydro plants will not be included in the generation portfolio companies and they will continue to sell their output to TETAŞ as long as it is deemed necessary to achieve an average TETAŞ sales price that reflects the expected market price.
- Transitional contracts between TETAŞ and the distribution companies. Electricity purchased by TETAŞ from EUAS and exiting contracts will be distributed among distribution companies.
- Transitional purchase and sale contracts between distribution companies and generation groups. These contracts would last at most 5 years. As they are terminated, they would be replaced by market based contracts.

40 Decision No. 2004/3 of the High Planning Council, Official Gazette 17.3.2004

EdamENG.indd 108 1/3/08 2:19:45 PM

- Distribution companies would make agreements with suppliers for an amount covering at least 85% of estimated consumption of non-eligible consumers.

Regarding distribution, Turkey has been divided into 21 distribution regions, and a regional distribution company has been created for each region. Licenses for distribution activities would be at most for 49 years. Since the restructuring strategy depended crucially on the privatization of distribution assets, the SD included steps that were perceived to reduce uncertainties and increase the attractiveness of these assets to potential investors. Tariffs would be specified on a multi-annual basis and the first tariff application period would be 5 years.

The SD introduced a significant departure from the EML in the handling of inter-regional differences of distribution costs. Instead of direct subsidies to consumers, the SD stipulated that a "price-equalization scheme" would be introduced for a transitional period that ends in 2010. This means that cross-subsidies from low-loss regions would be used to finance losses in high-loss regions. As this required new legislation, Law No. 5496 introduced an amendment to EML and has given the EMRA the authority to design the equalization scheme. It is generally believed that the main reason for this change is the unwillingness of the Ministry of Finance and the Treasury to create any additional burdens to the budget. Relying on cross subsidies instead precludes direct support from the public budget, but is likely to create problems in incentives and pricing.

Additional measures were intended, apparently with the objective of making distribution assets more attractive to potential buyers. The SD stated that the threshold for eligible consumers would be set at 7.8 GWh until 2009. This was not adhered to, and as of January 2007, the threshold has been reduced to 3 GWh. Finally, as discussed before, restrictions on the extent to which distribution companies can integrate backwards into generation has been lifted through Law No. 5398.

2.3.2.4. Privatization

Privatization of distribution companion companies was seen as a crucial milestone in the restructuring of the Turkish electricity industry. Three distribution companies Başkent (Ankara), Sakarya and Istanbul Anadolu Yakası (responsible for the Anatolian Part of Istanbul) have been put up for tender. The tender was announced on August 31 2006, and the deadline for prequalification was set at October 4, 2006. The number of potential buyers who have obtained prequalification ranged between 24-30 for each of the distribution companies. Then, in January 2007 the government cancelled the tenders. It is still expected that the privatization will proceed, hence it will be useful to review shortly the main approach adopted in privatization.

Privatization has been delayed significantly. The SD had stated that "the main target will be to privatize all distribution companies/ regions until 31 December 2006." One important reason for the delay was the search for the appropriate legal form of ownership of the distribution assets. In the end it was decided that privatization would not entail the transfer of ownership rights, and the Transfer of Operating Rights (TOR) backed Share Sale model ("TSS model") was adopted. According to this model, the ownership of the assets remains with TEDAŞ. The distribution company will have the right to operate the distribution network through a TOR with TEDAŞ. The company will hold a retail license and the sole distribution license in the region. All the shares of the company will be sold in the privatization, hence the investor will purchase a company that holds a TOR, a distribution license and a retail license.[41]

The investor that purchases the distribution company also bears responsibility to undertake necessary investments. The cost of these investments is to be recovered through tariffs. Any portion of investments that are not recovered through tariffs will be paid by TEDAŞ to the investor upon the expiration or termination of the contract. The investment program and expenditures of the

41 The details of the model can found in "Teaser: Privatization of Turkey's Electricity Distribution Industry" on PA's website: www.oib.gov.tr

EdamENG.indd 109 1/3/08 2:19:45 PM

distribution companies are to be monitored by the EMRA.

The ultimate aim of the restructuring process is to reach cost-based tariffs in line with the unbundling of electricity generation, transmission, distribution and retail sale. Ultimately, this would in principle allow for some regional differentiation of retail tariffs, especially for consumers who are not eligible or who continue to purchase electricity from their regional distribution company, reflecting, for example, differences in distribution costs. Given the large inter-regional differences in costs (especially distribution losses), it was decided that a transition period was needed during which a "price equalization scheme" would be implemented until these interregional differences would be reduced or eliminated. Hence the period 2006-2010 is set as a transition period (also called "the first tariff implementation period") during which a set of single national tariffs will be applied to identified consumer groups without regional differentiation. The tariff structure will entail cross subsidies both across consumer groups and across regions. Cross subsidies across regions will be financed through a transfer mechanism that is going to be managed by TETAŞ.

The retail tariffs that reflect these cross subsidies and which will be valid during the transition period have been proposed by TEDAŞ and approved by EMRA.[42] The tariffs are unbundled and entail various components: Distribution charges and retail service charges are governed by revenue caps. The revenue requirements are intended to cover the projected cost of distribution and retail services and allowances for target electricity losses. Retail sale prices are governed by a price cap which entails a mark-up over the average cost of electricity purchased by the distribution company. The transmission cost component consists of transmission charges that the distribution company pays to TEIAŞ and is fully passed through to the end-user piece. The transmission charges are themselves regulated through caps on TEIAŞ revenues.

These revenue requirements that form the basis of distribution revenue caps and tariffs are calculated on the basis of assumptions about the wholesale electricity prices and realizations of demand. The intention is that during the transition period it will be possible to make adjustments to these tariffs adjustments depending on demand realizations and changes in the wholesale cost of electricity, as well as other factors such as inflation. These adjustments will be governed by two recent communiqués published by EMRA.[43] For example, when demand is different from the forecast on which the approved end-user tariffs are based, revenue requirements will be revised to incorporate any shortfall or surplus.

The approved prices will be revised in light of changes in the wholesale cost of electricity. EMRA's recent communiqué on the revenue regulation of regional distribution companies defines a distribution company's average cost of electricity as a weighted average of electricity purchased from TETAŞ, from EUAŞ portfolio companies based on the vesting contracts between EUAŞ and the distribution companies, from generators that have renewable energy resource certificates and finally from their own generators. Currently the average energy prices is set at 8.36 Ykr/kwh. Changes that may occur in the average wholesale price will be reflected in the cap of the retail sale component of the end-user price.

The strategy document required distribution companies to establish vesting contracts for 85% of the projected demand by non-eligible consumers. These contracts have been established with TETAŞ and EUAŞ portfolio companies. The contracts with EUAŞ portfolio companies have a minimum sales component that the distribution company has to purchase in any case. It also has an optional portion, which provides the distribution company with the option not to buy in case, for

42 In fact, by the provisional article 9 of the EML (introduced by Law No. 5496, May 2006) EMRA had to approve these tariffs without any changes.

43 "20 Dağıtım Şirketinin İlk Uygulama Dönemine İlişkin gelir Düzenlemesi Hakkında Tebliğ" and "Elektrik Dağıtım Bölgelerinde Uygulanacak Fiyat Eşitleme Mekanizması Hakkında Tebliğ", both published in Official Gazette December 21, 2006.

EdamENG.indd 110 1/3/08 2:19:46 PM

example, demand is lower than expected or alternative cheaper sources of energy become available. The contracts terminate at the end of the transition period (2010) after which the distribution companies will be free to procure electricity from alternative sources.

Distribution companies hold both distribution and retail trade licenses. Currently integration between distribution, and generation and retail supply businesses are only subject to accounting separation. However, in its opinion on the privatization of distribution companies, the Competition Authority (CA) has stated that its approval of privatization transactions will be made conditional on legal separation between distribution and retail businesses by the end of the transition period (2010). The CA has also stated that the strategy for distribution privatization has predominantly taken into consideration issues of security of supply and encouragement of foreign investments, but has insufficiently considered the institution of competition and protection of consumers. The CA decision does not touch on separation between distribution and generation, presumably because vertical integration was specifically allowed by Law No. 5398. The current expectation therefore is that legal unbundling between distribution and retail supply will eventually take hold. The degree of unbundling between generation and distribution remains somewhat uncertain since the current arrangement is not in line with the current EU Directives that require legal unbundling.

2.3.2.5. Renewable Energy Policy

On May 2005 the Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy (Renewables Law; Law No. 5346) was enacted.[44] The law covers wind, solar, geothermal, biomass, biogas, wave, stream, tidal, and river and arc type hydroelectric generation facilities, and the hydroelectric generation facilities with a reservoir area of less than fifteen square kilometres.[45] The law authorizes EMRA to issue Renewable Energy Resources Certificates (RES Certificate). The law provides holders of RERs with several incentives, the most important being that holders of retail licenses are obliged to purchase a certain percentage of the amount of electricity that they sold in the previous year from the entities holding RES certificates. Each year EMRA will announce the total amount of RES certificate energy to be applied under the law, and EMRA will determine the amount each retailer has to buy "considering the proportion of the energy amount he has sold within the previous calendar year to the total electrical energy amount which all legal entities holding retail sale license offered for sale in Turkey." In case there is sufficient RES certificate energy, that ratio will not be lower than 8%.

In the Renewables Law, the price of this energy was set at the average wholesale price in the previous year, as determined by EMRA, until the year 2011. The Council of Ministers could raise that price by 20%. As of 2011, this price was not going to be applicable to plants older than 7 years of age. Furthermore, after 2011 retailers are to buy their required RES certificate energy from plants younger than 7 years, switching to older plants only if the required ratios are not fulfilled. The pricing clause was later changed through Law No. 5627 on Energy Efficiency (Art. 17). Under the new arrangement each retail license holder has to buy RES certificate energy in proportion to their share in total retail sales of electricity. The price of this energy is still set equal to the average wholesale price of the previous year, provided it is not lower than 5 eurocents/KWh and higher than 5.5 eurocents/KWh. RES certificate generators are allowed to sell their electricity in the free market.

2.3.2.6. Competition Policy in the Electricity Industry

There is no explicit agreement between the Competition Authority and EMRA on how to divide responsibilities with respect to the development of competition in the energy sectors. In addi-

44 See Öztürk and Ergün (2005) for a discussion of the Renewables Law.

45 Geothermal energy is also under the purview of the renewables law. However, a separate law has been enacted (Law No. 5686 on Geothermal Resources and Waters with Natural Minerals).

EdamENG.indd 111 1/3/08 2:19:46 PM

tion, while the telecommunications legislation specifically mentions consultations between the telecommunications regulator and the Competition Authority, no such stipulation exists in the electricity market law or the natural gas market law. Nevertheless, relations between EMRA and the Competition Authority have been quite smooth overall. The OECD peer review on competition policy in Turkey (OECD 2005) reports that EMRA has consulted with the Competition Authority on numerous draft regulations.

One of the most important interventions of the Competition Authority in the developments in the electricity industry has been its opinion on the privatization of distribution companies mentioned above. Another well known case is the 2003 decision regarding ÇEAŞ, a company holding a monopoly concession for the distribution and transmission of electricity in one of the southern distribution regions. In that decision, the Board of the CA concluded that ÇEAŞ' refusal to provide interconnection to independent generators was a violation of the competition law and fined the company for about 6.4 million USD (OECD, 2005, p. 22).

Another indicative decision relates to the complaint by the Association of Electricity Generators that TEDAŞ' refusal to participate in financial reconciliation was a violation of competition law. The CA Board decided that TEDAŞ' non-participation was not a violation of the relevant regulation and that regulations whether or not TEDAŞ should participate in financial reconciliation was under the responsibility of EMRA.

2.3.3. Dilemmas of Transition: (Lack of) Private Sector Response and the Launch of the Balancing Mechanism

The new regime has not yet been successful in attracting new investment from the private sector, even though projections estimate the arrival of capacity constraints and possible shortages as soon as 2009. Hence currently Turkey finds itself in this strange situation where an excess demand is imminent and the supply response is not forthcoming.

There are several reasons for this. One obvious reason is delays in the privatization of distribution companies. As discussed above, the point of privatizing distribution companies first was the expectation that they would be willing to engage purchase contracts with new entrant generators. From the perspective of potential investors in generation, that was going to mean that their projects were going to be "bankable". Under public management, while the various actors have been willing to contract among themselves as in the case of transition contracts described above, no such willingness exist to contract with potential private entrants. The bad publicity of previous experience with BOT and BO contracts possibly had a hindering effect.

Another reason for the absence of an investment response is lack of price signals that can guide investment response. There are no future markets. Until very recently, all of the major prices in the system were determined by administrative mechanisms. TETAŞ would purchase power from EUAS and from plants under existing contracts and determine a wholesale price on the basis of average costs. TEDAŞ buys electricity on the basis of that price and sells electricity basically at a price that presumably covers costs including losses.

In a market system the price of electricity would be determined by the marginal cost of the marginal plant. In an environment of impending scarcity, one would expect that some (especially peak) prices would start to rise, providing signals for additional investment. In the Turkish case, not only have these signals been absent until recently, in addition, uncertainty about whether market prices would be available in the future has hindered investment into new capacity.

Lack of prices that reflect the scarcity of value of power even in the short run has created problems for existing private generators as well. Private generators in the market (auto-producers, auto-producer groups and independent power producers) have been primarily competing with

EdamENG.indd 112 1/3/08 2:19:46 PM

TEDAŞ for the patronage of eligible consumers and selling at a discount of 10-15%. Most private producers run gas-based stations, and with increases in gas prices, have been squeezed between rising costs and TEDAŞ prices that the government has been unwilling to increase. Botas gas prices have increased by more than 50% since mid-2005, and TEDAŞ retail prices have been constant. The squeeze is captured in Figure 2-4, which plots a rough measure of the margin between gas cost (BOTAŞ price applied to electricity producers) and retail price of electricity (TEDAŞ tariff for industrial consumers). The figure shows that while in 2002-2004 the TEDAŞ retail price was about 3.5-4.5 times the BOTAŞ gas price, towards the end of 2006 it was only two times higher. Everything else constant, that implies a significant drop in the margins of private producers. Private producers have complained that some prices determined by government agencies (such as those of power produced by EUAS hydro- plants) are superficially low. In 2006 the price squeeze led some producers to announce that they may start closing loss-making plants down. This problem has been resolved recently with the launching of the balancing mechanism.

Figure 2-4: Margin of retail price over gas cost (%)

Source: See text.

More generally, however, the lack of investment response reflects a lack of regulatory credibility or trust as well. Given especially the seeming unwillingness of the government to adjust retail prices in response to what the private sector sees as rising costs, potential investors are not sure that fair or cost reflective prices will be available in the future once new plants come on line. Private sectors' unwillingness to invest and requests for further assurances, in turn, seems to have been interpreted by many civil servants as straightforward rent-seeking.

Several explanations have been advanced for the government's unwillingness to raise prices. One explanation is that the government is worried that any increase in energy prices may hurt the disinflation program that has successfully reduced inflation from over 50% to 10-12%. Another hypothesis is that the government was not willing to raise prices before elections. Table 2-12 provides some evidence of the dilemma that the government faces. The first two columns provide retail prices for electricity for industry and households, respectively. In international comparison, Turkish electricity prices are relatively high for industry and low for households. The last column of the table presents the ratio of prices for households over those for industry; in Turkey this ratio is exceptionally high. The evidence suggests that if prices were set more in line with costs, household prices would likely increase.

On July 1, 2006 Turkey experienced a black-out that lasted about 5 hours and affected 13 provinces. This occurred in an environment where a number of private generators announced that they would start cutting production in light of rising fuel costs and low retail prices. On August

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1, 2006 the government launched the Balancing Mechanism (BM).

Table 2-12: Retail prices

Country	Electricity for Industry (USD/kwh)	Electricity for households (USD/kwh)	HH/I
Mexico	0.10	0.10	1.00
Turkey	0.11	0.12	1.11
Italy	0.17	0.20	1.18
Hungary	0.11	0.13	1.19
Czech R.	0.09	0.12	1.30
Chinese Taipei	0.05	0.07	1.35
Korea	0.06	0.09	1.40
Austria	0.11	0.16	1.53
Japan	0.13	0.20	1.54
U.K.	0.10	0.16	1.58
Switzerland	0.08	0.13	1.58
Slovak R.,	0.08	0.13	1.62
Portugal	0.11	0.18	1.64
Norway	0.05	0.09	1.66
Greece	0.07	0.11	1.69
Poland	0.07	0.13	1.70
Finland	0.07	0.12	1.71
Ireland	0.11	0.18	1.72
U.S.A	0.05	0.10	1.75
Spain	0.08	0.15	1.84
New Zealand	0.05	0.13	2.54
Germany	0.08	0.20	2.57
France	0.05	0.14	2.83
Denmark	0.08	0.29	3.87

Source: IEA, Key World Energy Statistics 2006

The purpose of the BM is to equate the supply and demand of electricity on a real-time basis. Participants provide to the NLDC their final contract position (called final physical notification) and offer and bid prices for loading and de-loading power. The mechanism yields an hourly System Marginal Price (SMP) that is equal to the maximum accepted offer price or the minimum accepted bid price depending on whether the system is short or long. In effect, the SMP acts as a real time market clearing price of very short term power. The financial accounts of the participants are then cleared through the Market Financial Settlement Center.

The launching of the BM was a very important step in the process of restructuring because for the first time participants were able to carry out transactions at market prices. Up to then, financial reconciliation was carried out at prices determined by TETAŞ, through an administrative accounting process rather than a market process. Indeed, with the launching of the BM many private generators terminated their contracts with their customers and started to sell electricity to the BM instead at more advantageous terms. That, in turn, helped resolve the short term supply security problem that would have arisen if private generators had instead leaned towards reducing their output, as they had announced before the BM became operational. In effect, the BM allowed the pricing of marginal capacity at a value closer to its marginal cost and postponed the short run supply security problem.

The launching of the BM has deeply affected the evolution of the market. The current trading

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patterns are relatively simple. Most privately owned generators currently sell their output to the BM. There are a few wholesalers who sell electricity to organized industrial regions or in some cases hotels through relatively short term contracts (mostly one year). There are no private companies that specialize in the retail business.

The balancing market is primarily intended as a price-based mechanism through which the system operator maintains the equality of supply and demand. As such, it is crucial for system reliability in the short run. However, it is not intended as a market where bulk energy is sold and bought or as a market that acts as the main buyer of a portion of the country's existing capacity, which is what the Turkish BM is doing at the moment. In most countries, the market design also includes a day-ahead or a spot market. The day-ahead market acts as the market where buyers and sellers engage in transactions regarding electricity to be delivered in 24 hours, and the resulting day-ahead prices act as crucial reference prices. While a day-ahead market was not mentioned in the EML, it is now frequently mentioned by the authorities as an important component of overall market design. It is not clear yet whether the authorities will make development of a day-ahead market a priority in the near future.

It remains to be seen whether the launch of the balancing mechanism will positively affect the investment mood of the private sector. It has been reported that in the last three months there has been a rapid increase in applications to EMRA for licenses for new generation facilities. According to press reports, there have been 14 applications amounting to a total capacity of about 4,000 MW. Most of these applications are for plants to run on imported coal.[46] A similar rush seems to be evident in hydroelectric plants as well.[47]

In any case, however, the current situation is not likely to be sustainable. Currently TEDAŞ meets its electricity deficit through purchases from the Balancing Market. Keeping retail prices constant is causing significant difficulties for TEDAŞ finances. Moreover, the BM has deviated from its original function and is currently playing the role of a spot market. There is general agreement that Turkey needs a spot or a day ahead market and that the balancing market should be reserved for its original purpose, which is to equate supply and demand in the last minute. Given the low TEDAŞ prices, and given that TEDAŞ has the obligation to serve all customers demanding electricity, new entrants will most likely not be able to find customers and sell all of its power in the BM, further increasing the share of BM in total electricity trade, and further transforming it into a spot market. In effect, this will mean that the private sector will continue to sell to TEDAŞ, albeit through the BM, and TEDAŞ will purchase an increasing share of its electricity at prices well above its retail prices.

It is interesting to observe that with the current constellation of prices, it is very difficult for a bilateral contracts market to develop. Hence the market structure will evolve in a way that is very different from that envisaged in the original EML unless the TEDAŞ retail prices are realigned to better reflect costs.

2.3.4. Developments in the Gas Industry[48]

Given the significant dependence of electricity generation of gas, security and economy in the supply of gas is an important condition for growth in the electricity industry. The consumption of natural gas in Turkey started in 1987. Since then, consumption has grown rapidly and reached 30.5 bcm in 2006. About 55% of consumption is by electricity generators, 19% residential and 16% industrial consumers. Until 2001, when the Natural Gas Market Law (NGML) was enacted

46 The Turkish daily Referans, August 4, 2007.

47 Sevaioğlu (2007).

48 This section draws heavily from the survey of the gas industry in Turkey by Akçollu (2006) as well as ESMAP (2007a, 2007b).

EdamENG.indd 115 1/3/08 2:19:47 PM

BOTAŞ, a state owned company, had monopoly rights over gas imports, trade, transmission and storage. Private entry into gas distribution had started already in the 1990s.

The NGML (Law No. 4646) was enacted in April 2001. The law ended BOTAŞ' monopoly rights in the gas industry, except for "national transmission lines". It identified the following activities, each requiring a separate license: Import, generation, transmission, storage, wholesale, export and city distribution. Notably, retail supply was not identified as a separate activity.

The existing transmission system is owned by BOTAŞ. Private transmission companies can build and own transmission lines, under the condition that these lines be interconnected with the existing system. Regarding storage, one storage facility in Silivri, Northern Marmara was opened in July 2007. This facility is a joint venture between BOTAŞ and the Turkish Petroleum Corporation. Another facility in the Salt Lake is planned to be in operation in 2010. The deadline for applications for pre-qualification for this facility was announced as November 23, 2007.[49]

Distribution of natural gas in the cities have been carried out by municipalities and private companies. As of September 2007, tenders for gas distribution in a total of 51 distribution regions have been held, and 4 more are planned in the near future.[50] Tenders are held on the basis of unit service and amortization charge. Other parameters such as the duration f the license and the customer connection charge are set by EMRA. While the NGML originally envisaged that a distribution company can own and operate facilities in at most two distribution regions, it also gave EMRA the authority to increase that number. In practice EMRA has allowed companies to operate in as high as 9 regions. In some regions, competition for the market has been fierce and some tenders have resulted in zero unit service and amortization charge and a customer connection charge lower than that set by EMRA.

The NGML was a significant step in terms of harmonization of the Turkish legal framework with the 2003 EU Directives. In terms of unbundling, the NGML subjects private companies to legal unbundling. BOTAŞ itself is under accounting unbundling and legal unbundling is envisaged to take place by 2009 (provisional Article 2 of the NGML). That will ensure compliance with the 2003 directive as well as the proposed amendments to it. However, unbundling of distribution activities is not in line with the directive: while the 2003 directive requires legal unbundling of distribution activities, the NGML does not. The NGML requires regulated third party access for transmission and negotiated third party access for storage, both in line with directives. EMRA is authorized to set annually thresholds for eligible consumers; as of 2007 the thresholds are 1 million cubic meters per annum for consumers or association in consumers old distribution regions and 15 million cubic meters for those in new distribution regions (i.e. distribution regions whose tenders have been completed). In addition, power generation companies, cogeneration companies and gas production companies are designated as eligible consumers (Art. 8 of the NGML).

Despite some progress in harmonization, actual competition in the natural gas industry has not been achieved and BOTAŞ continues to enjoy a monopoly position. The main problem has to do with existing long term contracts that Turkey has signed with six gas exporting countries in the 1980s and especially 1990s (Table 2-13). Over-commitment by BOTAŞ, and the economic crisis in 2000 and 2001 mentioned above have resulted in a supply overhang.

The provisional Article 2 of the NGML forbids BOTAŞ from developing new natural gas purchase contracts until the ratio of its imports to total falls below 20%. It also requires BOTAŞ to release at least 10% of its import contracts, until the ratio of BOTAŞ' imports to total consumption is reduced to 20% by the year 2009. The release of import contracts was seen as the main vehicle through which competition would develop in the wholesale market. After quite a bit of delay a

49 The daily Zaman, September 23, 2007, http://www.zaman.com.tr/webapp-tr/haber.do?haberno=592152.

50 EMRA website (http://www.epdk.gov.tr/lisans/dogalgaz/lisansdatabase/ihale.asp)

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"gas release program" was launched at the end of 2004. The first tender was held in November 2005. There were 37 companies that were granted import license qualification documents by EMRA to participate in the tender. Still, the private sector was reported to show little interest in the tender. While the release program entailed gas imports from a variety of countries, the tender attracted only four valid offers for release from a contract with Russia. These four offers amounted to total volume of 4.75 bcm.[51] The main reason why other companies were not able to provide valid offers was that they were required to obtain sellers' consent before the tender and failed to do so. There were also delays in approving the results of the tender by BOTAŞ, and the approvals were granted in 2007. To be effective, the new holders need to sign a contract with the seller, in this case Russia.

Table 2-13: BOTAŞ' gas import contracts

	(Bcm/year, plateau)	Date of Signature	Date of Operation	Duration (years)	Expiration Date
Russian Fed. (west)	6	February 1986	1987	25	2012
Algeria (LNG)	4	April 1988	1994	20	1014
Nigeria (LNG)	1.2	November 1999	1999	22	2021
Iran	10	August 2001	2001	25	2026
Russian Fed. (Black Sea)	16	December 1997	2003	25	2028
Russian Fed. (Westward)	8	December 1998	1998	23	2021
Turkmenistan	16	May 1999		30	
Azerbaijan	6.6	March 2001	2006	15	2021

Source: BOTAŞ (http://www.botas.gov.tr/eng/naturalgas/ng_buy_ant.asp) and Akcollu (2006)

The NGML in principle liberalized the importation of natural gas and authorized EMRA to issue gas import licenses. However, EMRA has refrained from doing so because of the supply overhang. As of September 2007 one company, Shell, has obtained an import license in the context of the contract release awarded to that company.

The purpose of contract release is to introduce competition into the gas market and reduce the dominance of BOTAŞ. Of course, since the terms of the contracts transferred to new entrants are most likely to remain unchanged, the immediate impact of contract release on prices will be negligible. The real gain possibly will lie in the fact that without such a structural intervention, it would have been much more difficult for new entrants to gain market share and challenge the dominance of BOTAŞ.

However, it is still too early to evaluate whether the contract release program will be successful. The general view is that the targets stated in the EGML are too ambitious and in international comparison, without precedent. In Europe, programs have entailed the release of less than 10% of demand in 3-4 years (Akçollu, 2006, p. 44). A report by the Energy Sector Management Assistance Program (ESMAP 2007a) is of the view that volume release would have been a more effective and feasible method to introduce competition. In fact an amendment to the EGML introduced in June 2005 through Law No. 5367 stipulates that in the event that the contract transfer is not successful (more specifically, in case the winners are not able to sign a new contract with the seller party, namely Russia in the present case), BOTAŞ will execute tenders for volume transfers (Temporary Article 2 of the NGML, as amended by Law No. 5367). While volume release is legally easier when contract release, potential economic gains may be smaller: In a volume release the terms of the original contract do not change; this restricts flexibility from a business perspective. In the case of a contract release, there is at least the theoretical possibility that the terms of the contract may be renewed in mutually advantageous ways. In any case, there is currently substantial uncertainty regarding the feasibility of the gas release targets in the NMGL.

51 Shell 0.25 bcm, Enerco 2.5 bcm, Avrasyagaz 1.25 bcm and Bosphorus 0.75 bcm. See Akçollu (2006) Table 12.

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The contract release program suffers from some entry barriers. The requirement of the prior consent of the seller was mentioned above. The second is confidentiality clauses in the existing contracts that prevent potential bidders from examining them (unless they have some special access through affiliate relations, in which case unfair advantages arise). The NGML requires importers to guarantee storage facilities of 10% of their import volumes within 5 years, increasing costs of entry.

2.3.5. The Road Ahead

2.3.5.1. Overall Strategic Orientation

The initial design of the Turkish liberalization program in electricity has some important virtues. Most importantly, structural measures (both horizontal and vertical) implemented in the early stages of restructuring meant that at least for the time being Turkey would not face severe concentration/competition problems that are currently afflicting many European countries. Also, early adoption of the regulated third party access regime gave EMRA an important legal instrument to protect independent electricity producers from the threat of foreclosure.

Nevertheless, the original design is now facing serious problems. The Turkish strategy for restructuring the electricity industry depended critically on privatization. Moreover, the sequencing of privatization was strange since privatization was to start with monopoly bottleneck segments rather than generation, where competition would be easier to introduce. Apparent reasons for this choice of sequencing were discussed above. Even if those reasons were valid at the time, at this point, there is no reason why introducing additional competition into generation needs to wait for the privatization of distribution companies. The strategy of unbundling generation assets horizontally should go ahead and portfolio companies should be created.

Another gap has to do with capacity mechanisms. It is generally believed that an energy-only market may fail to provide sufficient incentives for the instalment of peak capacity that is used only for a few hours each year, especially when all the components of a well-functioning market system are not in place. Capacity mechanisms exist in many restructured electricity markets in various forms (for example, as capacity obligations or capacity payments). Apparently not much thought was given to this issue when the Turkish model was designed. Hence, one of the current discussions is about whether a capacity mechanism should be implemented to ensure resource adequacy over the medium term. The crucial point here is that problems in resource adequacy can also emerge not from market failures but because of inconsistency or lack of credibility in the overall regulatory framework. Mechanisms for ensuring resource adequacy should not substitute for bad regulation; in such cases improving the regulatory framework should assume priority.

In the Turkish context, designing mechanisms to ensure resource adequacy in the medium run can be differentiated from the question of addressing imminent capacity shortages in the very short term. Discussions about the latter are under way and the issue may require special (perhaps one-off) measures.

The significant gap between TEDAŞ retail prices and the higher marginal market price of electricity, as reflected in the prices in the balancing market, is another crucial area that needs to be addressed. The current TEDAŞ retail prices contain significant subsidies for all types of consumers. Directing subsidies to targeted groups of consumers who really need them, and to otherwise allow retail prices to be better aligned with costs is crucial if liberalization is to continue as originally planned.

All of these problems strongly suggest that the industry is in need of a new strategic orientation. The Strategy Document that guided the reform program is now fundamentally outdated in light of the developments of the last 2-3 years. This new strategic orientation needs to be reflected in a new

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document that addresses these problems in a clear and credible way so as to guide investment decisions. Most importantly, this strategic orientation needs to be developed in a consultative manner.

In the gas industry, there is even less clarity about overall strategic orientation. As discussed above, the gas release targets of the NGML are seen as too ambitious by many observers. As of yet, there have been no public pronouncements about how these targets will be attained or whether they will be revised.

2.3.5.2. Unbundling

To start with electricity, since the Turkish transmission system is organized as a separate state owned legal entity the unbundling requirement of the 2003 directive (as well as the ownership un bundling requirement of the "third legislative package") are satisfied. This is not the case with the situation in the distribution segment. There are two aspects of unbundling of distribution that are relevant: Unbundling from generation and unbundling from the retail supply business. The pros and cons of unbundling in both directions are well known. Vertical integration allows protection from wholesale price risk and ensures better certainty of supply to the distribution company. On the other hand, vertical integration may encourage anti-competitive conduct and foreclose markets to independent retailers and generators.

Unbundling can take different forms such as accounting separation, legal unbundling, and ownership unbundling. The 2003 Electricity Directive of the European Union mandates legal unbundling and underlines that this does allow the distribution company to belong to a vertically integrated undertaking. However, in such cases the Directive requires additional measures that would ensure independence in terms of organization and decision making from activities unrelated to distribution. The Commission's proposed "third legislative package" unveiled in September 2007 maintains the requirement for legal unbundling for distribution (without requesting ownership unbundling) and introduces a few minor changes to strengthen the independence of the distribution system operator from other activities.[52]

In Turkey, integration between generation and distribution is subject to only accounting separation; there are no other restrictions. Regarding unbundling of distribution from the retail supply business, EML only requires accounting separation in that case as well. Hence the current arrangements are not in line with the European Directives. However, the situation there is moderated by the Competition Authority decision requiring legal separation after privatization.

In the Turkish context, an approach which is better than the current arrangement is to push for legal unbundling between distribution and generation, while allowing integration between generation and retail businesses. Such an approach would have allowed investors to enjoy reduction in risk without creating incentives for foreclosure. The current arrangement is not likely to benefit investors anyway since any additional value emanating from additional market power is likely to be dissipated into higher bids during privatization.

In the case of gas, as mentioned above, the NGML requires unbundling of the transmission network of BOTAŞ by 2009. Legal unbundling of distribution, however, will probably require amendments to the NGML since currently retail supply is not identified as a separate activity.

2.3.5.3. Governance Issues: Credibility, Transparency and Accountability

Lack of trust and regulatory uncertainty remain as important barriers to the restructuring of the industry. The policy making process in the electricity industry is more transparent than other

52 For example, the 2003 Directive stipulated a body to monitor compliance with a compliance programe that entails measures to ensure non-discriminatory conduct. The proposed amendments introduces the name "compliance officer" for that body and ensures that it will be independent and will have access to information. .

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areas of economic policy in Turkey. Draft laws and regulations are often circulated among market participants to solicit comments. Ministry and regulatory officials often get together with market participants in conferences to discuss problems of the industry. Nevertheless, the transparency and the accountability of the regulatory environment can be greatly improved.

One important measure is to ensure that regulatory decisions are accompanied by justifications, explaining the reasons behind the decisions and why these were considered as superior than alternatives. Another is for the authorities to provide updates on progress with restructuring, explain reasons for delays, if any, and present perspectives on future steps than need to be undertaken. Finally, as mentioned above, it would be very useful for the authorities to publish a public document clarifying the authorities' overall strategy on the energy sector, discussing the tradeoffs, costs and benefits posed by alternative solutions, and the reasoning and justification about why the actual choices have been preferred to the alternatives. One important benefit of such policy documents is that they would clarify the intentions of the policy and regulatory authorities and would provide insights to the public and market participants about how policy makers would react when faced with unforeseen events.

There are signs that the authorities are more aware of the benefits of improved transparency than before. The privatization of distribution companies, described in more detail below, is carried out in a more transparent manner, and documents providing information about both the privatization process and the regulatory environment privatized companies will face are made available on the website of the Privatization Authority. To our best knowledge, this is a new practice and we do expect further improvements in transparency in the future.

An additional problem in the governance of the regulatory environment is lack of cohesion and coordination among the various public agencies that have decision making authority or influence over the industry. Regulatory uncertainty would be greatly reduced if mechanisms were established that would ensure that these agencies engage in sincere (and not just formal) consultation and exchanges of opinion.

Governments will always be under pressure to make sure electricity prices are low or at least not very high. Hence governments always have incentives to intervene in market prices and this always poses a risk for investors. Moreover, given the current patterns of distribution of household income, one should expect that cost-reflective tariffs would seriously hurt some classes of households with low incomes (Bagdagioglu et. al. 2007). One way to address this distributional concern and at the same time reduce government's incentives to distort prices (and therefore reduce regulatory risk) is to establish an explicit, transparent mechanism of public service obligations, which targets specifically the most vulnerable sections of society and ensure that they have access to electricity at affordable prices. Such a mechanism would work much more efficiently than cross subsidies.

2.3.6. Concluding Remarks and Policy Recommendations

Starting with the electricity industry, it can be said that the immediate impediments to the restructuring of electricity markets faced in Turkey are rather different from those in Europe. In terms of competition, the European Commission's main concern at the moment is to address very high levels of concentration and reduce the threat of foreclosure against independent suppliers. Even though similar concerns exist in Turkey as well, especially given the insufficient degree of vertical unbundling under the current regulatory framework, the most immediate concern in Turkey is one of lack of new investment and the consequent lack of supply security in the very short term. At least from the perspective of the original strategic design, that, in turn, is related to very significant delays in the privatization of distribution companies and the government's reluctance to allow regulated retail prices to reflect costs.

The following are a set of policy recommendations that are likely to help Turkey to grow out of

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the current deadlock and develop its energy markets in a sustainable manner.

1. Realign retail prices to make them more reflective of costs
2. Devise mechanisms to protect the vulnerable segments of the population from price increases that may inevitably result from tariff rebalancing; finance these mechanisms in a transparent manner directly from the government budget rather than by creating distortions in retail prices
3. Ensure that any mechanisms instituted to alleviate the very short term supply security problem are consistent with the medium-term market design
4. Do not delay any further the horizontal separation of generation assets under government ownership
5. Enhance the alignment of the current regulatory framework with the current and emerging EU Directives, especially with respect to vertical unbundling in distribution
6. Undertake the necessary legal and institutional measures to establish a spot or day-ahead market
7. Allow the demand side to participate in the Balancing Market
8. Devise through a consultative process a new strategic orientation that clearly addresses the current impediments
9. Enhance transparency and accountability of the regulatory and policy-making process

Despite some progress with harmonization with the EU *acquis*, development of competition in the gas industry faces deeper problems than the electricity industry. The main problem here is to reduce the dominance of BOTAŞ, which is difficult due to BOTAŞ' existing gas purchase contracts. The most urgent policy recommendation with respect to the gas industry is to continue with gas release and at the same time, clarify the feasibility of the release targets in the NGML and revise them if necessary to reach more realistic and credible contract or volume release targets. This needs to be accompanied with a program to release contracted customers downstream. BOTAŞ' vertical unbundling should proceed as planned so as to preclude any incentives to discriminate against new entrants. Harmonization with the EU *acquis* will also require steps towards the legal unbundling of distribution networks.

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3. Transport

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EdamENG.indd 123 1/3/08 2:19:49 PM

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3.1. Introduction

3.1.1. Overview of the Transport Market in Turkey

With increasing international and domestic trade and passenger traffic, the quality, cost and efficiency of transportation services gain more commercial prominence. Changes in world trade dynamics impact both the direction of trade flows as well as the volume of the trade to be transported. Along with these dynamics, while new transport hubs have emerged, world trade volume has grown significantly. In 2005 the overall amount of exports in world trade increased by 10%, while export of transportation services increased by 24% in 2004[1]. Swelling trade volume levels in the East-West and the North-South axes places Turkey as a potential transport hub, between Europe, the Balkans and CIS, Middle Eastern and East Mediterranean countries.

The development of a sound and efficient transport infrastructure in Turkey is also important for the integration of neighbouring countries with the European economies. However, it is not possible to say that Turkey's transport infrastructure enables Turkey to leverage its geographical advantage between regions. The main reason stems from the late start of regulatory reforms.

In this Chapter, all modes of transport, namely rail, road, air and marine, as well as various methods for intermodal transportation are analysed. Following an overview of the market in each of the modes; an overview of the regulatory framework for transportation is provided for the EU and for Turkey. Consequently, an assessment is made regarding the impact of EU harmonisation for each of the modes, and policy recommendations drawn regarding the sectoral efficiency.

Priorities in Turkish transport policy have evolved since the early years of Turkish Republic. In the first three decades, rail transport was allocated a primary role in the development of the public transport infrastructure. The preponderant role of rail transport was however gradually eliminated and road transport replaced railways as the dominant mode. In 1950, 78 % of the freight transport was carried by railways, by 1999 the ratio had decreased to 5%.

Increase in demand for transport services in Turkey may be observed from the growing capacity of transport modes.

Table 3-1: Amount and percentage of transport modes (Million)

		2001	%	2002	%	2003	%	2004	%	2005	%
Road	Freight tons kilometers	151,421	90	150,912	92	152,163	91	156,853	94	166,770	95
	Passenger kilometers	168,211	95	163 ,327	95	164,311	95	174,312	95	181,983	95
Maritime	Freight tons kilometers	8 100	5	5,738	3	5 400	3	0	0	0	0
	Passenger kilometers	31	0	21	0	22	0	0	0	0	0
Railway	Freight tons kilometers	7,562	5	7 224	4	8 669	5	9 417	6	9 152	5
	Passenger kilometers	5 568	3	5 204	3	5 878	3	5 237	3	5 036	3
Air	Freight tons kilometers	285	0	275	0	276	0	321	0	392	0
	Passenger kilometers	2 859	2	2 706	2	2 752	2	3 223	2	3 992	2
Total	Freight tons kilometers	167 368	100	164 149	100	166 508	100	166 591	100	176 314	100
	Passenger kilometers	176 669	100	171 258	100	166 508	100	182 772	100	191 011	100

Source: Turkish Statistical Institute (TÜİK), 2006

1 "Transportation Sector: Institutional Structure, Legal Framework and Indicators" (2007) TUSIAD Report

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The demand for air transport has tripled with the tariff liberalization in 2001. When compared to the other modes, the growth in demand is higher than the rest of the transport modes with an average of 16%. The annual growth in the number of trucks is 8%, double of the EU average.

Average annual growth of demand for modes of transport since 1950 [2]*:*

- Overall growth is 8%
- Annual growth of demand for road transport is 7.6%
- Annual growth of demand for rail transport is 2%
- Annual growth of demand for marine transport is 5%
- Annual growth of demand for air transport is 16%

If the average growth rate of previous 25 year period remains it can be expected that Turkish passenger traffic will grow by 3 times (540 billion passenger-km) and freight transport will grow by 2.5 times (300 billion ton-km) in the next 25 years. It should be noted that increasing demand and supply bring side effects of congestion, air pollution and accidents.

In the Turkish foreign trade carriages, maritime and road transport take the lead, while air and rail transport remain insignificant in transport percentages. When compared to Turkey, EU 25 has a more balanced distribution with its use of air transport.

Table 3-2: External trade by mode of transport in the EU and Turkey

External Trade (2005)		
Value Based		
	EU	TR
Sea	0.45	0.48
Rail	0.01	0.01
Road	0.18	0.44
Air	0.24	0.05
Other	0.12	0.02
Total	100%	100%

Sources: TUİK and Scadplus

In order to meet the increasing demand, Turkish transport system needs more balanced, competitive and liberal transport strategies. Turkish transport sector has begun to liberalize in 1990s. Introduction of the reforms have been accelerated by the EU accession process. Turkish Ministry of Transport has set its priorities to accomplish a more balanced and liberal regulatory framework, which is also compatible with EU regulations.

3.1.2. Overview and Assessment of Regulatory Framework in the EU and in Turkey

Transport is one of the European Community's earliest common policies. Since the Treaty of Rome, transport policy has focused on removing obstacles at the borders between Member States so as to facilitate the free movement of persons and goods. To that end, its prime objectives are the completion of the internal market for transport, ensuring sustainable development, the deploy-

2 Transport of Europe and Central Asia, The World Bank http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/EXTECAREGTOPTRANSPORT/0,,contentMDK:20647543~pagePK:34004173~piPK:34003707~theSitePK:571121,00.html

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ment of major networks in Europe, spatial management, improving safety and the development of international cooperation.

Transport sector occupies a very important position in the European economy. The sector accounts for 7% of the EU gross national product (GNP), 7% of all jobs, 40% of Member States' investment and 30% of Community energy consumption[3]. The transport services sector employs more than 8 million people in the EU25. Almost two thirds of them work in land transport (road, rail, inland waterways), 2% in sea transport, 5% in air transport and 29% in supporting and auxiliary transport activities, such as cargo handling, storage and warehousing, travel and transport agencies, tour operators.

According to the EU Transport Commissioner Jacques Barrot, transport is set to double by 2030, and one of the main consequences of this fact will be more pollution and congestion that will increase prices of products and impact negatively on the competitiveness of European industry and the quality of life of European citizens. Congestion is estimated to represent around 1.1% of the EU's GDP, or more or less the EU budget (€ 100 billion). There are also adverse consequences for, the security of energy and the quality of the environment, where transport is responsible for 30% of greenhouse gas emissions. Therefore, European transport policy must promote the modal shift towards modes of transport which are less congested, safer and less polluting[4].

In this sense, the European Commission had published the White Paper on Common Transport Policy in 2001[5], set precise targets by the year 2010 and listed a considerable number of measures to achieve these targets. The White Paper proposed an Action Plan aimed at bringing about a transportation policy and a transportation network that increases the competitiveness and efficiency of Europe, including all modes of transport. It proposed a strategy designed in particular to revitalize railways and other alternative modes of transport growth and economic growth in order to reduce pressure on the environment and congestion without restricting the mobility needed for competitiveness.

The main objectives of the White Paper on Transport were set out as:

- Shifting the balance between modes of transport (improving quality in the road transport sector, revitalizing the railways, controlling the growth in air transport, promoting transport by sea and inland waterway, and turning intermodality into reality);
- Eliminating bottlenecks (building the Trans-European transport network)
- Placing users at the heart of transport policy (improving road safety, effective charging for transport, recognizing the rights and obligations of users, developing high-quality urban transport, and putting research and technology at the service of clean, efficient transport);
- Managing the effects of globalisation

The White Paper also defines more than 70 measures needed to achieve the goals, among which controversial plans to harmonise fuel taxation for trucks and a series of ambitious infrastructure projects, which for the most part, have not been implemented due to lack of financing.

In 2005, the Commission decided to conduct a mid-term review in 2005 in order to establish whether the quantitative targets had been attained or adjustments were required. The EU Com-

3 http://europa.eu/scadplus/leg/en/lvb/l24040.htm

4 Jacques Barrot, Vice-President of the European Commission, Commissioner for Transport, SPEECH/05/714, Date: 22 November 2005 http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/05/714

5 European Commission DG Energy and Transport: *European Transport Policy for 2010: time to decide*; COM (2001) 370 of 12 September 2001. http://ec.europa.eu/transport/white_paper/documents/doc/lb_texte_complet_en.pdf

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mission initiated this review with a consultation process started in late 2005 and published its mid-term review on June 2006[6].

This report will assess the degree of convergence in the regulatory framework for road, rail, maritime and air transport industries.

3.2. Rail Transport

3.2.1. Rail Transport in the EU

The share of rail transport in total transport has been in a drastic decline in the last thirty years in Europe. In 1970, freight transport by railroads in EU15 was 282 billion tonne kilometers moved (tkm). This figure dropped to 257 billion tkm in 2005 for the old Member States of the EU. The share of freight transport by rail for all land transport modes dropped from 30 % in 1970 to 13.2 % in 2004. For the EU25, the modal share of rail freight declined from 19.6 % in 1995 to 16.4 % in 2004. In absolute terms, the number of tonne-kilometres dropped from 494.3 billion in 1970 to 380.5 billion tkm in 2005 in the EU25, which represents a decrease of more than 23 %[7]. However, freight transport by road has tripled in the same period.

Passenger transport by rail also declined, though less dramatically: in 1970, the modal share of rail was 10.2 % and fell to 6.3 % in 2003 in the EU15. The modal share of passenger transport by rail in the EU25 (excluding air and sea transport) dropped from 6.3 % in 1995 to 5.8 % in 2003. In absolute terms, the number of passengers-kilometers (pkm) rose from 300.6 billion pkm in 1970 in the EU25 to 350 billion pkm in 2005. Transport carried out by high-speed trains accounted for 4.2 % of all rail transport in 1990. In 2004, this share rose to 21.6 % The main reason for this is usually shown as that the railways are not as competitive as road haulage[8].

3.2.1.1.Declining Competition in Rail Transport

Today, most rail transport networks within the EU date back to a time that in the process of their planning only local and national concerns were considered. As expected, the result is a patchwork of different rail systems that are neither integrated nor interoperable. Interoperability refers to a train's ability to run on any stretch of the railway network in the Union[9]. Planning obstacles, national and sub-national divergences over track alignment and platform levels, technological differences in rolling stock and signalling systems, different staff training and different management systems are all obstacles to interoperability. This lack of integration reduces the railway companies' chances of offering fast, reliable and efficient international services. In fact, the main reason for declining market share of rail transport is its low level of competitiveness compared to other modes of transport. Road transport dominates transportation system as it is not hindered by interoperability problems.

Furthermore, railway transport is less reliable than road haulage as regards to delivery times due mainly to very long stopping times en route, because other trains (passenger services especially) have priority, and because procedures at borders are complicated. With all the various delays, the average speed of international rail haulage is 18km/hour[10]. For the industries working with "just in

6 European Commission DG Energy and Transport, Keep Europe Moving: Mid-term review of the 2001 Transport White Paper, 2006. http://ec.europa.eu/transport/transport_policy_review/doc/2006_3167_brochure_en.pdf

7 http://ec.europa.eu/transport/rail/overview/current_en.htm

8 http://ec.europa.eu/transport/rail/overview/current_en.htm

9 http://europa.eu/rapid/pressReleasesAction.do?reference=IP/06/1555

10 European Commission DG Energy and Transport: *European Transport Policy for 2010: time to decide*; COM (2001) 370 of 12 September 2001. http://ec.europa.eu/transport/white_paper/documents/doc/lb_texte_complet_en.pdf

EdamENG.indd 128 1/3/08 2:19:51 PM

time" principle, speed and punctuality are very crucial. So it is not surprising to see a development in favour of road haulage while the situation is that in rail sector.

Still, rail transport has some competitive advantages; it is a safe and clean mode of transport, in terms of external costs it is the least costly mode within all modes. One train can contain up to 50-60 truckloads. Rail infrastructure covers a lot of territory and is generally in a good state. Nevertheless, in many cases railways no longer match modern-day customer requirements.

3.2.1.2. EU Regulations in Rail Transport

The regulatory involvement of the European Community in the rail transport sector started in 1991, with a Directive requiring separate accounts to be kept for railway infrastructure management and the provision of railway transport services. This directive introduced a degree of market opening into certain areas of rail transport and induced the railways to concentrate more on competitiveness by specifying the need for sound financial management of railway undertakings and instructed member states to reduce their debt burden. It also assured rail transport operators the right of access to combined transport services in other member states.

In 1990s, two other directives were introduced; Directive 95/18/EC, dealing with the licensing of railway undertakings, and Directive 95/19/EC, setting rules related to allocating railway infrastructure capacity and charging for infrastructure costs. In 1996, the Commission published a White Paper with a Strategy for Revitalising the Community's Railways[11]. The aim was to motivate competition in the sector, to encourage operators to improve services and to offer new products to attract more customers. The priority was to open access to the railway infrastructure for international freight services, by the creation of "rail freight freeways". General principles of these freeways were the open access of the national networks for international services and to improve the co-operation between national infrastructure managers. However, these freeways were not as successful as expected because little use was made of this open access[12].

In 2001, three infrastructure directives aiming at improving the efficiency of the existing legislation has been adopted [13]. The Member States had to implement the provisions of the Directives in national legislation by 15 March 2003 at the latest, and all Member States have now complied with this requirement.

In 2002, the Commission proposed a second railway package of measures that presents five proposals[14]:

- A new directive on the regulation of safety and investigation of accidents and incidents on the Community's railways;
- A proposal to amend Directives 96/48/EC and 2001/16/EC on the interoperability of the European High-Speed Rail System and on the interoperability of the trans-European conventional rail system;

11 European Commission DG Energy and Transport White Paper of 30 July 1996: "A strategy for revitalising the Community's railways". http://europa.eu/scadplus/leg/en/lvb/l24014.htm

12 http://ec.europa.eu/transport/rail/overview/white_paper_1996_en.htm

13 Directive 2001/12/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways, Directive 2001/13/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 95/18/EC on the licensing of railway undertakings, and Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification; generally known as *The First Railway Package* (Railway Infrastructure Package)

14 http://ec.europa.eu/transport/rail_archive/package/proposals_en.htm

EdamENG.indd 129 1/3/08 2:19:51 PM

- A proposal for a regulation establishing a European Railway Safety and Interoperability Agency;
- A Commission recommendation for a Council Decision authorising the Commission to negotiate the conditions for Community accession to the Convention concerning International Carriage by Rail (COTIF);
- A proposal to amend Directive 91/440/EEC to open up access to the infrastructure for national services in order to open up the rail freight market completely. Member States had to implement the provisions of this package by 31 December 2005 (for the market opening Directive) and 30 April 2006.

In March 2004 the Commission adopted the third railway package containing four proposals as[15]:

- A directive on opening up the market for international rail passenger transport services by 1st January 2010;
- A regulation on the rights and obligations for passengers in international rail traffic;
- A regulation on rail freight quality;
- A directive on the certification of locomotive and train drivers engaged in the carriage of passengers and goods in the Community.

3.2.1.3. Implementation of Legislation by Member States

Based on the data on national implementation measures[16], it is observed that all the countries of the EU have sent notifications to the Commission regarding the measures adopted to implement the EU rail acquis, except the failure of notification sent by Romania concerning the Directive 2001/12/EC on the development of Community's railways.

The second railway package is far from achieving an implementation success like the first one. As most of the member states did not comply with the deadline of transposing legislative measures to national legislation, the European Commission has pursued infringement proceedings against these Member States that have failed to notify the Commission of the transposition of the provisions of the second railway package into domestic legislation.

The EU rail directives have left significant leeway for implementation at national level; consequently member states have assumed different approaches for implementation of the Acquis.[17]

Accounting separation between infrastructure management and rail transport provision, which was due already under Directive 91/440/EEC, has been implemented in almost all member states. Accounting separation between freight and passenger transport activities is gradually being introduced, although some member states need to make further progress. In order to ensure the independence of essential functions such as track access charging and train path allocation member states have put different institutional structures in place.

All countries (except the Republic of Ireland, Northern Ireland and Estonia, for one of two networks) have achieved accounting separation of infrastructure and operations. A number of countries have gone further in terms of separation by setting up separate entities for infrastructure management and rail service operations. In particular, the following countries have adopted

15 http://ec.europa.eu/transport/rail/package2003/new_en.htm

16 http://ec.europa.eu/transport/rail/legislation/mne_table_en.htm

17 Examples of rail sector organisation in different member states can be found in Appendix 1.

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a fully separated structure: Bulgaria, Denmark, Norway, the Netherlands, Portugal, Romania, Spain, Slovakia and Sweden. The fully integrated model (within a holding structure) is present in: Austria, Belgium, Switzerland, Germany, Greece, Estonia, Ireland, Italy, Luxembourg, Latvia, Lithuania, Hungary and Poland. A few countries (France, Czech Republic, Finland and Slovenia) have adopted a structure in between the fully separated and integrated models, such that separate entities are set up but some co-ordination between infrastructure and operations. [18] Examples of rail sector organization in different member states are provided in Annex 1.

Most new members of the EU (namely Poland, Hungary, Czech Republic, Slovak, Slovenia, Estonia, Latvia and Lithuania) have a long rail history and a dense rail network. The share of freight transport by rail is still significantly higher than in the EU15. However, since 1990 railway transport in the accession countries has decreased. Market share of railways fell considerably as a result. As within the EU15, the accession countries face interoperability problems, e.g. with different signalling systems or the different gauge systems in Central Europe and in the Baltic States.[19]

3.2.2. Rail Transport in Turkey

Efficient rail transport requires a railway infrastructure that connects urban and rural areas, technology for higher speed and safety, interoperability regarding neighbouring countries, as well as a rail transport services market where infrastructure management and operations are executed in a competitive environment with a commercial mindset. This implies investing in railway infrastructure to increase geographic reach, technology level and interoperability; while restructuring any incumbent railway operator, liberalising the market to allow new entrants and boosting competitiveness of railway industry to gain market share, especially from road transport.

Rail transport in Turkey fits this scenario well. Size, population distribution and geography of Turkey make rail transport a viable, clean and safe option for transportation of goods and passengers. Yet, current regulatory environment and management of the railway market by the state have so far not produced the infrastructure or the transport services that lead railways to be the preferred mode of transport.

3.2.2.1. Railway Infrastructure

The march that celebrates the tenth anniversary of the Turkish Republic in 1933 proudly announces that "every corner of the country is connected with an iron network." However, 70 years later, the network is more or less what it was 70 years ago. When Turkey's population was 23 million, the railway network was 9,000 km long. Today the population exceeds 70 million and the railway network is only 13,000 km. State ownership has created a legacy of underinvestment.

Turkish railway infrastructure connects only 37 of 81 provincial centres. 28% of the population does not have access to railways. Some major industrial or commercial centres, like Bursa, 4th largest city, do not have a railway connection. Even though traditionally ports have been operated by the same body as railways, the Turkish State Railways (TCDD), some ports, such as Trabzon on the Black Sea, Antalya on the Mediterranean and Tekirdağ on the Aegean Sea lack railway connections.[20] Inability to connect with their hubs by rail leaves these ports underutilised for freight as well as for passenger transport.

Furthermore, the quality of railway tracks is not fit for modernisation of railway transportation. Of the 10,984 km of railways, only 5% are double or triple track. Only 21% of tracks are electri-

18 Railway Reforms in a European Context, Torben Holvad, European Railway Agency, 2006

19 Integration of accession countries in the EU: the case for railways, Hinne Groot, European Commission, Seconded National Expert

20 See section on Marine Transport.

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fied and 24% of tracks have signalization. 38% of tracks are non-standard. 34% of the rails are older than 25 years.[21]

As a result of the situation of the railway network and operations, transport of goods or passengers by rail in Turkey is significantly less then by road. Public policies have been put into place to shift this balance. The Ministry of Transport has set the goal in 2002 to increase railways' share in total transportation by 45% for passengers and by 20% for freight.

An important mean to reach this goal is to upgrade and expand the railway network. The Government's plan was to add 938 km of new tracks and to renovate 1.000 km of existing tracks. For passengers, there are projects of fast trains between major cities (Ankara – Istanbul, Ankara – Konya, Ankara-Sivas, Ankara – Afyonkarahisar - İzmir) and a project for connecting Turkey to Georgia (Kars – Tblisi). For freight, railways are planned to connect organised industrial zones to markets. Sincan and Gaziantep organized industrial zones have thus been connected by rail, Manisa and Konya are next in line.

Turkey's most important ongoing rail project is Marmaray - connecting Europe with Asia via railway tunnel under the Bosphorus. Marmaray is one of the major transportation infrastructure projects in the world at present.[22] This project is also among the TEN-T projects of EU and co-financed by loans from the Japanese Bank for International Cooperation (JBIC) and the European Investment Bank (EIB) (€ 1.05 billion). The rolling stock of 440 cars will be deployed on the city's rail system, on a 76 km railway line that connects Halkali on the European side of the city with suburban Gebze on the Asian side, sharply reducing travel time between the two and helping relieve the city of the growing traffic congestion, carrying 75.000 passengers an hour. The project is scheduled for completion in April 2009, and expected to enhance air quality and cut noise nuisance, but also help to tackle climate change by improving energy efficiency and reducing CO2 emissions.[23]

A Technical Assistance to Transportation Infrastructure Needs Assessment (TINA) project is conducted within the National Pre-accession Financial Assistance Programme for Turkey, using the TEN-T guidelines (1692/96/EC). The objective of the project was to assess the infrastructure needs, in order to develop a multi-modal transport network within Turkey for accession and the extension of the European Union's TEN-T to candidate countries to enable sustainable transport mobility across Europe. The project included determination of transport infrastructure that will integrate Turkey with EU Countries, project prioritisation according to TEN-T criteria and traffic forecast for 2020. Construction of railway lines and ports on future TEN-T networks are given priority.

3.2.2.2. Regulatory Overview

The Turkish Ministry of Transport is responsible for planning rail transport demands and needs; defining the basic principles and policies regarding the arrangement of rail transport systems and regulating the relations with international railway organisations. The DG Construction of Railways, Ports, Airports (Devlet Limanları ve Havameydanları İnşaatı) is responsible for construction of new railway lines and preparation of the plans and programs of the railways and the facilities and equipments regarding these. The DG for Land Transport is responsible for ensuring that railway transport is carried out in accordance with the national security, economic, technical, social needs and aims; promotes rail transport in harmony with other modes and co-ordinates all international activities in the field of railways.

21 http://euromedtransport.org/fileadmin/download/maincontract/ts4/ts4_tcdd_day2.pdf

22 http://www.marmaray.com/index.asp

23 http://www.eib.org/news/press/2006/2006-023-eib-lends-eur-400-million-for-urban-transport-in-istanbul.htm

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Turkey has fallen behind in the reform process through which most EU or OECD countries have liberalised their rail transport markets since the 1980s, shifting from public ownership of railway companies, to a greater reliance on market mechanisms and incentives. Reform in Turkey has been initiated in 2005 with an EU financed project for technical assistance in the Re-structuring and Strengthening of the Turkish Rail Sector.

The current regulatory framework for railways is not satisfactory. Currently there is no institutional structure or process for proper licensing. The railway industry needs laws that restructure and liberalise the market and institutional structures to implement the legislation. Vertical separation of TCDD is a necessary step for rail reform in order to allow service companies to compete with equal access rights to infrastructures at non-discriminating charges.

A draft law entitled "Railway Framework Law" was prepared to establish the legislative and institutional framework in accordance with the EU *acquis*. It aims to deregulate the railways market and harmonise legislation with the EU. TCDD is hence to be renamed Turkish Rail (Türk Demiryolları – TD) and restructured as an independent and commercially managed railway undertaking. The task of infrastructure capacity allocation (similar to slot allocation) and charging will be separated from the bodies or firms that provide rail transport services.

Infrastructure Management and Operations will be separate Directorates General under the common roof of a holding structure:

- Infrastructure Manager - Network and Rolling-Stocks Business Units
- Railway Undertaking - Passenger and Freight Business Units

The Framework Law establishes the *railway authority*, independent from any railway undertaking, to ensure fair competition in the rail services market, supervising the railway companies and infrastructure manager on safety issues, licensing and interoperability.[24]

The Framework Law also establishes:

- *Regulatory Body of Access to Infrastructure:* Independent from Allocation and Charging Body (Infrastructure Manager) and railway undertakings, will ensure free, fair and non-discriminating access to railway infrastructure; solve disagreements concerning capacity allocation, charging between Infrastructure Manager and Railway Undertakings.
- *Safety and Licensing Body:* Independent from Railway Research and Accident Investigation Department, infrastructure manager and railway undertakings, will define Railway Safety Framework and monitor; Issue a Safety Authorization to and Safety Certificate to and issue operational licenses to infrastructure manager and railway undertakings.
- *Railway Research and Accident Investigation Department (DAKIK):* Independent from Safety Authority, Infrastructure Manager and Railway Undertakings, will investigate serious railway accidents and incident in order to prevent railway accidents)

Furthermore General Railway Framework Law determines:

- The safety requirements for railway undertakings and safety managers,
- The basic principles for organization of railway undertakings and infrastructure managers,
- Provisions for public service obligations (PSOs) and access rights to railway infrastructure.

Bylaws have been drafted on safety, license, interoperability and free access regulation. The *sa-*

24 http://www.abgs.gov.tr/tarama/tarama_files/14/SC14DET_Railway-Market%20and%20Infrastructure%20Access.pdf

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fety regulation regulates safety requirements for railway undertakings and infrastructure managers; establishment of a safety management system, safety certificate and safety authorization, access to training facilities. The *license regulation* sets out provisions necessary for obtaining licenses. The *interoperability regulation* sets out processes to be observed in order to get an authorization of technical interoperability and the necessary Turkish Standards annex to this regulation. The *free access regulation* provides for regulation on free access as a cornerstone of the legislative package, free access to the infrastructure and lays down the process of train path allocation and sets the rules for charging.

3.2.2.3. Market Overview: The Overhaul of the State Owned Service Provider

Both the 8th Five Year Development Plan for 2001-2005 developed by the State Planning Organization in 2000 and the 9th Seven Year Development Plan for 2007-2013 developed in 2006 clearly put forward the goals of separation of infrastructure management from provision of transport services, the restructuring of the TCDD with a commercial mindset, in order to increase its performance and to allow for private sector enterprises to compete in provision of transport services.[25]

Yet, as of August 2007, TCDD still does not operate on commercial principles. TCDD is a State Economic Enterprise. Its capital is wholly paid by the State. With 849 locomotives, 1,038 passenger and 16,858 freight rail cars, TCDD benefits from monopoly rights on management of the infrastructure and on provisions of railway services, is the sole owner of railway infrastructure and the main player in the railway market in Turkey. TCDD is vertically organized; there is neither structural nor accounting separation of infrastructure management and provision of transport services. TCDD:

- Operates and renews railways, ports and piers
- Guides and coordinates affiliated companies
- Carries out all kinds of complementary activities regarding rail transport: maritime, land transport including ferry operations
- Manufactures rolling-stock and similar vehicles, sets up warehouses, depots, passenger facilities
- Undertakes railway construction works as a contractor in Turkey and abroad

Firms wishing to use their rail cars to carry goods apply to TCDD to obtain approval; TCDD evaluates applications based on operational and technical criteria. Today, around 30 firms have signed a contract with TCDD to obtain their own rail cars, and there are 3,173 rail cars active on TCDD rails.[26] Large logistics companies are building their rolling stock and providing services both domestic as well as international transport. Within the framework of agreements signed with different countries, block trains pulled by TCDD locomotives, are operated towards Europe (Germany, Hungary, the Netherlands and Slovenia), East (Iran, Syria and Iraq) and Central Asia (Turkmenistan and Kazakhstan).[27] 170 block trains per day, both domestic and international, are

25 www.dpt.gov.tr

26 http://www.tcdd.gov.tr/yuk/sahibineaitvg.htm

27 Block trains are where freight is transported uninterruptedly, from the loading to the unloading station, without changing locomotive and wagons, and without interval freight loading and unloading

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being operated.[28] [29] Most of these companies also own and operate railway stations and warehouses that they use for storing and handling freight. Private companies account for about 20% of total freight transport by rail in 2006. Thanks to block freight train transportation, an increase of 35% in freight transportation quantity and an increase of 109% in freight transportation income have been achieved in 2006 in comparison to the figures of 2002.

In 2005, a project was launched by the TCDD to open the railway market, to establish the legislative framework in accordance with the EU *acquis* and to re-structure the TCDD. This is a 4,2 Million € project, funded by the EU. The project has three parts: Twinning Project with Germany, Service Project and Financial Management Information System (FMIS).

The objectives of the project are to:

- Establish the legislative and institutional framework for the rail sector in accordance with the EU *acquis*. (as described in section above)
- Define a stable financial relationship between TCDD and the Government that satisfies the requirements of the acquis.
- Develop / customise a Financial Management Information System (FMIS), and provide the necessary IT platform for the functioning of the system, to measure financial performance (profit and loss) and to monitor actual performance.

The project also entails:

- Training of TCDD managers for increasing level of knowledge and gaining new capabilities to be eligible on commercial conditions
- Preparing proposals for capacity improvement of employee, training programs and budgets
- Defining employee and sources to be transferred to new business units and programming mobility of such personnel
- Defining targets and aims of business units and management
- Defining budgets and 5-year activity plans of business units
- Defining Public Service Contracts (PSCs) between Government and TCDD and preparation of draft contracts
- Defining separate accounting for infrastructure, operations and Public Service Obligations (PSOs); with principle of non-transferability of funds between services.

Infrastructure Charging

TCDD tariffs for carrying goods are determined based on distance, type and weight of load. Prices are published on the TCDD website and apply equally to all customers.[30] A protocol may be drawn between the customer and TCDD for regular transportation of goods by TCDD rail cars; or rail cars can be arranged upon request. Currently, freight can be transported with rail cars owned by private companies at prices 45% below those of TCDD rail cars.

The cost accounting system of TCDD does not allow for calculation of unit costs related to

28 UNECE Working Party on Intermodal Transport and Logistics, Forty-seventh session, Geneva, 5 – 6 March 2007

29 Most such companies are members of Demiryolu Taşımacıları Derneği (Association of Railway Carriers – DTD) http://www.dtd.org.tr/uyeler.asp#

30 http://www.tcdd.gov.tr/mnbt/bilgi.asp

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infrastructure.[31] Its revenues or losses cannot be accounted for. Since there is no accounting separation between infrastructure management and transportation services; or between transportation of freight or passenger, there is no information available on true costs of transport. Consequently, corporate customers have no understanding of whether or not TCDD prices actually reflect the costs.

Financial Situation and State Aid

TCDD revenues from passenger transport and freight transport have been increasing steadily over the past five years. Increase rate in revenues from freight transport is significantly higher than that for passenger. TCDD also has revenues from port handling. [32]

Table 3-3: Breakdown of TCDD revenues and annual change rates

	2001	2002	% change	2003	% change	2004	% change	2005	% change	2006 (Est.)	% change
Passenger Transport (Million Persons)	52	48	-0,08	50	0,04	51	0,02	52	0,02	60	0,15
Passenger Transport Revenue (Million €)	58	56	-0,03	62	0,11	62	0,00	77	0,24	104	0,35
Freight Transport (Million Tons)	14,6	14,6	0,00	15,9	0,09	17,9	0,13	19,2	0,07	20,4	0,06
Freight Transport Revenue (Million €)	89	105	0,18	125	0,19	146	0,17	173	0,18	208	0,20
Port Handling (Million Tons)	34,6	36,3	0,05	41,5	0,14	46,7	0,13	44,6	-0,04	50	0,12
Port Handling Revenue (Million €)	179	186	0,04	195	0,05	195	0,00	212	0,09	242	0,14

Source: TCDD

However TCDD remains a loss making institution and has been regularly receiving state aid.

Table 3-4: Summary of income statement for TCDD

Million Euro	2001	2002	2003	2004	2005
Total revenue	1065,35	828,03	849,80	815,25	1183,11
Total Expenditure	2086,77	1356,34	1226,72	1227,81	1318,06
Balance (Deficit)	-1021,42	-528,31	-376,92	-412,55	-134,95

Source: TCDD

TCDD receives four types of subsidies;

- for track maintenance and repair from Ministry of Transport
- for some uneconomic lines from the Undersecretariat of Treasury (UT)
- for some express trains from the UT
- for ferry traffic on Van Lake from the UT

3.2.2.4. Productivity Impact Assessment

The adoption of the EU *acquis* in rail transport is likely to give rise to increased sectoral productivity on account of the introduction of competition and an ensuing increase in investments. But given the nature of rail transport which acts as an input for the production process of many other

31 http://www.abgs.gov.tr/tarama/tarama_files/14/SC14DET_Railway-Market%20and%20Infrastructure%20Access.pdf

32 See section on Marine Transport.

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industries, increased efficiency in this area will also have a positive impact on the cost efficiencies of a diverse range of industries. In order to clarify these linkages, the Input/Output table of the Turkish economy[33] was utilized to prepare two different sets of tables. Table 3-5 lists the industries which are going to be most affected by any change in the sectoral productivity of rail transport. Table 3-6 lists the industries which will have the most significant impact on the overall productivity of the national economy. In other words, the second table ranks industries according to their intensity of rail transport usage weighted by their share in national value added.

Table 3-5: Ranking of industries according to rail transport usage as a share in production inputs

Industry	Index
Refined petroleum products	1
Manufacture of railway, rolling stock	0.309811
Other service activities	0.296395
Electricity	0.242705
Medical equipment	0.129387
Financial services	0.122893
Insurance	0.0855453
Electrical machinery	0.064865
Renting of machinery	0.059348
Pharmaceuticals	0.056159
Motor vehicles sales	0.056063
Motor vehicles manufacturing	0.052936
Office equipments	0.048007
Water distribution	0.03573
Cosmetics	0.033462
Water transport	0.029498
Coal mining	0.02319
Gas distribution	0.018498
Furniture	0.014392
Ceramic products	0.012183

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

Table 3-6: Ranking of industries according to the overall productivity impact on the national economy on account of a productivity increase in road transport

Industry	Index
Refined petroleum products	1
Financial services	0.251214
Electricity distribution	0.148247
Motor vehicle sales	0.045564
Other service activities	0.024859
Motor vehicle manufacturing	0.020203
Electrical machinery	0.011463
Pharmaceuticals	0.009687
Insurance	0.007366
Water transport	0.005873
Water distribution	0.005579
Telecommunications	0.004378
Cosmetics	0.003956
Ready wear	0.00395
Hotels	0.002813
Vegetable production	0.00251
Coal mining	0.002454
Medical equipment	0.002199
Metal products	0.002117
Furniture	0.001852

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

33 The latest available Input Output table is for the year 1998.

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3.2.2.5. Evaluation

De-regulation and liberalisation of rail services is a complex and difficult process. It has happened gradually in the EU. Even now, the process is still continuing and its implementation are fraught with difficulties mentioned in the previous sections. Vertical separation, accounting or institutional, constitutes the backbone of EU harmonisation in railway sector. This is complemented by allowing free and non-discriminatory access to the railway network and enhanced by the separation of accounting for transport services (passenger & freight) and PSOs.

Yet this is not the only option. Vertically integrated railway companies engage in competition, as in the USA or Canada, where high capacity freight lines and large volumes seem to justify duplication of tracks. However, in general track and signalling infrastructure are considered non-competitive, whereas operation of trains and maintenance facilities are considered to be activities which are potentially competitive.[34]

As in the other network industries, Turkey uses the EU *acquis* as a blueprint for its own regulatory reforms. An ambitious framework law has already been drafted for that purpose and is awaiting Parliamentary approval. The initial targets are to accomplish the overhaul of TCDD and allow non-discriminatory access to the railway network. Even if infrastructure management remains a monopoly, the following benefits can be expected by reforming Turkish rail:

- Level playing field conditions for competition in the market, free competition for provision of rail transport services – leading to provision of better quality services at competitive prices for the customers,
- Increased focus on core competences, improved ability for innovation in service creation and delivery,
- Transparency, accountability and competence for the management of infrastructure and operation of railway transport services, fostering an environment for better performance,
- Better monitoring of business costs and revenues; thereby better identification of inefficiencies and loss making operations; being able to develop better strategies and solutions for handling them,
- Preventing the cross-subsidisation of competitive activities from non-competitive ones for predatory purposes,
- Higher cost awareness and better cost management for all businesses – including infrastructure management; thereby lower operating costs, increasing profit margins or developing better loss control strategies.

Financing of investment in tracks and rolling stocks should be framed according to PSO and state aid principles.

Although the adoption of the EU *acquis* in rail transport may indeed provide these benefits, the implementation of the acquis is set to give rise to significant challenges in the Turkish setting. First of all, it should be recalled that vertical separation bears some risks that should be taken into account. There will be a natural tendency for the infrastructure manager to favour the rail transport service provider business unit of the TD. The infrastructure manager should be discouraged from using its monopoly position to discriminate against its existing rivals or new entrants (in access charging, slot allocation or by creating asymmetries of information) with regulation that eliminates the incentive to discriminate.

34 OECD Report to the Council on Experiences on the Implementation of the Recommendation Concerning Structural Separation in Regulated Industries, 2006

EdamENG.indd 138 1/3/08 2:19:54 PM

The creation of the infrastructure manager and the business units is a significant organisational change for Turkish Rail. The new organisation should be streamlined to meet service levels committed. As in any structural organisational change, there will be difficulties arising from resistance to change. Transforming to a new culture of customer oriented, high service quality and competitive mindset should be regarded as part of the change process and dealt with in a proactive manner. When two or more business units need to work in tandem with each other, when previously they were only departments of the same institution, there may be problems related with changing working culture.

The new environment will be one in which the TD will coexist with other transport service providers in a "co-opetitive"[35] environment; where the infrastructure manager is the main supplier of all the service providers and needs to cooperate; while the transport business unit of the TD competes with other service providers. Non-cooperative behaviour from the incumbents' side may be detrimental to efforts to create an efficient cooperation among the infrastructure manager and other service providers.

Training and re-skilling of staff should be a priority in the transformation. Any staff reduction should be conducted in a socially acceptable manner (redundancy payments or early retirement). It will take time for these organisational and cultural issues to be resolved and there may be service level problems in the transition period that need to be proactively handled.

Vertical separation is also costly project in itself and this cost has to be taken into account both in business cases and consequent pricing strategies of the resulting institutions. Vertical separation has the potential to make operations more complex and costly. Operational planning for ever complicating schedules on congested lines and involvement of more institutions with separate performance targets may increase complexity and the need for synchronisation among service and infrastructure providers may drive coordination costs higher. This cost may be difficult to reflect in pricing strategy.

Furthermore, loss of economies of scope from integrated operation may inflate costs during the transition period, so business cases need to be prepared accordingly. Whereas a certain degree of cross-subsidisation could occur between highly and scarcely used routes under the same operator, if routes are served by different operators, this option has to be substituted by state subsidies; which will require the route to be accepted as a PSO. When routes are split as such, new entrants naturally have a tendency to cherry pick profitable routes.

The second category of challenges relates to the crucial but transitory phase of the introduction of competition in rail services. Given the monopolistic character of the rail infrastructure, ensuring fair and equal access to this indispensable asset is a sine qua non for fostering a degree of competition. Access charges, which determine the price at which entrants will be granted access to the network of a vertically integrated incumbent, play a crucial role in the success or failure of entry in competitive services. For the new entrants, it is financially impossible to replicate the facilities of the incumbent, so access charges have to be regulated. Access charges need to be set at a level that reflects underlying costs and allow entry of competitors that are at least as efficient as the incumbent in supplying services.

The third category of challenges relates to the new agencies such as the safety and licensing body or the body of access to infrastructure that will be setup according to the draft framework law. Ensuring a close collaboration between independent bodies possibly managed with separate performance standards will require due attention from public authorities. Otherwise there could be a tendency for each one to avoid accepting the blame in the case of problems (delays or even accidents).

35 Co-opetitive – competitive and cooperative at the same time.

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It is a necessity to have an independent body to resort to in case of resolving conflicts, for instance about path allocation decisions. Furthermore the multiplication of these agencies will bring to the fore already existing problems related to human resources. The regulatory setup envisaged by the draft law and foreseen by the EU *acquis* requires an even larger pool of qualified personnel to enforce the amended legislation. Given the generally poor human resources policies of the Turkish public service, this requirement may indeed pose a serious difficulty at the implementation phase.

Finally, the PSO dimension of rail services need to be regulated in a more transparent and competition friendly manner. The lack of a framework legislation dealing with PSOs in general is a liability in this respect. Although rail services specific PSO provisions can certainly be adopted, the establishment of a more general framework for PSO obligations would be helpful in setting up the regulatory frame for all PSOs. Sector specific legislation can then incorporate specific PSO provisions in line with the general principles enshrined in the general PSO framework.

3.3. Road Transport

3.3.1. Road Transport in the EU

Road transport has a critical role in the European economy. In 2006, road transport services accounted for 1.6% of the EU's GDP and employed about 4.5 million people in the EU. The whole economy and society depends heavily on efficient road transport; 44% of the goods are moved by trucks and 85% of the persons by cars, buses or coaches.

Technology and infrastructure of road transport best meets the demand for high levels of mobility and flexibility. It is largely unconstrained by the difficult European topography or the dispersed settlement structure. It can provide flexible services regarding departure time and destination and it is the fastest transport mode for distances up to 500 km.

Road transport companies have to compete against each other and against other modes. As operating costs increase, undertakings may tend to side-step the rules on working hours, authorisations or even the basic principles of road safety, in order to survive in an extremely competitive environment. In the past few years EU completed creating a level playing-field for all players in the sector. According to the Road Transport Policy, the EU is committed to high common standards in social rules for road haulage, including revised regulations for driver working time, driving hours and rest periods and increased checks on lorries. The new legislation, adopted in 2006, should prevent unfair competition in the road transport industry and reinforce safety standards throughout Europe.

3.3.1.1. EU Regulations in Road Transport

Access to Market

The Commission is committed to maintain an open market in road transport as a means of supporting the EU's internal market for all goods and services. As EU focuses ever more strongly on the economy and employment as laid down in the Lisbon strategy, it is ever more vital that road transport promotes growth.

For the efficient functioning of the market in a non-discriminatory way, a huge effort by the Union and member states is required in terms of harmonising rules and regulations on a range of issues that relate to road transport ensuring that road transport operators receive fair and equitable access to the single market.

Admission to the occupation of road haulage operator and road passenger transport operator in the European Union is a very important component of the market access, which is governed

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by Directive 96/26/EC as amended by Directive 98/76/EC[36]. According to these directives, the operators must fulfil three qualitative criteria of good repute, financial standing and professional competence.

- *Good repute*: professional operators are expected to comply with rules and regulations, the ones who do not obey must be weeded out. Thus, this criterion shall ensure the adequate entrepreneurial ethical behaviour;
- *Sound financial standing*: hauliers and passenger transport operators must be able to guarantee the viability of their businesses. The financial standing for operators requires have capital assets of at least € 9.000 for the first vehicle and € 5.000 for each additional vehicle.
- *Professional competence*: to ensure via a list of practically oriented subjects, with common exam arrangements, marking and certificates, that customers receive safe, reliable transport services, operators have to show a level of competence in their business and check their vehicles. Operators must hold a Community certificate of professional competence.

Regular checks at least every five years ensure that undertakings continue to satisfy these three criteria. These criteria are justified for several reasons[37]:

- to halt the proliferation of unscrupulous firms which seek to gain market share by skimping on safety.
- to achieve greater harmonisation of standards between Member States, particularly as regards levels of financial standing required and the standard of professional competence expected
- to facilitate the establishment in other Member States and the mutual recognition of professional status
- to improve the overall professional standing and quality of road transport

EU transport operators need to obtain a Community licence from their home member state which allows them to carry out international transport activities throughout the Union and must be renewed every five years. Operators must carry a certified copy of this document in their vehicle. It shows that they comply with the national traffic requirement of their country in accordance with the relevant EU regulation.

According to the impact assessment study of the European Commission[38], a number of problems relate directly to EC road transport legislation, notably the lack of clear principles for applying in a consistent manner the rules laying down the requirements for entering the market and the profession and performing the associated controls and monitoring. This legislative framework comprises the following legal acts:

36 Council Directive 96/26/EC of 29 April 1996 on admission to the occupation of road haulage operator and road passenger transport operator and mutual recognition of diplomas, certificates and other evidence of formal qualifications intended to facilitate for these operators the right to freedom of establishment in national and international transport operations, and Council Directive 98/76/EC of 1 October 1998 amending Directive 96/26/EC on admission to the occupation of road haulage operator and road passenger transport operator and mutual recognition of diplomas, certificates and other evidence of formal qualifications intended to facilitate for these operators the right to freedom of establishment in national and international transport operations

37 http://ec.europa.eu/transport/road/policy/access_market/rules_admission_occupation_en.htm

38 European Commission Staff Working Paper, *Impact Assessment accompanying the proposal for a Regulation of the European Parliament and of the Council on common rules concerning the conditions to be complied with to pursue the occupation of road transport operator*, 2007. http://ec.europa.eu/transport/road/legislation/doc/sec_2007_635_impact_full_en.pdf

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i. Directive 96/26/EC aims to ensure that authorisations, usually in the form of national or Community licences giving access to the Community market, are issued only to competent and reputable operators. It establishes minimum standards as regards good repute, financial standing and professional competence. It applies to all operators that carry goods or passengers for commercial purposes, including both those operating within the domestic markets and those engaged in international transport. It also puts in place a system for the mutual recognition of the corresponding documents.

ii. Regulation No 881/92 establishes the freedom to provide international carriage of goods by road for hire and reward for the undertakings that hold a Community licence, while the first Council Directive identifies certain forms of transport which are exempted from all kinds of authorisation. Regulation No 3118/93 allows undertakings holding a Community licence granted by a Member State to carry out national road services in another Member State (cabotage) under the condition that this service is provided on a temporary basis. Community licences can be issued only to undertakings established in a Member State which satisfy the requirements in accordance with Directive 96/26/EC.

iii. Regulation No 684/92 opens up access to the market in international carriage of passengers by coach and bus. The provision of occasional services is subject only to a Community licence while international regular services additionally require a special authorisation. Regulation No 12/98 authorises cabotage operations where they are carried out in the course of an international transport service.

As an outcome of various studies and consultations with the stakeholders, the impact assessment study sheds light on complexities and problems in seven main areas:

- Difficulties to monitor properly companies without stable and effective establishment;
- Non-comparable certificate of professional capacity and financial capacity requirements for being admitted to the occupation;
- Unclear link between the holder of a certificate of professional capacity ("transport manager") and the undertaking using his/her certificate to obtain the licence giving access to the market;
- Unclear definition and control of temporary cabotage;
- Burdensome procedure for authorising international regular passenger services;
- Heterogeneity of a number of control documents;
- Uneven level of monitoring of compliance.

Road Haulage

Since 1 January 1993, any road transport operator wishing to carry out an operation between Member States – that is to say between at least two Member States – must hold a Community license, issued by the Member State of establishment. This document gives him free access to the whole single market. To obtain it, operators must meet the conditions of Council Regulation 881/92 of 1992[39].

On 1 July 1998 road cabotage in the movement of freight has been fully liberalised. The legal

39 Council Regulation No 881/92 of 26 March 1992 on access to the market in the carriage of goods by road within the Community to or from the territory of a Member State or passing across the territory of one or more Member States.

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basis for cabotage in goods transport is Council Regulation No. 3118/93[40] which lays down the conditions under which non-resident carriers may operate national road haulage services within a Member State. Essentially, cabotage means the transportation of goods within one country by a haulier from another country.

With the aim of increasing transport efficiency and reducing the number of empty journeys, cabotage transport was gradually introduced from 1990 onwards. Quantitative restrictions (quotas) were imposed on cabotage transport from the outset through a system of granting authorizations. Intra-Benelux cabotage was completely liberalised in 1992. The cabotage regime was extended to the EFTA countries on 1 July 1994 with the exception of Austria, which joined on 1 January 1997, and Switzerland.

The study conducted by ECORYS Nederland[41] showed that, although the number of quotas increased yearly, these quotas were largely underused and had not attracted 'unscrupulous' operators into specific national markets. In accordance with article 12 of Council Regulation No 3118/93, most cabotage restrictions have been lifted since 1 July 1998 in the 15 Member States of the EU. From that date onwards Regulation No 3118/93 on freight transport cabotage stipulates that any non-resident carrier who is holder of the Community authorisation is entitled to operate, on a temporary basis and without quantitative restrictions, national road haulage in another Member State without having a registered office or other establishment in that state. Following their accession to the EU on 1 May 2004 restrictions have been lifted for hauliers from Cyprus, Malta and Slovenia as well. Now, cabotage is allowed 'on a temporary basis' in the EU. This means that these transports must not be carried out over a long period time continuously or systematically. To clarify the notion of 'temporality', the Commission issued an interpretative communication. [42]

The new member states will be able to enjoy the right to cabotage services after a transitional period. There were anxieties in the sector about the possible adverse effects of running cabotage services. These focused on potentially unfair competition from lower-wage countries which could undercut operators who have to bear with greater costs in a more tightly regulated environment. However, cabotage does not seem to have undermined the national operators of good repute. At the moment, cabotage makes up about 1.2% of the road transport market. Moreover, the recent legislation related to driver times, rest periods and checks will provide equal social conditions and prevent transport companies being unfairly undercut.

Another important aspect in road haulage is the driver attestation, which is a uniform document certifying that the driver of a vehicle carrying out road haulage operations between Member States is lawfully employed by the Community transport operator concerned in the Member State in which the operator is established, or lawfully placed at the disposal of that operator. Every driver from a non-EU country driving an EU operator's vehicle while carrying out cross-border haulage activities within the Union must carry the correct driver attestation. This document enables inspecting officers in all the Member States to check the employment status of drivers carrying out transport operations between Member States in Community vehicles and with a Community license, thereby helping the authorities to combat effectively the use of irregularly employed drivers and the resulting distortions of competition.

The driver attestation has been introduced by Regulation (EC) No 484/2002 of the European

40 Council Regulation No 3118/93 of 25 October 1993 laying down the conditions under which non-resident carriers may operate national road haulage services within a Member State.

41 ECORYS Nederland, Study on Road Cabotage in the Freight Transport Market, Framework Contract TREN/A1/56, 2004. http://ec.europa.eu/transport/road/studies/doc/2006_03_road_cabotage_study_en.pdf

42 http://ec.europa.eu/transport/road/policy/marketaccess/roadhaulage/doc/18612-en.pdf

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Parliament and of the Council of 1 March 2002 amending Council Regulations No 881/92 and No 3118/93 and it only applies to drivers who are nationals of third countries.

Road Charging

One of the major causes of imbalances in transport stems from the variety of charging policy across the Union. Different modes of transport do not always and everywhere cover the costs they generate. Rates for use of infrastructure, annual road tax and fuel duties vary across the Union. This unequal situation distorts the competition in Europe's road haulage sector and stands contradictory to the aim of creating a fair and transparent open market.

For the roads, the Commission has proposed a so-called 'Eurovignette' directive adopted in 1999[43] and afterwards modified in 2006[44] to modernize the existing taxation system of heavy goods vehicles. The 1999 directive covers vehicle taxes, tolls and user charges imposed on vehicles intended for the carriage of goods by road and having a maximum permissible gross laden weight over 12 tonnes[45]. By the 2006 revision, this threshold will fall by the year 2012 to 3.5 tonnes.

The aim of the Eurovignette Directive is defined as:

- To further develop both the functioning of the internal market and the approximation of the conditions of competition in the transport sector by reducing the differences in the levels and in the systems of tolls and user charges applicable within Member States;
- To take better account of the principles of fair and efficient pricing in transport by providing for greater differentiation of tolls and charges in line with costs associated with the road use;
- To further move towards the principle of territoriality.

And the key points of this directive are as follows:

- Tolls should be levied according to the distance travelled and type of the vehicle; user charges should relate to the duration of the usage of the infrastructure. Tolls and user charges may vary according to congestion and vehicle emission class;
- As a general rule, distance-based tolls and time-based user charges shall not be applied on the same stretch road;
- Both tolls and user charges can only be imposed on users of motorways or multi-lane roads similar to motorways as well as on users of bridges, tunnels and mountain passes;
- National tolls and charges should be non-discriminatory, and should be easy for the motorist to understand, so as to avoid unnecessary hold-ups and problems at toll boots. Mandatory checks at the EU's internal borders should also be avoided.

With this directive, especially after the 2006 revision, Member States are able to differentiate

43 Directive 1999/62/EC of the European Parliament and of the Council of 17 June 1999 on the charging of heavy goods vehicles for the use of certain infrastructures

44 Directive 2006/38/EC of the European Parliament and of the Council of 17 May 2006 amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures

45 The Eurovignette Directive does not cover vehicles carrying out transport operations exclusively in the non-European territories of the Member States, vehicles registered in the Canary Islands, Ceuta and Melilla, the Azores or Madeira and carrying out transport operations in these territories or between these territories and Spain or Portugal.

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tolls according to a vehicle's emission category ("EURO" classification[46]) and the level of damage it causes to roads, the place, the time and the amount of congestion. This makes it possible to tackle the problems of traffic congestion, including damage to the environment, on the basis of the "user pays" and "polluter pays" principles. It also aims to shift freight away from roads onto other modes of transport such as rail and waterways.

The Directive fixes a maximum level for user charges in accordance with the given period and with the environmental performance of the vehicle, where the annual charge is determined as:

Table 3-7: EURO types and current annual charges

Fuel/Weights	maximum 3 axles	minimum 4 axles
NON-EURO	€ 960	€ 1550
EURO 1	€ 850	€ 1400
EURO 2	€ 750	€ 1250

Not later than 10 June 2008 the thresholds will be increased according to the following table, while the daily charge is 11 € for all vehicle categories[47].

Table 3-8: EURO types and annual charges from 10 June 2008

Class	maximum 3 axles	minimum 4 axles
NON-EURO	€ 1332	€ 2233
EURO 1	€ 1158	€ 1933
EURO 2	€ 1008	€ 1681
EURO 3	€ 876	€ 1461
EURO 4 and less polluting	€ 797	€ 1329

Member states are also given extra flexibility on how to levy tolls or charges. In particular, these can now be raised on the entire road network, not just motorways, when they are part of the Trans-European Network (TEN)[48]:

- toll revenue should be used for the maintenance of the road infrastructure concerned or to cross-finance the transport sector as a whole;
- as of 2010, countries which already apply tolls or user charges will be obliged to vary their prices according to vehicle pollution standards (Euro standards series) in order to favour the cleanest ones;
- authorities may decide to exempt isolated areas or economically weak regions from applying tolls or user charges;
- an extra 15% 'mark-up' charge can be levied to finance new alternative transport infrastructure projects such as rail or inland waterways (the mark-up can be raised to 25% for cross-frontier projects in mountainous regions);

46 According to the stages of carbon dioxide emission standards determined by the European Commission, where;
Euro 1 (1993): For passenger cars - 91/441/EEC , also for passenger cars and light trucks - 93/59/EEC.
Euro 2 (1996) for passenger cars - 94/12/EC (& 96/69/EC)
Euro 3 (2000) for any vehicle - 98/69/EC
Euro 4 (2005) for any vehicle - 98/69/EC (& 2002/80/EC)
Euro 5 (2008/9) for any vehicle - (COM(2005) 683 - proposed)

47 http://ec.europa.eu/transport/road/policy/road_charging/charging_tolls_en.htm

48 http://www.euractiv.com/en/transport/eu-agrees-greener-truck-tolling-scheme/article-150935

EdamENG.indd 145 1/3/08 2:19:56 PM

- urban areas are finally not included in these extra mark-up charges. However, local authorities can still be raise them under a provision taken from article 9 of the current Eurovignette directive (which for instance allowed the city of London to apply such charges);
- rebates will be possible for frequent users.

Social Provisions

The opening up of the markets has made it possible to improve the quantity and quality of the transport services. Competition policy is on the edge to guarantee that this development will not take place in a way that is detrimental to certain enterprises. But it is also needed to make it certain that this progress will not come about at the expense of working people in the sector. This involves warranting that some enterprises are not charmed to neglect social legislation in order to lower costs.

Community rules for maximum daily and fortnightly driving times as well as daily and weekly minimum rest periods for all drivers of road haulage and passenger transport vehicles are determined by the Regulation (EC) No. 561/2006[49]. The scope of operations regulated includes passenger transport and road haulage operations, both international and national, long and short distance, drivers for own account and for hire and reward, employees and self-employed. The aim of the Regulation is to avoid distortion of competition, improve road safety and driver working conditions within the Community.

Directive 2002/15/EC sets down minimum requirements with regarding working time for all mobile workers performing road transport activities. It also supplements the provisions of Regulation (EC) No. 561/2006 which lays down common rules on drivers' driving time and rest periods.

Mainly, the directive contains the following general provisions and the rules are applicable to all mobile workers from 23 March 2005[50].

- Definitions of working time, periods of availability, place of work, mobile worker, self-employed driver, week, night time and night work
- Maximum working week: 48 hours (this can be extended to 60 hours provided an average of 48 hours per week is not exceeded in any 4 month period)
- Breaks: not more than 6 hours should be worked consecutively without a break (at least 30 min when 6 to 9 hours are worked per day)
- Rest time: the provisions of Regulation (EC) No. 561/2006 are maintained
- Night work: not more than 10 hours in any 24-hour period.

Another important development in terms of social provisions in road transport is the compulsory use of digital tachograph in new vehicles, having a mass of more than 3,5 tonnes (in goods transport) and carrying more than 9 persons (in passenger transport)[51]. In many ways, the digital tachograph, which records all the vehicle's activities, for example distance, speed and driving times and rest periods of the driver, is a more secure and accurate recording and storage device than the analogue tachograph.

49 Regulation (EC) No 561/2006 of the European Parliament and of the Council of 15 March 2006 on the harmonisation of certain social legislation relating to road transport and amending Council Regulations (EEC) No 3821/85 and (EC) No 2135/98 and repealing Council Regulation (EEC) No 3820/85

50 http://ec.europa.eu/transport/road/policy/social_provision/social_working_time_en.htm

51 The use of the fully digital tachograph is introduced with Council Regulation (EC) 2135/98, which amends Regulation (EEC) 3821/85. Installing the digital tachograph has been obligatory since 1 May 2006.

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Connections with Non-EU Countries

Road transport between the EU and non-EU countries is still largely based on bilateral agreements. Specifically, the EU has reached agreements with EFTA countries[52] and Switzerland[53] on road transport issues that are prior over those bilateral agreements.

Road Safety

Among all modes of transport, road transport is the most dangerous and the most costly in terms of human lives. In 2005, nearly 41200 people lost their lives in road accidents across the EU and approximately 1 million and 600 thousand people are injured. The prime concern of the Union is to make Europe's highways as safe as possible.

In its 2001 Transport White Paper, the Commission proposed the ambitious goal to halve the number of fatalities in the European roads by 25000 setting year 2010 as target. This target is meanwhile approved by the European Parliament and all Member States. In 2003, the European Road Safety Action Programme was tabled, containing many concrete measures proposed to achieve this goal. And in February 2006, the Commission has issued a mid-term review on the common accomplishments to halve road fatalities. In short, Europe has achieved a lot in the last five years, but still more is needed to be done to achieve this objective.

3.3.2. Road Transport in Turkey

Road transport has been the predominant mode of transport in Turkey for the last 50 years. Even though state development plans have set the target to increase weight of rail transport, road transport has de facto continued to be the major mode of investment for transport since the 1950s. The automotive industry has been the backbone of Turkey's industrialisation and is among the leading sectors of export.

Turkey's road transport vision for 2013 is to build a road transport system that abides by national and international law, prioritises road safety, environment friendly, contributes to national economy and social life, uses advanced technology, provides high service quality, competitive in market conditions, makes good use of Turkey's geography and natural resources, integrated with other modes of transport in a fair and balanced way.[54]

There are 5 types of roads in Turkey: highways (motorways), state roads, provincial roads, village roads and inner city roads (under the responsibility of municipalities). According to data provided by the General Directorate of Highways, highways are 1.775 km (3%), state roads are 31.446 km (50%), provincial roads are 30.368 km (47%). There are also 322,288 km of village roads.[55]

Table 3-9: Length of highways in Turkey

Year	1973	1984	1990	1993	2005
Highway length (km)	24	76	286	1104	1775 (2004 with connections)

Source: State Planning Organisation, 9th Development Plan – Road Transport Special Commission Report, 2006

52 Annex 13 of the EEA Agreement

53 EC/Switzerland land transport agreement
http://europa.eu.int/eur-lex/pri/en/oj/dat/2002/l_114/l_11420020430en00910127.pdf

54 State Planning Organisation, 9. KALKINMA PLANI - KARAYOLU ULAŞIMI ÖZEL İHTİSAS KOMİSYONU RAPORU, 2006

55 Source: State Planning Organisation, 9th Development Plan – Road Transport Special Commission Report, 2006

EdamENG.indd 147 1/3/08 2:19:56 PM

Investment in highways over the past 20 years has rendered Turkish road network comparable with most EU countries of similar size[56].

Turkey's geographical position makes it a natural land passage between Europe and Asia. Road transport is a flexible and fast mode of transport for freight, especially for distances up to 300-350 km.; but there is significant and growing dominance of road transport in Turkey over other modes.

Table 3-10: Share of road transport in domestic freight transportation in Turkey

	Tons kilometers	Share (%)
1960	-	37,8
1980	-	81
1997	139.789	93.0
1998	152.210	95.0
1999	150.974	89.9
2000	161.552	89.9
2001	151.421	90
2002	150.912	92
2003	152.163	91
2004	156.853	94
2005	166.770	95

Source: Turkish Statistical Institute, 2006; KGM Türkiye Karayolları İstatistik Yıllığı 1999-2000, 2001-2002

Lack of sufficient rail and marine port infrastructure has made road transport a preferred option and led to the growth of the Turkish road transport industry. Dominance of road transport bears the consequences of heavy road traffic, air and noise pollution, high rate of accidents, fast deterioration of roads, as well as dependence on carbon fuels for transportation, which are predominantly imported.

Nevertheless, the Turkish road transport sector today is a 12 billion Euro sector, with a capacity exceeding 2 billion tons, carrying 90% of the domestic freight and is an important enabler in carrying Turkey's import and export volumes (10,4% of foreign trade by volume and 30,4% by value in 2006).[57]

Table 3-11: Number of registered road vehicles in Turkey

Type of vehicle	Number
Automobiles	5,882,575
Motorcycles	1,547,145
Bus	167,382
Minibus	343,704
Pickup Truck	1,537,444
Lorry	688,879
Vehicles for special purpose	31,492
Tractor	1,258,004
TOTAL	11,411,562

Source –Turkish Statistical Institute, 2006

Compared with EU countries, the number of vehicles in Turkey is significantly high.

56 Source: ERF World Road Statistics on Europe, 2006.

57 Turkish Statistical Institute, 2006

EdamENG.indd 148 1/3/08 2:19:56 PM

3.3.2.1. Market Overview

Market Structure

The Turkish road transport market for freight can be segmented by geographies served: the domestic market, European markets and the Eastern markets (namely Middle East and Russia and other Commonwealth of Independent States (CIS) countries). Each of these markets is served by different types of vehicles operated by institutions with different business models.

Due to regulatory requirements of the EU with increasing concern over environmental impact of road transportation (EURO classification of vehicles according to emission category, quotas according to EURO classification), vehicles with better emission standards carry the goods to and from European countries. Because investing in better quality vehicles requires higher institutional capacity (in terms of management capability and financial strength), the European market is served by more institutionalised businesses, able to coordinate larger fleets with newer vehicles within the Transport Internationaux Routiers (TIR) convention. Social provisions envisaged are best safeguarded for drivers working between Turkish and European destinations.

Less strict regulation in the Middle Eastern countries, Russia or the CIS countries allows older vehicles of lower qualification to serve these markets. Accordingly, because ownership of lower quality vehicles requires less institutional capacity, these markets, especially the Middle Eastern markets are often served by "one man – one truck" companies. Social provisions or even safety regulations can be disregarded by such companies.

The domestic road transport market is a combination of the two structures and a reflection of the structure of the Turkish economy. 90% of domestic freight transport in Turkey is by road. There are different types of road transport companies that meet the different needs in the Turkish market. The Turkish private sector consists of players with different business models, ranging from the highly institutionalised multinational companies to very small family owned enterprises; the transportation requirements of these players are met by transport companies at similar standing.

In Turkey, small enterprises are in very large numbers (96,32% of the total number of enterprises employ less than 10 people)[58] and generate large numbers of transportation job orders that are then processed by smaller, less institutionalised, low cost carriers, with older and lower quality vehicles. Small enterprises also constitute an important section in the unregistered economy in Turkey. Failing to attain capital structures and cash flows that allow them to realise their operations in a registered way, small enterprises tend to operate totally or partially in an unregistered way, including their procurement of freight transportation services. This demand has been the reason for very high numbers of trucks in Turkey, carrying most of the domestic transportation by road. The exact number of trucks in Turkey is not known; but estimates are that there are around 1,200,000 commercial trucks in Turkey that are less then 3,500 tons. This number is close to the total number of such trucks in EU25. This segment of the sector is less institutionalized and less organized as a profession. Truck drivers often own and run the company. These companies are not financially strong, have very little overhead costs and therefore are able to live on small profit margins. This segment is expected to shrink, transforming into larger institutions by mergers and acquisitions, institutionalisation, employing not only drivers but also management and administrative staff. This transformation is one of the objectives of the 2004 Road Transport regulation, which will be discussed below.

Medium sized enterprises with growing transportation needs for both domestic and international freight transport work with a range of transport companies that operate one or several TIR vehicles. These are often companies that originated as a one man–one truck company, then grown

58 Turkstat GSİS, 14/10/2003

EdamENG.indd 149 1/3/08 2:19:57 PM

financially to invest in a TIR vehicle. They often sell their services directly to medium sized enterprises for domestic, but increasingly for international transportation. Newer vehicles that are able to meet EU requirements travel to the European countries. After about four years, vehicles are sold to carriers that serve Eastern countries, especially Iraq. [59] This segment of road transport sector has grown significantly as Turkey's import and export volumes have grown. It is expected to grow further as Turkey's southern neighbours such as Iraq and Syria gain further importance as trading partners.

Table 3-12: International transport vehicles and capacity

	1993	1994	1995	1999	2000	2001	2002	2003
Number of companies	472	587	667	911	899	892	934	1.083
Number of trailers	7.043	7.607	7.990	23.402	20.782	21.026	25.197	31.798
Number of semi trailers	8.585	9.063	9.404	28.542	24.084	24.265	28.434	35.656
Number of trucks	2.319	5.351	5.332	5.436	3.061	2.880	6.119	12.339
Number of tankers	225	245	268	57	371	880	8.271	12.941
Total capacity (tons)	217.200	282.088	296.007	792.078	699.793	710.873	990.373	1.367.451

Source: Ministry of Transport, Land Transport DG

The EURO profile of international transport vehicles reflects the distribution of trucks working towards Europe and the East. There are 16,826 EURO I trucks (38.3%), 12,354 EURO II trucks (28,1%), 14,597 EURO III (33,2%) and 150 EURO IV trucks (0,34%). (Source: Ministry of Transport, DG Land Transport, 2005)

With high volumes of complicated logistical and transportation requirements, both domestic and international, large businesses in Turkey view transportation as one function in the management of their supply chain and increasingly outsource their logistical operations to third party logistics (3PL) companies. Trying to find the optimal solution to their transportation and logistics needs in terms of cost and delivery time, such businesses use a mixture of transport modes (land, rail, marine and air); and work with the more institutionalised form of land carriers, operating with better vehicles. The urge of such companies to minimize logistic costs and optimize use of different modes of transport is clearly becoming a driving force in Turkey for investment in logistics infrastructure, such as warehouses, integrating road with rail, marine and air transportation, also creating combined modes of transport, such as Ro-Ro. Furthermore, the higher environmental consciousness of large businesses leads them to search for more environmentally friendly modes of transport; using trucks with better emission standards or choosing modes such as rail or marine.

Turkish road transportation companies transport 53% of Turkish exports and 24% of Turkish imports. Turkish companies have a dominant market share in international road transport. However, since 2005, even though Turkey's import – export volumes are growing, international land freight transport market has stayed flat.

Freight forwarders play an increasing role in the Turkish transport market. As freight forwarders play a major role in European markets for selecting the optimal mode and route of transport for their customers, and assume more and more role in their supply chain operations, this is the way the larger businesses in Turkey operate. [60]

59 Transport companies that operate internationally are better organized as an industry. There are two sectoral organizations with over 1000 members each, UND (International Transporters' Association) and RODER (Ro-Ro Vessel Operators and Combined Transporters Association) , who are working to solve problems of their members, provide training programs, track data and create statistics regarding international road transport and represent their members both domestically and internationally.

60 Most multinational freight forwarding companies have set up offices or joint ventures in Turkey. In order to differentiate themselves among competitors and provide value added services, local transportation companies

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Small company size, fragmentation and inability to reach economies of scale are among the main challenges of Turkish economy. Small and even medium sized companies with low capital strength find it hard to cope with day to day cash flow problems and are not able to invest to grow their businesses. There are no incentives for them to join forces with companies of similar size to become more cost efficient. This is a vicious cycle which is one of the major reasons for the unregistered economy in Turkey. This has repercussions in the transport sector; fragmentation of transportation demands of businesses, frequent but smaller shipments lead to companies wanting to meet transportation requirements in the least costly way, without seeking quality in transporters.

Pricing

Transport prices are determined by the market. Different operators bid for a service and the customer can pick the one they wish to work with.

Possible lack of appreciation of all fixed and variable costs related with road transport may lead operators, especially those with less managerial skills, to consider only fuel costs, ignoring costs like depreciation, tire, maintenance and overhead when quoting a price, thereby lowering prices to very low margins.

Utilisation rate of trucks is critical for viability of business. When there is a contract for a truck to carry a good from Turkey towards any destination, the operators are willing to take any load back, however low the price may be, instead of the truck returning empty. This is another reason for prices to drop to very low profit margins and is a contentious issue among international competition.

Domestic transportation of goods by small trucks can cost up to 25% less than transport by TIR. If goods can be secured for two ways, a discount of up to 15% can be provided by the transporters.[61]

Combined Transport

Combined transport whereby trucks are transported by other vessels, namely boats or trains, over long distances, is gaining importance around the world, as well as in Turkey. Combined transport presents the opportunity to reduce road traffic related problems such as congestion and pollution; while providing cost savings related with fuel, wearing out of vehicles and tires, and driver related efficiencies.

Ro-Ro Transportation

Turkey is well positioned to benefit from Ro-Ro transportation, both in the Mediterranean and in Black Sea. The war in Yugoslavia which during the early 1990s prevented Turkish companies from transporting goods to and from Europe, led Turkish road transport companies to join forces under the UN-Ro-Ro initiative to establish Turkey's first Ro-Ro line between Istanbul / İzmir and Trieste in 1992[62]. This Ro-Ro line has been a pioneer for the industry and was followed by others. Although some lines have not been profitable and have had to close down over the years, many Ro-Ro lines are still actively used[63].

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have also started to invest in human resources and IT infrastructure, in order to expand their services to include more functions related with logistics. Their level of activity increases as companies need for door-to-door transportation in the most effective way increases.

61 Phone interviews with various road transport companies as potential clients.

62 6 Ro-Ro ships from Pendik, 3 from Ambarlı and 3 from Çeşme sail to Trieste, carrying complete units or only semi-trailers.

63 Active Ro-Ro lines from Turkey: Haydarpaşa-Trieste (Italy), Ambarlı-Trieste (Italy), Çeşme-Trieste (Italy), Çeşme-Brindisi (Italy), Zonguldak-Odessa (Ukraine), Zonguldak-Skadovsk (Ukraine), Samsun-Novorossisky (Russia), Trabzon-Sochi (Russia), Rize-Poti (Georgia).

EdamENG.indd 151 1/3/08 2:19:57 PM

Turkey has the world's fourth biggest Ro-Ro fleet which is also the second one in Europe. Availability of scheduled lines has enabled exporters to plan their shipments accordingly, reduced total transportation costs and led the Balkan countries to revise their transit fees. Transport of TIR drivers is done by airlines.

Today, Ro-Ro is seen as an integral part of road transportation sector, although there is no regulation that regulates Ro-Ro operations as intermodal transportation; Ro-Ro boats are operated under marine law. In order to further increase efficiency of Ro-Ro transport, it is necessary for regulation to facilitate utilisation of this intermodal transport and investment to be made for Ro-Ro ports and terminals.

Ro-La Transportation

Transport of trucks by train (Ro-La) is gaining importance in Europe and international Ro-La projects are being considered as extension of Turkish rail network. By integrating rail services and local truck pick up and delivery in a seamless network, rail transport can play a role in offering door-to-door delivery services to customers.

TCDD has launched Ro-La transportation between Halkalı and Wels in 2006, in collaboration with on-route railway administrations. Halkalı – Wels is the longest Ro-La line to date, with a track of 1,979 km, over the route of Turkey- Bulgaria-Serbia-Croatia-Slovenia-Austria.[64]

Barriers to Market in Europe

As Turkish road hauliers are taking on more and more of the road freight transport between European countries and Turkey, Turkish companies are facing increasing challenges such as temporary changes in implementation of Schengen visa procedures, or restriction in the number of transit permits through European countries.

Within the European Conference of Ministers of Transport (ECMT) framework, where every country determines the number of permits for non-EU countries, the permits allocated to Turkish trucks are often depleted before the end of the year. Through bilateral negotiations, Turkey is allowed to obtain the right to use permits of the following year before the end of the year. This is only a temporary solution and the problem recurs the following year.

It is clear that European transport policy is trying to shift transport weight from road to other modes, particularly rail and marine. Turkish sector representatives and officials are aware of this situation and intend to adapt to this policy. Yet, when limiting the number of permits to Turkish trucks is seen to function as a way to keep Turkish companies out of the market, there is great discomfort within the sector. Even though Turkish exports to EU countries have increased by 103% between 2003-2006, quotas for Turkish trucks have only increased by 32%. It is even perceived that there may be the intention to limit Turkish exports by limiting the access of Turkish trucks to European markets. As Europe tends to lift quotas all together, the gradual elimination of the restriction on Turkish trucks should be envisaged as well.

3.3.2.2. Regulatory Overview

The New Road Transport Law[65] has been introduced in 2003 and the New Road Transport[66] and

64 According to the UNECE Working Party on Intermodal Transport and Logistics, March 2007, the maximum weight of the Ro-La train is 1,100 tons and the maximum length is 520 meters. The train has a capacity of 20 TIRs and presently operates once a week. It is planning to be operated 3 times a week. Total time of transport by the train is approximately 70 hours which is almost same with transportation by road.

65 Yeni Karayolu Taşıma Kanunu, No. 4925, 10.7.2003

66 Yeni Karayolu Taşıma Yönetmeliği, 25.02.2004

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Road Transport Professional Training Bylaws[67] have followed in 2004. These laws and bylaws have been prepared in order to regulate the large market transport market, ensuring EU harmonisation. Even though the regulation could be fine tuned for full harmonisation with the EU, it does address many of the shortcomings of the sector.

Market Access

Access to road transportation market in Turkey is regulated by the New Road Transport Law and introduces the requirement for operators to obtain a license, based on the criteria of good repute, financial standing and professional competence, as in the EU regulation, Council Directive 96/26/EC of 29 April 1996 on admission to the occupation of road haulage operator and road passenger transport operator. The licence has to be renewed every 5 years.

Even though the New Road Transport Law and its bylaws have targeted EU harmonisation, there are several pertinent issues that differ from EU regulation: the multiplicity and complexity of license types and the cost of obtaining licences.

EU Council Directive 96/26/EC on admission to the occupation of road haulage operator and road passenger transport operator defines 'the occupation of road haulage operator` as the activity of any undertaking transporting goods for hire or reward by means of either a self-contained motor vehicle or a combination of coupled vehicles.

However, the Turkish Road Transport Law has defined 15 different roles and 39 different types of license for the types of operations. The Licence Application Form[68] displays the complexity that road operators have to deal with. Different licenses are required for freight and passenger transport. Freight transport is categorized as intra - province, domestic and international. Each category requires another type of license. If an undertaking is engaged in more than one type of activity, it is required to apply for and to obtain each of the licenses individually.

The argument for establishing this complex licensing structure has been to separate the low quality small truck business from the international transportation business. By establishing different licenses, it has been possible to keep out hundreds of thousands of trucks from conducting international haulage. This is expected to create an incentive for small, one man-one truck companies to seek economies of scale by merging and increasing their financial strength and entering larger segments of the market with more institutional business structures. However, the complexity of the license types constitutes a difficulty for implementation; control authorities need to be trained on the structure of the license requirements for the type of activities undertaken for effectiveness. This is facilitated by implementation of Ministry of Transport Automation System (U-NET), an information system that records types of license required with the vehicles license plate.

As regulated by the Foreign Investment Law of 2003, non-Turkish nationals can invest in the road transport sector in Turkey, provided they obtain the proper licenses required for the type of activity they envisage.

Financial Standing

The financial standing for operators in the EU requires have capital assets of at least € 9.000 for the first vehicle and € 5.000 for each additional vehicle. However, the Turkish Road Transport Law bases submission of licenses not on financial capacity of the undertaking, but on ownership of vehicles, high fees and bank guarantees to submit the licenses. The level of fee and bank guarantee is so high that it impacts the working capital level of most truck operators and endangers further investment into the business. Type of licenses and costs are listed in Table 3-13. Licenses have to

67 Karayolu Taşımacılık Faaliyetleri Mesleki Yeterlilik Eğitimi Yönetmeliği, 03.09.2004

68 Yetki Belgesi Başvuru Formu, http://www.kugm.gov.tr/dosyalar/diger/dosya5.pdf

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be renewed every five years, paying a percentage of the original cost, currently 50%.

Table 3-13: Fees and capital requirements for selected types of licenses (1 YTL = 1,76 Euro, Aug.6, 2007)

Type of license	Number of vehicles	Capital Requirement (000 YTL)	Letter of Guarantee (000 YTL)	License Fee (000 YTL)
International road haulier (C2)	10	100	-	40
Commissioner for international goods transport (H2)	-	40	100	6
Domestic road haulier (K2)	1	-	0	5
International logistics services (L2)	150 tonne capacity	500	350	200
Organiser of international goods transport (R2)	-	500	400	200

Source: Yeni Karayolu Taşıma Yönetmeliği

Professional Competence

Turkish road transportation sector would benefit significantly from enhancing the professional competence of sector personnel, both managers as well as drivers. Changing dynamics of the transportation sector and increasing complexity of regulation, related for instance with the transportation of dangerous materials, requires that personnel are aware of the body of knowledge required and able to implement the skills.

The condition relating to professional competence required by the EU is the possession of skills demonstrated by passing a written examination, which may take the form of a multiple-choice examination, organized by the authority or body designated for this purpose by each Member State.

The Turkish Road Transport Law as well identifies managerial and professional competence as a requirement for licensing and designates institutions as authorised for training and certification of operators. There are around 20 training centres accredited for this purpose. Examination for certification is conducted by Ministry of Transport, Land Transport DG.

The Directive 2003/59 that addresses the professional training requirements for drivers for entry and continuation in the profession have not been taken into the Turkish National Accession Programme. However, it is necessary for professional training for drivers to be regulated as soon as possible for enhanced road safety.

EU Twinning Project

There is an ongoing EU twinning Project in road transport sector, "Assistance to the Turkish Road Transport Sector". Started on May 11, 2006, the project is expected to run until November 2007. The project will review legislation over all in conformity with EU legislation and will: draft legislation, where appropriate, propose a fleet renewal scheme, propose an information management and monitoring scheme, recommend a licence system, propose transparent institutional arrangements and improved coordination.

Implementation of the Regulation and Unfair Competition

There is a protocol among the Ministry of Transport and the Ministry of Interior regarding the implementation of the new regulation in road transport. Licensing and certification of land transport operators is ongoing. Effective control is important to ensure implementation of the regulation. Until the regulatory requirements are fulfilled by all the operators, those operators who meet the

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financial and managerial requirements of the licenses are faced by the unfair competition of those who do not. Avoiding the financial burden of obtaining the license, non-licensed operators are able to reduce prices below levels which are not profitable for licensed operators.

Statistics in Road Transport Sector

There is significant difficulty in obtaining reliable and up to date statistics about the road transport sector. Turkish Statistical Institute (TURKSAT) and the Land Transportation DG automation system provide some data. However, none of these are able to provide the detailed statistics or analysis of Turkish road transport sector. Detailed on line data on loading point, destination, types and quantities of goods carried are required in order to monitor the transport industry, identify the problems and develop strategic solutions.

3.3.2.3. Productivity Impact Assessment

The adoption of the EU *acquis* in road transport is likely to give rise to increased sectoral productivity on account of the consolidation of the industry and the growth of larger scale players able to benefit from economies of scale. Furthermore, given the nature of road transport which acts as an input for the production process of many other industries, increased efficiency in this area will also have a positive impact on the cost efficiencies of a diverse range of industries. In order to clarify these linkages, the Input/Output table of the Turkish economy[69] was utilized to prepare two different sets of tables. The first table lists the industries which are going to be most affected by any change in the sectoral productivity of road transport. The second table lists the industries which will have the most significant impact on the overall productivity of the national economy. In other words, the second table ranks industries according to their intensity of road transport usage weighted by their share in national value added.

Table 3-14: Ranking of industries according to road transport usage as a share in production inputs

Industry	Index
Refined petroleum products	1
Confectionary	0.76
Rubber products	0.48
Motor vehicles manufacturing	0.47
Motor vehicles retailing	0.42
Sugar	0.16
Health services	0.12
Sea transport vehicles	0.09
Gas distribution	0.08
Telecommunications	0.07
Financial institutions	0.06
Water distribution	0.05
Wholesale trade	0.03
Publishing	0.03
Research and development	0.02
Electricity production and distribution	0.01
Soft drinks	0.01
Office equipment	0.01
Forestry products	0.01
Machinery products	0.01

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

69 The latest available Input Output table is for the year 1998.

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Table 3-15: Ranking of industries according to the overall productivity impact on the national economy on account of a productivity increase in road transport

Industry	Index
Refined petroleum products	1
Financial services	0.094226
Motor vehicles manufacturing	0.029319
Motor vehicles sales	0.015495
Telecommunications	0.009486
Confectionary	0.008854
Rubber products	0.003563
Electricity	0.002807
Wholesale trade	0.001124
Insurance	0.000978
Sugar	0.000741
Other business activities	0.000587
Water distribution	0.000441
Health services	0.000396
Other service activities	0.000264
Catering services	0.000183
Printing	0.000159
Manufacturing	0.000139
Ready wear	0.000136

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

3.3.2.4. Evaluation

Road transport is the primary mode of transport in Turkey. The road network is quite developed and the sector boasts a considerable number of service providers. As a result, the sector remains competitive with regard to alternative modes of transport. Yet, price competitiveness comes at a cost. The cost is twofold: the abundance of small scale and unregistered players prevents the consolidation of the industry. As a result, the market structure remains divided between the larger, institutionalized players and the smaller informal players. This state of affairs delays the transition witnessed in other European countries where companies grow to a critical mass and are able to invest in fleet upgrades and technological services. The second general cost relates to externalities such as increased traffic, pollution and road congestion. Because of the prevalence of small scale players, road haulage involves more transport vehicles than necessary leading to the rise of these external costs.

On the other hand, there has been a serious progress in terms of harmonising the Turkish road transport legislation with the EU *acquis*. A new Road Transport Law was adopted in 2003. This law and following bylaws have created a similar regulatory framework for road transport services. There are nonetheless some residual differences in the regulatory framework stemming from the difference of the market structures. The vast number of small scale road transport operators existing in Turkey compelled domestic policy makers to change some of the provisions of the EU *acquis* to design a framework law more suited to Turkey's present needs. The Road Transport Law and Bylaws addresses the fact that the sector is too fragmented and the vast majority of players are too small. As a result, market access rules and licensing provisions are adapted to Turkish market.

The proper implementation of the law would lead to consolidation, help the transformation of the sector and allow market players to achieve economies of scale. However, the complexity of the licensing scheme makes it difficult to implement properly. Due to the vast number of existing service providers, the institutional capacity for the proper enforcement of the new rules is still lacking.

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3.4. Air Transport

3.4.1. Air Transport in the EU

Of all transport modes, air transport has shown the largest growth with a cumulative average growth rate of 7.4 % since 1980. Growth rates in freight transport and passenger transport) in aviation sector are recorded as 31.1% and 48.8% for the period 1995-2004 period, respectively[70]. Having more than 130 airlines, a network of more than 450 airports and about 60 service suppliers, almost 3 million workers in the sector and an activity accounting for almost 1.5 % of the EU GDP, the community owes much to the successful liberalization of the air transport market in 1990s.

3.4.1.1. EU Regulations in Air Transport

Market Access and Competition

Air transport sector in the EU was liberalized through three successive liberalization packages adopted in 1987, 1990 and 1992 respectively. With the third package adopted in July 1992 and applied as from January 1993 the liberalization process across the EU is completed.

The first package of measures started to relax the established rules. For intra-EU traffic, it limited the right of governments to object to the introduction of new fares. It gave some flexibility to airlines concerning seat capacity sharing. The second package opened up the market further, allowing greater flexibility over the setting of fares and capacity-sharing. It also gave all EU carriers the right to carry an unlimited number of passengers or cargo between their home country and another EU country. Finally, the third package included three legislative measures[71]:

- The introduction of harmonised requirements for an operating license for EU airlines
- The open access for all EU airlines with such an operating license to all routes within the EU, where at the same time, national governments have the possibility to impose public service obligations on routes which are essential for the regional development.
- The full freedom with regard to fares and rates. Airlines are no longer required to submit their fares to the national authorities for approval. Safeguard measures may be introduced, but thanks to the good functioning of the market this has never been necessary in practice.

This package gradually introduced freedom to provide services within the European Union and led in April 1997 to the freedom to provide cabotage. However the inconsistent application of third package across the member states and some restrictions on intra-Community air services have distorted the level-playing field of the airlines and limited competition in some parts of the internal market. As a result, the European Commission was compelled to adopt a proposal and published an impact assessment report in July 2006 for the revision of third package measures, in order to increase market efficiency, to enhance the safety of air services and to improve passenger protection.

The Commission categorized its proposals under the following headings[72]:

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70 European Commission DG Energy and Transport, *Energy & Transport in Figures,* 2006

71 http://ec.europa.eu/transport/air_portal/internal_market/competition_en.htm

72 European Commission, Staff Working Document, *Impact Assessment Proposal for a regulation of the European Parliament and of the Council on common rules for the operation of air services in the European Community,* 2006
http://ec.europa.eu/transport/air_portal/competition/doc/doc_travail_version_complete.pdf

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- Requirements for the operating license:
    - Stricter requirements as to the information to be provided by air carriers
    - Stricter conditions for submission and approval of financial accounts
    - More regular review of the air carriers meeting the requirements of the operating licence, especially for start-ups
    - Introduction of a clearer procedure for revocation of an operating licence
    - Enhancement of Commission powers for revocation of an operating licence
- Stricter requirements for leasing agreements, especially for wet-leasing
- The link between the internal aviation market and air services to third countries
    - Access to intra-Community routes by non-Community carriers only through agreements to which the Community is a contracting party
    - Free code-sharing and fare setting on routes to third countries
- Public service obligations (PSO):
    - Clearer legislation, better description of the conditions attached to PSOs
    - Longer concession periods: four years instead of three (five years in the case of ultra-peripheral regions)
    - Improvement of the Commission's information on the context of PSO impositions
- Fares transparency:
    - Transparency of fares information
    - Provisions for ensuring non-discriminatory fares with respect to place of residence
    - Leave price setting to market forces subject to general competition rules

According to the Commission study, the measures are expected to increase competition and reduce market distortions, although the ensuing market consolidation needs to be followed carefully along competition rules in order to avoid abuses on some routes. Air carriers would benefit from the creation of a level-playing field although the operating costs might be slightly increased by the stricter requirements concerning the operating licence. Consumers would enjoy higher safety levels and reduced air carrier bankruptcy risk. Overall, the increased competition and greater price transparency should lead to lower fares and more services offered.

Thus, these reforms in the regulations offer clear economic and social advantages by reinforcing the internal market by accelerating market consolidation and thereby creating a competitive environment for European air carriers capable of taking on their international competitors and by presenting clear advantages for passengers by enhancing the market forces that lead to lower fares, better services offered and higher safety levels.

International Aviation: Open Skies

International aviation relations are based on specific rules which include issues like number of airlines allowed to fly, the points that can be served and the number of flights per week that may be operated. For the internal market, these rights were gradually liberalized in 1992 and 1997 as mentioned above. But the case is different for air relations with third countries.

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In this respect, the 'open skies' judgment of the European Court of Justice transposes international air relations to the community context and constitutes an external aviation policy for the EU. According to 'open skies' judgments, member states can not act in isolation when negotiating international air service agreements. Hence there existed the need for the adaptation of the existing bilateral agreements in order to bring them into line with Community law.

In 2005 the Commission agreed on an agenda which is based on three columns on the basis of the Commission proposal COM (2005)[73]:

- Amending approximately 1500 existing air services agreements through horizontal agreements in order to ensure that third countries accept the principle of a European air carrier.
- The creation by 2010 of a Common Aviation Area composed of the EC and its partners located along its southern and eastern borders, aiming a high degree of economic and regulatory integration of aviation markets in this area.
- The commencement of targeted negotiations trying to achieve global agreements in the major regions of the world, with the aim of ensuring fair competition in the most dynamic world markets and helping to reform international civil aviation and promoting European regulations and industry.

There was a significant rise in the number of "Open Skies" deals reached worldwide during 2005, with sixteen such bilateral agreements being concluded, increasing the total number to 118. In all, some 86 bilateral air services agreements were concluded or amended in 2005, with over 70% featuring more liberal arrangements. In December 2005 a multilateral agreement was reached between the Commission and eight south-east European partners (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia, Romania, Serbia, and Montenegro and the United Nations Mission in Kosovo) to establish a European Common Aviation Area[74], where Iceland and Norway were also parties to the agreement.

The EU signed an aviation agreement with Morocco, started negotiations on a common aviation area with Ukraine, and agreed on abolition of € 300 million Siberian over flight payments with Russia. Recently, the EU and the United States signed the EU-US Air Transport Agreement, which is defined by Jacques Barrot as "*both a centre piece for today's reinvigorated transatlantic relationship and a big step forward in international aviation. By allowing new services to be launched from airports right across Europe, it will shake-up both the transatlantic market and the European airline industry itself. Already, the European airline industry is feeling its effects in a positive way, with plans for new services and signs of a much more flexible and dynamic approach to airline investment among European carriers*"[75]

Airports

A problem coming along with the liberalization of air transport services and increase in air traffic growth is the pressure on the capacity available at airports for aircraft movement. When airport management is in question, the basic difficulty for new airlines to enter to the market is slot allocation. Regulation 95/93 was the first step towards setting common rules for the allocation of slots in Community airports on a transparent and non-discriminatory basis. In particular in order to enable new airlines to enter to the market, the allocation of slots had to be based on the rule that at least half of the newly created slots had to be reserved for newcomers.

73 http://ec.europa.eu/transport/air_portal/international/pillars/index_en.htm

74 http://ec.europa.eu/transport/air_portal/international/doc/reference/background/com_2006_0113_en.pdf

75 http://ec.europa.eu/transport/air_portal/international/pillars/global_partners/doc/us/press_release_signature_30_04_07.pdf

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Ground handling service, comprising ticketing and baggage handling, ramp handling, fuelling and de-fuelling operations, aircraft maintenance and the provision of catering services, contribute much to the efficient use of airport infrastructure. This market which is gradually opened up to competition by the Directive 96/67 provided declining prices and improved quality as a result of competition.

The European Commission has adopted an "airport package"[76] in January 2007 consisting of three key initiatives: a proposal for a directive on airport charges, a communication on airport capacity, efficiency and safety in Europe and a report on the implementation of the ground handling directive. The package focuses on the role of airports in the further development and competitiveness of the European internal aviation.

Aviation Safety

The indirect factor which impacts aviation safety is the accelerated growth of air traffic. Currently, Community legislation reflects the standards drawn up by the Joint Aviation Authority (JAA) a part of which is rendered to Community law. Regulation 3922/91 provides mechanisms to transmit joint aviation requirements (JARs) on the harmonisation of technical requirements and administrative procedures in the field of civil aviation which is amended by Regulation 1899/2006.

As air traffic continues to grow a common initiative is needed at the European level to keep air transport safe and sustainable. With the aim of this, Regulation 1592/2002 is adopted introducing an aviation safety agency which develops common safety and environmental rules at the European level. European Aviation Safety Agency (EASA) is established as of July 2002 and main tasks currently carried on by the agency are as follows: drafting safety legislation and providing technical advice to the European Commission and to the Member States; inspections, training and standardization programmes to warrant uniform implementation of European aviation safety legislation in all Member States; safety and environmental type-certification of aircraft, engines and parts; approval and oversight of aircraft design organisations world-wide as and of production and maintenance organisations outside the EU; data collection, analysis and research to improve aviation safety. Right along with, the Commission adopted a proposal in November 2005 to extend the tasks of EASA to ruling civil aviation operations; licensing of crews in the Member States and certification of non-Member State airlines.

Air Transport and Environment

Air transport industry has made significant improvements to aircraft technology and efficiency in terms of reductions in greenhouse gas emissions (GHG), but still these improvements have not been sufficient to compensate for the negative effects of rapid growth of global air traffic on environment.

Since 1990, CO^2 emissions from aviation, which are directly related to the amount of fuel consumed, have increased by 87% and now account for around 3.5% of total 'human activities' contribution to climate change and it is estimated that this share will grow to 5% by 2050[77].

To date, the aviation sector has not been required to do much to address climate change as international aviation is excluded from the Kyoto Protocol. Still, the European Commission has decided to take unilateral action. Several policy options were examined, including aviation taxes, but they were opposed by the aviation industry. But the Commission concluded, in its 2005 Communicati-

76 http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/78

77 http://www.iata.org/whatwedo/environment/climate_change.htm

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on Paper[78], that bringing aviation into the EU's greenhouse gas emissions trading system (EU-ETS) would be the most cost-effective way of reducing the climate change impact of aviation.

3.4.2. Air Transport in Turkey

3.4.2.1. Regulatory Overview

In Turkey, the Ministry of Transport determines civil aviation policy. The Ministry is assisted by the Directorate General for Civil Aviation (DGCA), a specialized government agency in the implementation and enforcement of civil aviation rules. The DGCA has the also the responsibility for licensing air carriers. The third institutional actor is the State Airports Management Authority (SAMA) which operates almost all Turkish airports and provides Air Traffic Management services.

The rules and regulations governing air transport are quite liberal. The licensing regime for air carriers stipulates objective criteria related to the technical and financial capacity of potential market entrants. For domestic or international scheduled flights, the air carrier is required to have at least 5 aircraft that have 100 or more seat-capacity. Aircrafts can however be leased and there is no requirement of ownership. Similarly for domestic or international non-scheduled flights, the operator is required to have at least 2 aircraft that have 100 or more seat-capacity. For cargo operations, the aircraft requirement is dropped to 1. Provided that these conditions are fulfilled, a market entry license can be obtained.

Operators then need to apply for flight permits for individual routes and also obtain relevant slots at each airport. Flight permits are awarded by the Ministry of Transport. Slots are allocated by an independent Slot Coordinator[79] in consultation with the Commission for Evaluation of Slot Allocation (CESA). CESA is a consultative body comprised of representatives of national and international air carriers, of the airport management authority and of ground handling companies. Given the importance for maintaining a contestable market, the slot allocation procedures allow for new market entry by defining and protecting the rights of new entrants. "New entrant" means an air carrier requesting slots at an airport on any day and holding or having been allocated fewer than four slots at that airport on that day. After slots are allocated to the historic slots and hour changes in the slots, 50 % of the remaining capacity is allocated to new entrants.

Tariffs for air transport services have been de-regulated since 2001. Air carriers can set their own tariff. There are no minimum tariff requirements[80]. Tariffs have nonetheless to be approved by the Ministry of Transport.

3.4.2.2. Market Overview

The tariff liberalisation bill introduced in 2001 enabled the fast development of the airline industry. The following figures[81] which sketch the development of the industry in the last 3 years illustrate this growth trend:

- The number of planes increased from 150 to 261
- The number of domestic passengers increased from 9,1 million to 28,8 million

78 European Commission, Communication Paper, *Reducing the Climate Change Impact of Aviation*, 2005 http://eur-lex.europa.eu/LexUriServ/site/en/com/2005/com2005_0459en01.pdf

79 The Slot Coordinator is appointed by the DGCA

80 This freedom is severely criticized by passenger road transport companies who face statutory minimum tariffs and therefore claim unfair competition from air carriers.

81 Press statement of the Minister of Transport, Binali Yildirim on 31 March 2007 as reported by the daily Hürriyet on 1 April 2007.

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- The number of international passengers increased from 25,3 million to 32,9 million
- Seat capacity increased from 27.124 to 42.894
- The number of domestic flights increased from 156.301 to 343.956
- The capacity of domestic airports increased from 50 million to 91 million passengers/year
- The number of domestic destinations increased from 25 to 38

Table 3-16 – Number of domestic airline passengers in Turkey

Year	Domestic passengers	% increase
2002	8700	..
2003	9128	4,92
2004	14438	58,17
2005	20502	42,00
2006	28800	40,47

Source : SAMA

There are at present 19 airline companies operational in Turkey. 6 of those companies operate at the domestic level while the rest fly solely on international routes.

Table 3-17: Air carriers operational in Turkey (2007)

Turkish Airlines (THY)	Corendon	Saga Airlines	**IzAir**
AtlasJet Airlines	Free Bird	World Focus	Kuzu
Pegasus Airlines	Inter Airlines	Golden Airlines	**MNG**
Onur Air	Kibris Turk Airlines	T&T Airlines	ACT
Sun Express	Sky Airlines	Best Air	

Source : Business Week Türkiye, 28 January 2007. Carriers serving domestic routes highlighted

Table 3-18: Market share of main carriers on domestic routes (2006)

Name	Number of passengers	Number of planes
THY	14.921.733	106
AtlasJet	4.440.366	16
Onur Air	4.400.267	31
Pegasus	1.818.989	17

Source: SAMA

Table 3-19: Market share of domestic routes (2007)

Carrier	Domestic route market share (2007)
THY	59%
Atlas Jet	17%
Onur Air	17%
Pegasus	7%

Source : SAMA.

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3.4.2.3. Airport Capacity and Development

The public private partnership model and in particular the build-operate-transfer option has been espoused by Turkey as the favourite method for developing the airport capacity of the country. As a result, private sector investments to the tune of 1.15 billion USD were channelled in the last couple of years for airport construction.

In Turkey currently there are 62 airports among which 15 is being used for both domestic and international flights, while the rest is utilized purely for domestic flights.

Table 3-20: New airports construction under the Build-Operate-Transfer (BOT) model

Name	Investment size (million USD)
Istanbul Atatürk	398
Antalya International Terminal I	65
Antalya International Terminal II	86
Dalaman International	92
Ankara Esenboga	325
Izmir Adnan Menderes	180
Total	1150

Source: Own compilation from press sources.

The main criticisms regarding the BOT model originate from airline operators. They claim that this model forces concession owners to charge high passenger service and other fees. Although these fees are regulated and set out in the tender specifications, the tender specifications are not publicly available. So air carriers allege that with the entry into operation of new terminal buildings financed under the BOT scheme, they suddenly face higher service fees which they cannot transfer to their tour operator customers given that they conclude long term or seasonal agreements with these operators.

It is also interesting to note that Istanbul Atatürk Airport which is the hub of the national carrier THY is among the leading airports in Europe in terms of passenger traffic. It is also the European leader in terms of traffic growth in the past year.

Table 3-21: Passenger traffic at major European airports (Passengers carried arriving and departing and in transit (counted once))

Airport (million passengers)		2000	2001	2002	2003	2004	2005	% change '05/04
LONDON / HEATHROW	*UK*	64.29	60.45	63.04	63.21	67.11	67.68	+0.9
PARIS / CHARLES-DE-GAULLE	*FR*	48.25	47.92	48.26	48.01	50.95	53.38	+4.8
FRANKFURT / MAIN	*DE*	48.96	48.20	48.08	48.02	50.70	51.79	+2.1
AMSTERDAM / SCHIPHOL	*NL*	39.27	39.31	40.59	39.81	42.42	44.08	+3.9
MADRID / BARAJAS	ES	32.71	33.87	33.70	35.37	38.15	41.72	+9.4
LONDON / GATWICK	*UK*	31.95	31.10	29.51	29.89	31.39	32.69	+4.1
MÜNCHEN	*DE*	22.87	23.41	22.88	23.95	26.60	28.45	+6.9
ROMA / FIUMICINO	*IT*	26.29	24.33	24.20	25.47	27.16	27.78	+2.3
BARCELONA	*ES*	19.44	20.54	21.16	22.49	24.35	27.02	+10.9
PARIS / ORLY	*FR*	25.40	22.99	23.14	22.45	24.05	24.85	+3.3
MANCHESTER	*UK*	18.32	19.07	18.61	19.52	20.97	22.08	+5.3
LONDON / STANSTED	*UK*	11.86	13.65	16.04	18.71	20.91	21.99	+5.2
PALMA DE MALLORCA	*ES*	19.25	19.12	17.76	19.11	20.36	21.22	+4.2

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Airport (million passengers)		2000	2001	2002	2003	2004	2005	% change '05/04
KØBENHAVNS / KASTRUP	*DK*	18.11	18.04	18.19	17.57	18.89	19.82	+4.9
MILANO / MALPENSA	*IT*	20.72	18.46	17.33	17.48	18.42	19.49	+5.8
ISTANBUL / ATATÜRK	*TR*		12.60	11.36	11.92	15.60	19.29	+23.7
DUBLIN	*IE*	13.66	14.13	14.84		17.03	18.33	+7.6
ZÜRICH	*CH*			18.07	16.88	17.13	17.88	+4.3
STOCKHOLM / ARLANDA	*SE*	18.45	18.30	16.50	15.10	16.25	17.16	+5.6
BRUSSEL / BRUSSELS	*BE*	21.60	19.36	13.55	15.10	15.45	15.95	+3.3

3.4.2.4 Regulation and Competition: Salient Features

Licensing and Pricing Regulations

The Turkish licensing for air transport services is compatible with the EU legislation. The licensing requirements are clearly set out in the relevant Turkish legislation. The licensing authority is the Ministry of Transport. Enforcement of the prevailing legislation is ensured by the Directorate General for Civil Aviation, a government agency with financial and operational independence. However akin to the situation prevailing in the EU market, Turkish air carriers complain that the licensing regime fails to prevent the build up of excess capacity. They also claim that if the growth of seat capacity is left unchecked, the sector might face a serious economic crisis down the road triggered by price wars. Viewed from this perspective, the proposed changes in the EU air transport legislation which would usher in more stringent conditions for granting and maintaining licenses for commercial air transport would also be welcomed by Turkish airline operators.

Flight Permits and Slot Allocation

One of the critically important factors in enabling a level competitive field in air transport relate to the question of flight permits and slot allocation. An appropriate allocation of flight permits and landing slots, especially at busier airports is instrumental in preventing market closure by the traditionally dominant players and creating room for new entrants. Because slots are finite, the objective should be to set the conditions for the creation of a contestable market in specific routes.

Turkey follows a methodology of slot allocation that is in general compatible with the EU approach. Whereas until 2002, slot allocation was carried out by a governmental agency, newly introduced rules led to the creation of the independently run Slot Coordination Center where private operators are also represented. Private operators claim however that the workings of the Slot Coordination Center are not entirely transparent. They contend that they cannot see all the requests for specific slots. The impression is that positive discrimination vis a vis THY remains in existence.

In order to increase the efficiency, fines have been introduced to prevent operators from violating their arrival and departure schedules. The new regulations aim to avoid unrealistic slot requests. Operators also face the risk of losing their slots if they fail to comply with allocated slot schedules[82].

For a flight to be realized, the air carrier must have obtained both a flight permit for that route and a slot allocation for the airport. In Turkey; the flight permit is awarded by the Ministry of Transport and the slot allocated by the independently run slot coordination center. Private opera-

82 Radikal Daily, 13.11.2006

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tors contend that Ministry's approach to granting permits is not very clear nor transparent. They claim that sometimes the Ministry fails to substantiate its negative decisions. Indeed the Minister has apparently declared that no additional flight permits will be issued for any route until the load factor on average reaches 85%. Although this may be a sensible approach, it is not a transparent rule based policy since there is no corresponding legislation or guideline to support it. Furthermore the flight permit procedure is incompatible with the EU *acquis* where once a carrier is awarded an operating license, the principle of open access applies. There is no additional need to obtain a permit for specific routes.

Pricing

Since the tariff liberalisation measures of 2001, airline operators are free to set their own tariffs. However they should obtain the approval of the Ministry in advance and they are under the obligation to advertise their new tariffs at least 3 days before they are implemented. Following the liberalisation of the market, prices have substantially come down especially in routes open to higher competition.

As regards the pricing strategies of the national carrier THY, private operators claim that THY abused its dominant position in some routes and engages in predatory pricing practices. There is however no readily available financial data pertaining to THY with specifically differentiated cost items which would be necessary to test these claims.

Anecdotal evidence suggests however that THY may indeed pursue a low price strategy in domestic routes where it faces competition from other carriers[83]. Whether THY's low price strategies are also below the cost pricing strategies remain to be determined on a case by case basis.

Public Service Obligation

The Turkish legislation allows for a public service obligation (PSO) in respect of air travel services. However neither the relevant provisions of this legislation nor the actual practice is compatible with EU rules. In Turkey, the PSO used to be fulfilled by THY. After the liberalization of the market, PSOs were imposed on other carriers in a less than transparent way. More often than not, these obligations were enacted by linking the permit to fly requested routes to the obligation to fly to government imposed destinations.

Therefore harmonisation with EU rules will require the overhaul of the PSOs of air carriers in Turkey. Accordingly, state authorities should determine the specific routes which will fall under the PSO regime, allocate and disclose the planned amount of state aid and launch competitive tenders for servicing these routes.

The lack of transparency currently prevailing as regards PSOs of air carriers should be seen as an invisible cost item for the industry. Because of the current structure of the industry where supply outstrips demand, these invisible costs are probably not fully reflected in the end user pricing strategies of the carriers. The combination of high sunk costs and excess supply induces market players to adopt very competitive prices. However if and when a consolidation of the domestic players is realized, the externalisation of the currently invisible costs of PSOs would allow for more sustainable pricing strategies.

International Air Transport Agreements

Access to international routes is regulated by bilateral or multilateral international air transport

83 Whereas a private operator was recently serving a city in eastern Anatolia (Kars) from Istanbul for a price of 140 million YTL, THY entered this market with a ticket price of 70 million YTL which led the first operator to quit servicing this route.

EdamENG.indd 165 1/3/08 2:20:02 PM

agreements. Turkey has bilateral agreements with 84 different countries. Some of these agreements restrict market access to the signatory states' respective national carriers. A legal duopoly is therefore created for the specific international routes covered by these Agreements. These statutory market access restrictions benefit Turkish Airlines to the detriment of all the other domestic carriers who are prevented from flying to the international destinations covered by these Agreements. As a result, THY is able to obtain monopoly rents by charging supra-competitive prices for tickets on these routes. Tariff differences on similar length routes and between routes open to competition and routes governed by restrictive bilateral air transport agreements can reach 60 %[84].

In addition, domestic carriers complain that the existence of these international air transport agreements which give THY unfair advantage allows the incumbent carrier to engage in cross subsidisation. In other words, THY is alleged to subsidize some of its domestic routes through the profits it generates on some of its regulated international destinations. Therefore the restrictions regarding market access for international markets undermine fair competition in the domestic market.

State Aids

Although Turkey has as of yet no state aids monitoring legislation, there are a number of areas that can be considered to run afoul this pillar of competition rules. In particular,

- Past treasury guarantees granted to THY have reduced the financial burden for the company of servicing its accumulated debt related to airplane purchases. Given that debt repayments in 2006 amounting to 140 million USD made up to 5 % of THY's yearly revenue and 100 % of its net income[85] , the impact of this state aid may be quite significant.
- THY is exempted from paying a yearly maintenance reserve fee for each airplane it owns whereas other domestic carriers have to pay 2 million USD per plane per year.
- The advantages granted to THY as a result of the bilateral air transport agreements concluded by the Turkish state.
- The special consumption tax exemption awarded to air transport carriers in their fuel purchases is also a state aid to the benefit of the sector. The same exemption exists for sea transport companies but not for road transport operators.

Ground Handling

Given the importance of ground handling services for efficient and cost effective air transport services, access to the ground handling market remains a critical issue. Unlike the relevant EU legislation, the Turkish legislation does not stipulate a minimum number of service providers. On the contrary, it sets forth a maximum number depending on the number of passengers. As a result, the scope for competition remains limited. As things stand, there are 2 ground handlers in all Turkish airports falling under the scope of the EU ground handling services Directive except Istanbul Sabiha Gökçen where ground services are provided by the airport operator. The situation at Sabiha Gökçen is therefore incompatible with EU rules. As regards remaining airports, the presence of 2 ground handling operators complies with the EU requirements. But the regulatory regime does not guarantee the sustainability of this duopoly and in any case prevents the emergence of a more competitive market structure. The Turkish legislation should therefore be amended so as to introduce a legal threshold for the minimum number of service providers as envisaged by EU legislation.

84 A comparison of THY ticket prices to Paris and Riyad illustrates this phenomenon.

85 THY yearly income statement and balance sheet as submitted to the Istanbul Stock Exchange.

EdamENG.indd 166 1/3/08 2:20:02 PM

3.4.2.5. Productivity Impact Assessment

The adoption of the EU *acquis* in air transport is expected to have a relatively small impact on the Turkish air transport industry given that the industry is already liberalized. As mentioned in this section, there are nonetheless a few areas where further reform would enhance sectoral productivities. Given the nature of air transport which acts as an input for the production process of many other industries, increased efficiency in this area will also have a positive impact on the cost efficiencies of a diverse range of industries. In order to clarify these linkages, the Input/Output table of the Turkish economy[86] was utilized to prepare two different sets of tables. The first table lists the industries which are going to be most affected by any change in the sectoral productivity of air transport. The second table lists the industries which will have the most significant impact on the overall productivity of the national economy. In other words, the second table ranks industries according to their intensity of air transport usage weighted by their share in national value added.

Table 3-22: Ranking of industries according to air transport usage as a share in production inputs

Industry	Index
Refined petroleum products	1.0000
Hotels	0.5678
Aircraft manufacturing	0.5306
Motor vehicles sales	0.3894
Financial services	0.3360
Telecommunications	0.1124
Meat production	0.1104
Motor vehicles manufacturing	0.0762
Soft drinks	0.0681
Alcoholic beverages	0.0590
Insurance	0.0566
Other business activities	0.0424
Research and development	0.0383
Animal farming	0.0283
Cereal growing	0.0270
Vegetable production	0.0141
Paper and paper products	0.0135
Ready wear	0.0113
Confectionary	0.0111
Electricity	0.0099
Starch product	0.0077

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

86 The latest available Input Output table is for the year 1998.

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Table 3-23: Ranking of industries according to the overall productivity impact on the national economy on account of a productivity increase in air transport

Industry	Index
Refined petroleum products	1
Financial services	0.6868
Motor vehicles sales	0.3165
Hotels	0.2619
Telecommunications	0.0710
Cereals	0.0385
Motor vehicles manufacturing	0.0291
Animal farming	0.0275
Other business activities	0.0241
Meat production and processing	0.0090
Aircraft manufacturing	0.0081
Electricity	0.0060
Alcoholic beverages	0.0058
Insurance	0.0049
Ready wear	0.0044
Soft drinks	0.0027
Catering	0.0020
Paper and paper products	0.0018
Confectionary	0.0015

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

3.4.2.6. Evaluation

Although, the Turkish legislation in the area of air transport is compatible in many respects with the EU *acquis*, full harmonisation should bring additional benefits to enhance the competitiveness and productivity of air transport services in Turkey. The main areas of impact are the following:

Increased Competition

Full harmonisation with the EU *acquis* would mean the incorporation of Turkey within the Single European Space. As a result, EU carriers can begin to service the Turkish market including flying between domestic destinations. Likewise, Turkish carriers can then operate between and within EU countries without any discrimination. This freedom would translate into increased competition over Turkish skies with ensuing benefits for the Turkish consumer in terms of still lower prices and wider consumer choice as witnessed by the experience in EU countries as regards the liberalisation of air transport services.

The external dimension of the EU's Single Sky policy also requires the amendment and re-negotiation of the EU Member States' bilateral air transport agreements so as to eliminate designation clauses reserving routes to national carriers. This clause is to be replaced by a reference to all EU carriers. In addition price fixing arrangements should also be abolished. Harmonisation with the EU *acquis* in this area would then mean that Turkey should also review its range of bilateral air transport agreements so as to implement these changes. As a result, the external market for privately held Turkish carriers would also be liberalized. They would then have the possibility of flying to hitherto closed destinations.

The competition impact of the possible ending of the block exemption granted by the Commission to IATA tariff conferences should also be addressed. In the area of competition, Turkey is bound by the Customs Union to adopt and maintain substantially similar rules as the EU. The

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Customs Union however covers only trade in goods and not the trade in services. In addition, the competition chapter under the ongoing full membership negotiations remains unopened due to the opening benchmarks of state aids legislation and the restructuring of the Turkish iron and steel industry. Thus, there is as of yet, no legally binding commitment for Turkey to follow the potential Commission decision to end the IATA block exemption. On the other hand, Turkey's integration with the Single European Space would require such a regulatory harmonisation. In that case, tariff fixing between EU and Turkish destination would also become illegal, ushering in a period of increased price competition for EU-Turkey routes.

A full regulatory harmonisation would also allow a more competitive ground handling services market to emerge. The necessary changes in the Turkish legislation would enable the market entry of new competitors.

Cost and Quality of Regulation

The adoption of the EU air transport acquis will also have a significant impact on the implementation cost and quality of the prevailing regulation. The current opaque system of imposing public service obligations on air carriers as a condition to grant route permits would be replaced with a more objective and transparent set of conditions governing the public service obligation rules. Operators can then focus on the routes they actually want to serve. They may also bid for routes covered by PSOs knowing in advance all the service requirements as well as the foreseen financial compensation.

Another item related to the cost effectiveness of air transport services is Turkey's participation in the Single European Sky Agreement which aims to rationalize air navigation services in Europe. A reduction of the fragmentation of the European air space and a consequent shortening of designates air corridors would translate into substantial cost savings for air carriers. IATA claims for instance the cost for European airlines of the fragmentation of the European air space resulting in delays and longer routings cost airlines 3.3 billion € per year[87]. However it should also be indicated that Turkey's participation in the European Single Sky Agreement is made difficult by the long standing political dispute in Cyprus.

Regulatory harmonisation would also alleviate some of the concerns related to the current system of slot allocation in Turkey. In particular, the level of transparency would be increased. Should the EU decide to allow the secondary trading of slots, the establishment of a proper market mechanism for slot trading would also benefit Turkish carriers wishing to extend their services in congested airports.

Similarly, if the draft EU Directive on airport charges is adopted, then regulatory harmonisation in this area with the foreseen mechanism of mandatory consultations between airport managers and airlines as well as the envisaged establishment of an independent authority to mediate and resolve price disputes between airports and airlines would also be beneficial for the Turkish air transport industry.

A caveat in this respect, at least in terms of the cost of regulation, are the proposed EU measures in the area of environmental protection and air passenger's consumer rights. The introduction of a carbon tax for air carriers is certainly bound to increase Turkish carriers' cost of operation. The extension of the current scope of passenger rights would have a similar consequence.

Fair Competition

The adoption of the EU air transport acquis by Turkey would also create a more level playing field for air transport operators. As mentioned in the previous section, a regulatory harmonisation would

87 "Fear of flying: a special report on air travel". The Economist, 16 June 2007. In a recent meeting, Commission representatives claimed that the establishment of a Single European Sky would translate into up to 7 % of cost savings in fuel for airlines.

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require Turkey to amend its existing bilateral air transport agreements and do away with the legal duopolies and price fixing arrangements created on some international routes to the benefit of the national flag carrier THY. This would enable other privately owned air carriers to compete on a more equal footing with THY on these routes. It would also eliminate current concerns that THY is subsidizing its domestic operations through the economic rents it generates from these agreements.

The adoption of a state aids monitoring legislation by Turkey would also help the creation of a more transparent and fair regulation and government practice in the area of air transport. Current problems associated with state measures giving an unfair advantage to the national carrier can then be properly addressed.

3.5. Maritime Transport

3.5.1. Maritime Transport in the EU

Nearly 90% of the EU's external trade and more than 40% of its internal trade goes by sea; on the whole nearly 2 billion tons of freight is loaded and unloaded at EU ports each year. 25% of the world fleet sails under EU Member States' flags and 40% is controlled by EU-owned companies; the majority of EU trade is carried on vessels controlled by EU interests. The EU's maritime industries covering shipbuilding, ports, fishing and related activities and services employ about 3 million people. Over the years, maritime transport has grown as strongly as road freight transport, experiencing a growth of 34.6% while road transport has grown by 37.9% between 1995 and 2005[88].

Maritime transport has a huge potential in the sense of forming an alternative to the road transport. It can help to relieve congestion and environmental pressures on other modes provided that pollutant emissions from shipping are reduced.

Table 3-24: World merchant fleet by world region

Total controlled fleet				
dwt (million)				
On 1st January	**1995**	**2000**	**2004**	**2005**
Europe*	311.2	350.1	383.2	400.9
of which: EU-25	217.2	253.4	290.2	314.1
of which: EU-15	207.5	247.5	282.2	305
North America	51	49.4	49.7	45.4
Latin America	18.7	15.7	12.6	14.4
Asia/Oceania	246.7	292.7	329.5	361.3
Africa	6.7	7.1	4.7	5.1
Unknown	37.9	38.1	52.6	52.7
TOTAL	672.4	753.2	832.2	879.9
EU-25 control of total	32.30%	33.60%	34.90%	35.70%
EU-15 control of total	30.90%	32.90%	33.90%	34.70%
EU-25 : Foreign flag share **	56.00%	67.40%	67.40%	67.40%
EU-15 : Foreign flag share **	57.70%	67.70%	67.00%	67.00%

Notes: only ships of 1000 gt and over

***: In this table Europe includes EU-25, Bulgaria, Romania, EFTA, Monaco, Gibraltar, Andorra, Turkey, Western Balkan countries, Russia, Ukraine and Moldavia*

****: foreign flag share includes ships registered by EU countries in other EU countries*

Source: European Commission DG Energy and Transport, Energy and Transport in Figures, 2006

88 European Commission DG Energy and Transport, *Energy & Transport in Figures,* 2006

EdamENG.indd 170 1/3/08 2:20:03 PM

3.5.1.1. EU Regulations in Maritime Transport

Market Access and Competition

The maritime transport services between Member states or between member states and third countries have been opened to competition by the Regulation 4055/86[89]. This regulation applied the principle of freedom to provide services to maritime transport between Member States and third countries and abolished the restrictions on EU ship-owners after a transitional period. It prohibited future cargo-sharing arrangements with third countries other than for liner shipping in exceptional circumstance.

Following that, the Council adopted a package of measures in 1992 to phase in the liberalisation of cabotage in maritime transport. Council Regulation 3577/92[90] laid down definitively the principle of liberalisation of cabotage from 1 January 1993 for Community ship-owners operating vessels registered in a Member State. The liberalisation process was completed on 1 January 1999. By the regulation 3577/92, maritime transport is liberalised between the ports within the same member state and made it possible for any Community ship owner to provide maritime services in a member state other than the one in which he is established.

The principles of competition in maritime transport have been regulated by Regulations 4056/86 and 4057/86[91] as part of the maritime package. The first of these regulations laid down the procedures for applying the rules on competition to international maritime transport to or from one or more Community ports and aimed to ensure that competition was not distorted by means of agreements. Regulation 4057/86 provided for a redressive duty to protect Community ship-owners against unfair pricing practices adopted by certain third-country ship-owners.

In 2004, the Commission adopted a White Paper on the review of Regulation 4056/86, applying the EC competition rules to maritime transport. There it concluded that there was no longer any justification for retaining the exemption for liner conferences, as price stability could also be achieved by other forms of cooperation which would distort competition less. The Commission also submitted revised guidelines for State aid to maritime transport.

Regulations and Reforms on Maritime Safety

In recent years, especially following oil slicks that devastated European coasts in the past decade, maritime safety has been a central concern to the EU. About 1 billion tonnes of oil enter the EU ports or cross the waters surrounding its territory, and 350 million passengers are transported on European ship journeys each year. In this sense, the Commission is taking further action to improve maritime safety by preventing accidents and pollution and better controlling their effects. The aim is to eliminate substandard shipping, increase the protection of crews and passengers, reduce the risk of environmental pollution and ensure that operators obey the safety rules in a way that any of the operators are advantaged by the evasion of the rules.

Although some legislative action was taken in the last half of the 1970s, the Commission produced its first set of measures in 1993 with a maritime safety programme entitled 'A Common Policy on Safe Seas' with the aim to ensure that all ships sailing under the flag of an EU Member

89 Council Regulation (EEC) No 4055/86 of 22 December 1986 applying the principle of freedom to provide services to maritime transport between Member States and between Member States and third countries

90 Council Regulation (EEC) No 3577/92 of 7 December 1992 applying the principle of freedom to provide sevices to maritime transport within Member States (maritime cabotage)

91 Council Regulation (EEC) No 4056/86 of 22 December 1986 laying down detailed rules for the application of Articles 85 and 86 of the Treaty to maritime transport, and Council Regulation (EEC) No 4057/86 of 22 December 1986 on unfair pricing practices in maritime transport

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State or entering a European port comply with international safety standards.

After that regulation, two accidents -the accidents of 25-year old oil carriers Erika (in 1999) and Prestige (in 2002) which leaked around 22.000 and 20.000 tonnes of oil into the sea- pushed the Commission to adopt a series of preventive measures, known as the Erika 1 and 2 packages[92], to reduce the risks of accidental pollution by ships. The Erika 1 package came into force in July 2003 with measures aimed at improving existing port state control measures; strengthening the legislation as regards classification societies which conduct structural safety checks on ships on behalf of flag states; and developing a timetable to phase out the use of single-hull oil tankers worldwide. The subsequent Erika 2 package, introduced three new steps to improve safety:

- The creation of a European Maritime Safety Agency that is responsible for improving drafting and enforcement of EU rules on maritime safety;
- The setting-up of a Community maritime monitoring and information system for vessels sailing in European waters;
- A mechanism to increase compensation for victims of oil spills.

In November 2005, the third safety package has been adopted by the Commission in order to supplement and improve existing rules. In this package, there are seven key measures:[93]

- Improve the quality of European flags – the aim is to ensure that all Member States uphold international rules on ships that sail under their flags.
- Review legislation on port state control – this should improve the quality and effectiveness of inspections and target less well-run ships.
- Amend the directive on traffic monitoring – strengthening the legal framework to help ships in distress, and supporting the continued development of SafeSeaNet[94].
- Improve rules relating to classification societies – the aim is to improve the quality of work carried out by these societies, which are responsible for visiting, inspecting and certifying ships.
- Develop a harmonised European framework for accident investigation, improving the effectiveness, objectivity and transparency of investigations, and making investigating bodies more independent.
- Introduce regulations ensuring fair compensation to passengers in the event of an accident.
- Introduce a directive on ship-owners' civil liability coupled with a mandatory insurance scheme.

3.5.2. Turkish Maritime Transport

Surrounded by the Black Sea and the Marmara Sea in the North, the Aegean Sea in the West and the Mediterranean Sea in the South Turkey is a peninsula. With the three main seas having access to international waters and the Marmara Sea functioning as the passage between water ways through the straits, Turkey has an important potential in national and international maritime transportation.

92 http://www.ec.europa.eu/transport/maritime/safety/2000_erika_en.htm

93 European Commission DG Energy and Transport, *Maritime Transport Policy,* 2006

94 http://ec.europa.eu/idabc/en/document/2282/5637

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3.5.2.1. Sea Ports: Management, Capacity and Pricing

In Turkey, ports have traditionally been managed by the state. In most instances, the Turkish Railways (TCDD) was entrusted with the management of port services. Remaining ports were operated by the Turkish Maritime Services. The prevailing regulatory regime was characterized by red tape with an understandably negative impact on the efficiency of port services. Moreover, port revenues were not necessarily used to invest in port improvement projects. Rather, those revenues have been mostly directed to unprofitable railway projects[95].

Port privatization started out in earnest in 1994. The privatisation model adopted by Turkey was the granting of a concession for the operating rights for up to 30 years. Since then 16 ports were privatized: Tekirdağ, Hopa, Giresun, Ordu, Sinop, Rize, Antalya, Alanya, Marmaris, Çeşme, Kuşadası, Trabzon, Dikili, Mersin, Antalya and İzmir. Privatisation seems to have led to a rise in the quality of service and investments in the privatized port's physical infrastructure.

The total handling capacity of Turkish ports is concentrated in a few ports. According to 2005 figures, for TCDD operated ports, Izmir had a share of 45% followed by Mersin with 35 % and Haydarpaşa with 20%[96]. The Port of Haydarpaşa is mainly focused on import cargo and the ports of Izmir and Mersin are export-oriented. These ports can be regarded as Turkey's most active container ports.

It should be noted that the Mediterranean trade is one of the fastest growing container sectors worldwide.[97] Although, this growth has not translated into a significant increase on Turkish ports' workload, via strategic planning and good management, those ports might profit from further growth.

The capacity of Turkish ports is far from being efficiently used. According to 2004 figures, only around 59% of handling capacity was used actively in Turkish ports in 2004. This figure amounts to 186 million tonnes whereas total handling capacity is around 314 million tonnes according to 2001 figures. When compared to European Ports, the amount is fairly low. For instance, French ports handle more than 345 millions of tonnes a year.

Table 3-25: General specs and capacities of the TCDD ports

Ports	Berth length (m)	Total Ship Call Capacity		Cargo Handling Capacity		
		Cargo	Passenger	Dry bulk / General (000 tons/year)	Containers (000 tons/year)	Containers (TEU/year)
Bandırma	2,788	1,037	3,240	2,636	-	40,000
Derince	1,132	1,105	-	1,799	-	40,000
Haydarpaşa	2,765	2,651	-	2,834	3,082	354,000
Iskenderun	1,427	640	-	3,224	-	20,000
Izmir	2,959	2,389	1,246	1,469	4,082	443,000
Mersin	3,180	2,650	623	2,639	2,855	266,000
Samsun	1,756	1,130	-	2,189	-	40,000
Total	16,007	11,602	5,109	16,790	10,019	1,203,000

Sources: Turkish Chamber of Shipping 2000; TCDD 2000; Yercan and Yeni 2001.

95 Akarsu M. & Kumar S. "Turkish Container Ports: An Analysis of Problems and Potential Opportunities" The paper has been anonymously peer reviewed and accepted for presentation by the IAME Panama 2002 International Steering Committee. Panama (2002).

96 Since privatization is a rather new application for Turkish ports, the statistics of ports after privatization is not available. Therefore, ports should be considered as TCDD ports when considering the statistical information.

97 Akarsu M. & Kumar S. "Turkish Container Ports: An Analysis of Problems and Potental Oportunities" The paper has been anonymously peer reviewed and accepted for presentation by the IAME Panama 2002 International Steering Committee. Panama (2002).

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In the international context, in terms of actual workload, Turkish ports fall behind the major hub Mediterranean ports. It can be claimed that Turkey's distance from major shipping lanes in the Mediterranean acts as a liability in attempts to increase the market share of Turkish ports when compared to other Mediterranean ports like Marsaxlokk, Gioia Tauro, and Damietta[98] which have become significant hubs.

Table 3-26: Major container ports in the Mediterranean region

Name of the Port	2001	2000	1999	1998
Gioia Tauro	2,488,332	2,652,701	2,253,401	2,125,640
Algeciras	2,151,770	2,009,122	1,832,557	1,825,614
Genoa	1,600,000	1,500,632	1,233,817	1,265,593
Barcelona	1,400,000	1,387,570	1,235,000	1,092,920
Valencia	1,371,884	1,308,010	1,170,191	970,758
Marsaxlokk	1,300,000	1,033,052	1,044,972	1,071,669
Piraeus	1,200,000*	1,161,099	964,902	933,096
La Spezia	974,646	910,000	843,233	731,882
Haifa	901,000	870,000	800,000	832,377
Marseilles	740,000	726,000	667,000	644,000
Damietta	696,693	583,201	433,697	309,671
Alexandria	-	505,049	559,127	495,777
Port Said	544,094	503,793	422,177	-
Leghorn	531,814	501,339	478,643	576,682
Ashdod	510,292	479,786	441,272	363,781
Izmir	460,000*	470,000	435,962	396,619
Naples	440,976	396,562	333,638	319,577
Haydarpaşa	-	298,000	277,233	322,596
Mersin	301,000*	293,890	251,188	241,865

**Figures are estimates.*
Source: CI Yearbook (2000), CI Online (15 May2002), Woodbridge (2002c).

However, it should be noted that beyond the geographical context, operational efficiency, cost, conveniences, and efficient intermodal connections to the interior points play a significant role in attracting ships to specific ports[99]. The main problem regarding the efficiency of port services in Turkey are related to the red tape encountered in state run ports. In addition, these ports suffer from a lack of investment in the physical infrastructure as well as in human resources. As mentioned in the section on rail transport, even some of the TCDD owned ports do not have rail connections.

The uncertainties and various legal obstacles encountered during the privatisation process prolonged the initial schedule envisaged for the privatisation of Turkish ports. However ports that were slated for privatisation were faced with the problem of a lack of state investments. The investments in physical infrastructure were to be undertaken by the port's new private owners.

The impact of operational efficiency is evident in the case of Ambarlı Port. Inadequate operational efficiency, conveniences and intermodal connections led one of Turkey's highest capacity ports, the Port of Haydarpaşa to fail to cope with the competition from the privately owned container terminals in the region. As a result, Haydarpaşa experienced a significant decrease in demand. According to the CI Online 2002, Ambarlı is moving towards becoming the second big-

98 Ibid.

99 Ibid.

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gest container port in Turkey after the Port of İzmir[100].

Pricing

TCDD ports charge pilotage, tug assistance, quay dues, waste removal, sanitary dues, light dues, a chamber of shipping fee, an agency fee, and an attendance/supervision fee in addition to other cargo-related such as transhipment fee, a commission on inward freight, freight tax, forwarding fees and harbour dues, etc.

The pricing tariff for Turkish port services is recommended by the "Maritime Association of Ship-owners and Agents" (MASA)[101] for each particular service type and major port. There might be deviations from the pricing proposed by MASA made by each Port authority. State ports apply different pricing tariffs to Turkish and foreign flagged ships. Pricing tariffs favour Turkish flags over the foreign flags. 2007 tariff list illustrates that foreign flags are charged around double of Turkish flags

It should be noted nonetheless that there is not yet an EU wide consensus on cost based port pricing. *The Commission Proposal for a Directive on Market Access to Port Services* indicates that by cost oriented pricing policy, the prices might fall by 3,5%-10%.[102] Along with the privatization process, the quality and efficiency of the service given in the ports should be one of the determining factors in pricing.

In view of the above, the main problems of Turkish ports can be summarized as follows;

Managerial problems:

- Inadequacy of well trained port personnel.
- Port congestion resulting from not using the port area efficiently
- The lack of promotional activities and the insufficiency of port marketing efforts
- Port tariffs not being cost-driven
- The inadequacy of insurance coverage for the cargoes and ships

Legal problems:

- The complexity and inadequacy of legal regulations related to port services

Physical and technical problems

- The lack of connecting roads and railways in ports
- The inadequacy of pollution prevention equipment

3.5.2.2. Shipping Market Overview

Out of the 1379 ships operating in Turkey, only half of them (702 ships) carry a Turkish flag [103]. Since 1996, the place of Turkish national sea fleet in the world decreased from 16th place to 24th. This drop is more considerable when viewed in perspective with the rankings of neighbouring

100 CI Online 2002

101 "Maritime Association of Ship-owners and Agents" founded in 1902 in Istanbul.

102 "Complementary Economic Evaluation Study on The Commission Proposal for a Directive on Market Access to Port Services" Final Report, European Commission

103 *Türkiye'nin Deniz Ticaretindeki Gelişmeler,* "Deniz Ticaret Odası Raporu" (2005). www.denizticaretodasi.org.tr

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countries with Greece at number 3 and Iran at number 22.

Most of Turkish foreign trade transportation is carried out by foreign flagged ships.

The figures of 2005 show that only 20.4% of Turkish exports and 25.1% of imports were carried by ships having national registration. Container shipping is carried out by Turkish-foreign partnerships often under international flags.

Moreover, Turkish maritime companies sailing in international waters prefer to have international flags in order to avoid detention by port states. According to the Paris MoU (Memorandum of Understanding), port states have the right to detain a ship until safety related technical requirements are all fulfilled. Traditionally Turkish ships were viewed as having difficulty in fulfilling these internationally mandated safety and security requirements. As a result, Turkey was part of the "black" list of the Paris MoU. Hence Turkish flag ships were detained in EU ports for safety inspections more often than ships carrying the flag of other third countries not part of the "black list". For the Turkish shipping industry, this state of affairs meant additional operational costs and lower quality of service due to unexpected delays. Because modern and well endowed ships were given the same treatment and faced the same time consuming inspections as the sub-standard ships, various ship-owners preferred to leave the Turkish flag so as to eliminate these additional costs. As a result, the competitiveness of the whole industry was harmed.

With the improvement of Turkey's institutional capacity and enforcement regime in the area of maritime safety and security, Turkey moved from the "black list" for the first time in 2006 to the "grey list", meaning Turkish ships are now listed in the medium to high risk category. The detention rate of Turkish ships by port states has recently decreased to 7.5%.

Table 3-27: Age distribution of the Turkish maritime fleet

Age distribution of the Turkish maritime fleet	
0-9 years	36%
10-19 years	12%
20-29 years	42%
30+ years	10%

Another obstacle regarding the competitiveness of the Turkish maritime fleet is the high number of over aged Turkish ships. The average age of Turkish maritime fleet is 21,13 years. As 20 years is considered as an over-age for international sails, most of the Turkish investors face difficulties to operate in the international market[104]. This prevents Turkish armatures from competing in the international market.

Turkish ports are undertaking handling for transit, cabotage, short sea shipping and ocean shipping.

Transit[105]

Geographically speaking bridging the core trade zones from West to the East, from South to the North, Turkey is well positioned for transit transportation. However, due to the technical inefficiency of Turkish ports, their share in transit carriages is far behind neighbouring ports[106]. For instance most of Turkish imports are first being handled in the Greek port of Pireaus where big con-

104 Ibid.

105 *Transit Transport* is the type of transport conducted not by a party of trade contract but by a third party. *Lojistik ve Dış Ticaret Sözlüğü*

106 Kurumsal Yapısı, Yasal Çerçevesiyle Ulaştırma Sektörü (2007) TUSIAD. www.tusiad.org.tr

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tainer ships are discharged and the freight is loaded onto smaller ships to be sent to Turkish ports.

Cabotage

Cabotage refers to the right of sea and inland sea transport between the ports of a state. This right is given particular to national flagged ships in most of the states. With a 8333 km long coast line, Turkey has a promising potential for cabotage carriages. Turkish ports are serving for cabotage carriages as well. However maritime cabotage in Turkey is not capable of competing with land transport for the same distance travels.

Export and Import Carriages

Table 3-28: Export by mode of transport (US $)

Year	Total	Sea	Rail	Road	Air	Other
2006	85 528 416	42 655 303	909 991	35 151 977	4 863 452	1 947 692
2005	73 476 408	35 425 856	756 935	31 602 012	3 978 592	1 713 013
2004	63 167 153	31 259 851	577 822	27 104 284	3 906 835	318 361
2003	47 252 836	23 233 359	394 459	20 306 073	3 227 575	91 370
2002	36 059 089	17 013 192	249 366	16 416 566	2 339 331	40 634
2001	31 334 216	15 521 220	173 592	13 219 437	2 263 689	156 277
2000	27 774 906	13 080 017	93 957	12 013 620	2 338 492	248 819

Source: 2006 figures, TUİK

According to 2006 figures, 87.6% of Turkish foreign trade volume was carried by maritime transport. However, this percentage equals only 59% of Turkish port capacity. Remaining capacity might be used for increasing the poor amount of transit and cabotage carriages.

Besides the physical constraints, the Turkish regulatory framework hampers the growth of cabotage and transit transportation because of time-consuming bureaucratic procedures. The handling and long bureaucratic process for transit carriages and cabotage carriages may take up to one week in Turkish ports, whereas global benchmarks in ports like Rotterdam and Dubai, are a couple of hours or at most a couple of days[107]

Table 3-29: The amount of total handling operated in Turkish ports[108]

Total	2000	2001	2002	2003	2004
Transit	30,770,006	28,723,744	23,435,730	0	4,826,449
Export	32,291,101	40,633,756	39,065,012	41,476,801	47,058,194
Import	85,956,955	72,780,602	86,179,840	98,673,637	104,697,120
Cabotage	37,327,805	26,281,398	0	0	29,218,352
Total	186,345,867	168,419,500	148,680,582	140,150,438	185,800,115

Source: TUSIAD

3.5.2.3. Regulatory Overview

In maritime transport, there are two general categories of regulations. The first group of regulations that essentially deal with issues such as safety and security are in general international rules and regulations adopted within the umbrella of international organisations such as the International Maritime Organisation (IMO). Nation states, including Turkey, transpose these rules into their national regulations. In return, rules regarding competition and market entry are decided by

107 SDD Lojistik Sektörüne Bakış, UTIKAD (2006), http://www.sedefed.org/default.aspx?pid=24918&nid=11400

108 Kurumsal Yapısı, Yasal Çerçevesiyle Ulaştırma Sektörü (2007)pg. 146 TUSIAD. www.tusiad.org.tr

EdamENG.indd 177 1/3/08 2:20:06 PM

domestic authorities. In the Turkish case, the pertinent state authorities are the Ministry of Transport and Undersecretariat of Maritime Affairs.

International Rules and Regulations

Under the umbrella of International Maritime Organization several conventions on the matters related to maritime sector have been concluded. Turkey is a member of International Maritime Organisation since 1958. Turkey has signed several conventions including the SOLAS 74 (International Convention for Safety of Life at Sea) and other 45 bilateral agreements on mutual assistance and cooperation in the maritime field.[109] The adoption of the EU *acquis* will also require Turkey to become signatory to additional IMO Conventions including SOLAS 78, 88, Load Line 88 and Mar-Pol.

Customs

Turkish ports have customs facilities similar to European ports. However, custom procedures are much more bureaucratic and time consuming than European ports. For Turkish ports approval by more than 10 different authorities is needed for the completion of customs procedures. This translates into a waiting period of almost a full week whereas in more efficient ports elsewhere, this procedure can be completed within 1-3 days. The average length of customs procedures also represents an impediment to the growth of transit trade.

Cabotage

In Turkey, ships having Turkish International Ship Registry and Turkish National Ship Registry can enjoy cabotage rights. The Turkish maritime cabotage law aims to protect domestic maritime transport sector from foreign entry since 1926. However, the protectionist approach is not sufficient to enable Turkish ships to become competitive in relation to other modes of transport. When compared to land transport, domestic maritime transport still remains more expensive and time consuming due to inefficient customs regulations.

Ship Registry

There are two types of ship registries in Turkey, namely Turkish International Ship registry and National Ship Registry. According to the provisions of the law on Turkish International Ship registry the ownership conditions for registration are as follows:

- Ships owned by Turkish citizens,
- Ships owned by foreigners who reside in Turkey
- Ships owned by companies established in Turkey

The captain should nonetheless be a Turkish citizen. If the owner is a Turkish citizen, 51% of crew members shall be Turkish citizen, too. Ships registered in Turkish International Ship Registry can benefit from cabotage rights, provided that;

- Ship-owner is a Turkish citizen.
- Majority of the shares belong to Turkish citizens
- Majority of partners are Turkish citizens.

These are incidentally the conditions set out for registration in the National Ship Registry.

109 Screening Chapter 14, Maritime Transport/ International Relations pg.2

EdamENG.indd 178 1/3/08 2:20:06 PM

3.5.2.4. Productivity Impact Assessment

The adoption of the EU *acquis* in sea transport is expected to have a relatively large impact on the Turkish sea transport industry on account of an increase in competition in cabotage services, and a lessening of red-tape in port services and customs procedures. Given the nature of sea transport which acts as an input for the production process of many other industries, increased efficiency in this area will also have a positive impact on the cost efficiencies of a diverse range of industries. In order to clarify these linkages, the Input/Output table of the Turkish economy[110] was utilized to prepare two different sets of tables. The first table lists the industries which are going to be most affected by any change in the sectoral productivity of sea transport. The second table lists the industries which will have the most significant impact on the overall productivity of the national economy. In other words, the second table ranks industries according to their intensity of sea transport usage weighted by their share in national value added.

Table 3-30: Ranking of industries according to sea transport usage as a share in production inputs

Industry	Index
Refined petroleum products	1.0000
Ready wear	0.4977
Fabricated metal products	0.2138
Financial services	0.1735
Ship building	0.1012
Telecommunications	0.0945
Insurance	0.0833
Vegetable production	0.0808
General purpose machinery	0.0776
Electrical machinery	0.0719
Other business activities	0.0644
Metals casting	0.0441
Confectionary	0.0155
Water distribution	0.0100
Other business activities	0.0099
Gas distribution	0.0099
Paper and paper products	0.0084
Electricity	0.0071
Wood and wood products	0.0051
Printing services	0.0049
Meat products	0.0043
Ceramics	0.0042

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

110 TURKSTAT, input-output data for Turkish economy (1998).

EdamENG.indd 179 1/3/08 2:20:06 PM

Table 3-31: Ranking of industries according to the overall productivity impact on the national economy on account of a productivity increase in sea transport

Industry	Index
Refined petroleum products	1
Financial services	0.3547
Ready wear	01939
Telecommunications	0.0597
Vegetables production	0.0584
Fabricated metal products	0.0386
Electrical machinery	0.0127
General purpose machinery	0.0078
Insurance	0.0072
Other business activities	0.0057
Other service activities	0.0054
Electricity	0.0043
Animal farming	0.0024
Confectionary	0.0020
Metal casting	0.0017
Water distribution	0.0016
Ship building	0.0014
Catering	0.0012
Paper and paper products	0.0011
Ceramics	0.0004
Wood products	0.0004

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

3.5.2.5. Evaluation

Turkish maritime sector is in a transition phase characterized by a gradual shift from state run and state held assets to private enterprise. In the area of port management, the privatization process is well under way and some of Turkey's main ports have been successfully privatized. In the area of maritime transport, the focus is on the need for a more business friendly regulation so as to eliminate the current impediments to the growth of cabotage as well as transit trade. As mentioned in the Commission's Progress Report on Turkey regarding maritime transport, progress remains limited to the degree of the adoption of the EU *acquis*. The full range of IMO's sea safety and security regulations including SOLAS 78, SOLAS 88, Load Line 88 and Mar-Pol are yet to be adopted by Turkey. In terms of market entry regulations, the discriminatory provisions of the ship registry are to be overhauled. In addition, the current system which allows national flagged ships of an excise tax exemption on their purchases of fuel can be challenged on the grounds that it is incompatible with state aids rules.

The adoption of the EU *acquis* would also alleviate some of the difficulties related to the implementation of the customs legislation which hinders the operation and efficiency of Turkish ports and maritime services in Turkey. Finally additional investments in institutional enforcement capacity would lead to an enhanced reputation for Turkish ships travelling in international waters. The corresponding decrease in detention rates would increase the competitiveness of the Turkish fleet in providing international maritime transport services.

3.6. Annex: Examples of Rail Sector Organisation in Selected Member States

Examples of how some member states have implemented the EU *acquis* illustrates the possibility for variations that exist.

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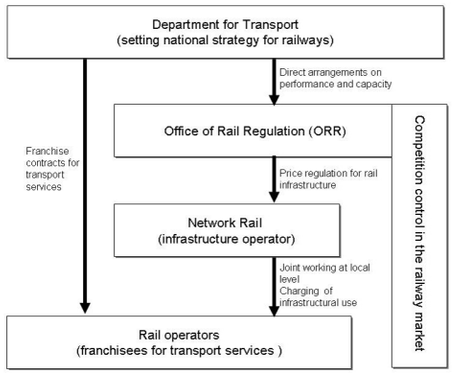
United Kingdom (UK) [111]

UK represents the most extreme case of privatisation and fragmentation of the railway sector. In contrast to other countries in Europe, the UK no longer has one leading national company. Both passenger and freight services are fragmented among different operators. There are 25 main train operating companies and several smaller operators. Some, such as Virgin and GNER, operate a national service on what was called the 'inter-city' routes under nationalised British Rail. The other companies generally provide local services. There are five companies active in the rail freight sector.

Track length is approximately 16,900 km, 5,000 km are electrified.

Figure A-1: Main public institutions in UK rail sector



Sweden[112]

Sweden was one of first countries in Europe to liberalise the railway market. In 1999 the former national railway group Statens Järnvägar (SJ) was split up in different independent companies: SJ AB for passenger transport, Green Cargo AB for freight transport, Euromaint AB for maintenance services and TraffiCare AB for station services.

SJ AB became a joint stock company with 100 % of shares owned by the state on 1 January 2001. Infrastructure activities continue to be the responsibility of a government authority, Banverket. A large number of private operators are active in the Swedish railway market capturing 45 % of market share.

The new independent government agency, the Swedish rail agency Järnvägsstyrelsen, was established in July 2004 and has its main office in Borlänge (Järnvägsstyrelsen, 2005).

The agency is divided into five divisions:

- infrastructure – issues permits, monitors markets and supervises safety issues for infrastructure managers;
- rail company – issues permits, monitors markets, supervises safety issues for rail companies, and manages vehicle registers;
- technical – Technical Specifications Interoperability (TSI), essential requirements, exemptions, the coordination of Article 21, approval of vehicles and sub-systems, matters concerning OTIF (Intergovernmental organisation for international carriage by rail);

111 Profile of the rail transport sector in the United Kingdom, European Foundation for the Improvement of Living and Working Conditions, 2006

112 Profile of the rail transport sector in Sweden, European Foundation for the Improvement of Living and Working Conditions, 2006

EdamENG.indd 181 1/3/08 2:20:07 PM

- legal – regulations, investigates accidents, follows and studies accident investigations, produces accident statistics, and decides on health exemptions;
- administrative – accounting, personnel, office premises, IT support, operational planning.

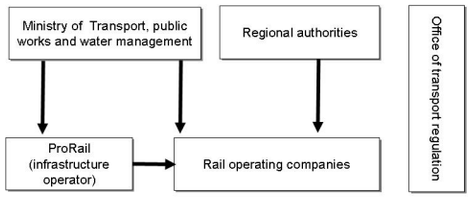
Track length is approximately 15,400 km, 7,200 km are electrified.

The Netherlands[113]

The Dutch rail market has been extensively liberalised and thus opened to competition in long and short distance passenger transport as well as freight transport. This process will continue in the coming years as further open tender procedures are planned or ongoing. The former monopolist, Nederlandse Spoor (NS), has separated infrastructure operation and maintenance from transport services and has created 10 independent subsidiaries. NS was transformed into a joint stock company, the shares are owned by the state.

Track length is approximately 2,800 km, 73% electrified.

Figure A-2: Main public institutions in Dutch rail sector



Germany[114]

The German rail system is characterised by strong decentralisation and heterogeneity of the decision-makers at very different levels. These levels are mainly a result of Germany's federal structure, which consists of the federal states' (Bundesländer) governments and the federal government. Structure and responsibilities of the ministries differ from one state to another. In addition, some responsibilities lie with the municipalities and sector associations.

Germany is the biggest market for rail transport in Europe. Accordingly, the impact of restructuring activities in the past decade has been far-reaching.

The privatisation of the formerly state-owned federal railways has been a long process. It started off with the railway reform on 1 January 1994 with the creation of the joint-stock corporation Deutsche Bahn AG (DB AG). The German government is the only shareholder of DB AG. Although the sector is officially privatised by now, there is still a distinction between so called state-owned railways and non-state-owned railways. 'State-owned' is the label used for those companies whose shares are exclusively or predominantly owned by the German government, like the DB AG and its subsidiaries. The non state-owned companies operate according to their concession as part of the public or private transport systems. They may in part be publicly owned by municipalities or federal states (Bundesländer).

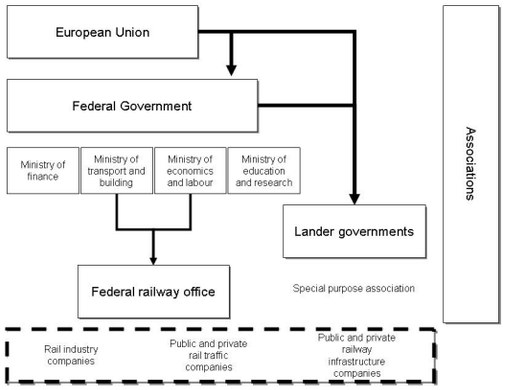
Track length is approximately 43,000 km, 21,000 km are electrified.

113 Profile of the rail transport sector in the Netherlands, European Foundation for the Improvement of Living and Working Conditions, 2006

114 Profile of the rail transport sector in Germany, European Foundation for the Improvement of Living and Working Conditions, 2006

EdamENG.indd 182 1/3/08 2:20:07 PM

Figure A-3: Main public institutions in German rail sector (Source: SCI Verkehr GmbH, 2004)



Italy[115]

The last 15 years have seen the transformation of Ferrovie dello Stato into a holding with several specialised companies. In the Italian railway market, the Ferrovie dello Stato group has maintained a leading position and employs around 95% of railway workers in Italy. The Ministry of infrastructure, together with the Ministry of Treasury, exercises the shareholder power in Ferrovie dello Stato.

Few new players are currently active in the freight transport with a small but increasing market share. First tenders and increase in traffic on regional lines are showing the growing importance of this market segment. Here, the Ferrovie dello Stato group competes and sometimes cooperates with small regional companies, which are starting to expand beyond their original network.

The main tasks within the Ministry of infrastructure regarding railways are as follows:

- responsibility for management of the infrastructure and definition of the contract;
- definition of the contract with long-distance transport operators;
- establishing ticket prices for long-distance railway transport in co-operation with the inter-ministerial committee for the economic programme, CIPE;
- defining the track fee and the rules to allow access to the network and assigning tracks to the railway operators;
- establishing safety standards;
- coordination and supervision of the railway transport in order to ensure safety.

The other relevant body within the Ministry of infrastructure is the Office for the regulation of railway services (Ufficio per la regolazione dei servizi ferroviari).

The national authority for the market and competition (AGMC) is responsible for ensuring competition and good market conditions. This authority can also intervene in the railway sector.

Track length is approximately 19,400 km, 10,900 km are electrified.

115 Profile of the rail transport sector in Italy, European Foundation for the Improvement of Living and Working Conditions, 2006

EdamENG.indd 183 1/3/08 2:20:08 PM

EdamENG.indd 184 1/3/08 2:20:08 PM

4. Regulatory Reform and EU Harmonization: An Assessment

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EdamENG.indd 185 1/3/08 2:20:08 PM

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4.1. Introduction

In the past few years, Turkey has undertaken major reforms aimed at narrowing the scope of regulation and ensuring that regulations better serve public interests. Although there are important differences across industries, the reforms have generally included market opening, privatisation, liberalising restrictions on entry, prices and normal business practices as well as ensuring competitive access to bottleneck facilities.

This study focuses on regulatory reform in key network infrastructure industries (telecommunications, energy and transport). The regulation of these industries is important for the performance of the whole economy due to the "knock-on" effects of regulation at the sectoral level. Sectoral regulation in these industries do not only have a direct influence on market conditions in these particular sectors but also affect indirectly many other sectors where firms use the output of these industries as intermediate inputs in their production process. Moreover given the shift towards a services based economy in many developed countries, the linkage between the micro performance of key infrastructure sectors and the macro performance of the national economies is gaining strength. As a consequence, the appropriate regulation of these industries is acquiring even more importance.

That is also why the current debates on economic growth tend to underline the need for micro and sectoral reforms. The challenge for most policy makers is to concentrate on removing the productivity bottlenecks at the sectoral level, usually called second generation reforms, and introducing regulatory frameworks that are both growth-friendly and supportive of public service obligations. This is a major challenge. Regulatory reform, especially in network industries, is difficult and improvements in overall welfare critically depend on the country's capacity to design, implement and enforce regulatory frameworks which promote competition on the one hand and curtail anti-competitive behaviour on the other.

In the Turkish case, the scope and impact of regulatory reforms in the network infrastructure industries have been uneven. In some sectors, the process of regulatory reform is well advanced whereas in others Turkey is still at the early stages of reform. The same observation can be made in connection with EU harmonisation. The accompanying set of papers which analyze the state of play and impact of these reforms in three particular service industries, namely telecommunications, energy and transport demonstrate clearly the asymmetric nature of these sectoral reforms.

This aim of this chapter as follows: First, on the basis of analysis presented in the previous chapters, the chapter presents a synopsis of where Turkey stands in terms of regulatory reform in general and harmonization with the EU *acquis* in particular. Second, the chapter describes elements of business environment, such as foreign direct investment (FDI), competition policy, state aids and public service obligations that affect the impact of regulatory reform. It also identifies cross-cutting factors that help explain progress so far and which may provide the basis of cross-cutting policy recommendations. Hence the objective will be to shed light on the different factors which have a bearing on the regulatory reform process in Turkey so as to better understand the sectoral differences that have emerged over time. A related objective would be to analyze prevailing shortcomings of Turkey's approach to service industry regulation which may negatively affect sectoral productivities. In particular, we would like to underline the idea that even in cases where harmonization is more or less advanced, implementation and enforcement, and consequently obtaining the desired impact of regulations, may face problems because institutional and governance-related factors. Finally, a set of recommendations to enhance the regulatory governance of the Turkish economy, based on the analysis carried out at the sectoral level as illustrated by the accompanying papers, will be set out.

The rest of this chapter is organized as follows. The next section provides a brief introduction to factors that have led Turkey to undertake regulatory reform. Section 4.3 summarizes the degree

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of harmonization in the sectors covered in this study and points out that the gap between Turkey and Europe in terms of impact is likely to be higher than the gap in terms of harmonization. Section 4.4 focuses on FDI in the infrastructure sectors. The next three sections examine competition law and state aids, public service obligations and privatisation, respectively. Section 4.8 analyzes institutional factors that affect the performance of the regulatory agencies. Section 4.9 provides recommendations and concludes.

4.2. Background to Regulatory Reform

Why engage in regulatory reform? There are two types of answers to this question. The first set of answers relate to the rising need for regulatory reform in a global perspective. The OECD (1999) gives a list of reasons why a global trend has developed in favour of regulatory reform in network infrastructure industries. The first and most important is a growing appreciation that significant efficiency gains can be realised by giving greater play to market forces through relaxing governmental restraints on technology choice and on new entry or new forms of competition. Under a rigidly controlled system, players simply lack the information and incentives to encourage the use of best available technologies and the discovery of improved technologies. Alongside the growing recognition that regulation can reduce economic efficiency, there is an accompanying realisation that in many network infrastructure industries, technological change has altered the natural monopoly aspect of the network and has allowed the introduction of various forms competition into segments that were previously considered to be non-competitive (e.g. the local loop in telecommunications). Moreover, once the possibility of "regulatory failure" is admitted, economies of scope might seem less important. A third reason for the trend towards regulatory reform is growing resistance on the part of business to pay rising compliance costs. This is closely related to a fourth source of pressure for regulatory reform which is rooted in growing globalisation.

The second set of answers relate to Turkey's own conditions. The Turkish model of economic development traditionally relied on a strategy of import substitution and state guidance. This model was predicated on the existence of a private sector protected from international competition by high tariffs, in tandem with state economic enterprises which were operational in many sectors of the economy. The state's involvement in economic activity was explained by the scarcity of private capital. Indeed, the model was certainly unconducive to the inflow of foreign capital. Turkish etatist political philosophy which ascribes economic tasks to the state was also a factor which facilitated the involvement of the state in business.

Following the oil shocks of the 1970s, the model ran into trouble and the country started to experience serious balance of payments difficulties. In January 1980, the first radical transformation of the Turkish economy was initiated with a far ranging liberalisation package. Import substitution policies were replaced by an export oriented growth strategy. Trade and investment policies were overhauled. Turkey's economy reacted positively to these reforms and economic growth resumed. Liberalisation nonetheless remained incomplete as the weight of state economic enterprises in the national economy remained unchanged. Privatisation efforts stalled due to political and economic instability, legal inconsistencies and strong ideological opposition.

The completion of a customs union with the EU in 1995 ushered in a second wave of economic liberalisation and modernisation. Trade policies were fully harmonised with the EU and a competition policy was adopted. It is really after this date that Turkey started to contemplate in earnest a more fundamental reform of its economic structure with a focus on selling state held assets and companies to private investors. In short, the customs union which epitomizes the integration of Turkey's economy with the European economy can be seen as the stimulus for the initiation of an ambitious privatisation program.

The second reason why privatization and regulatory reform gathered pace in Turkey relates to the economic adjustment program that the country has implemented with the support of the IMF

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since 2001. The economic crisis of 2000-2001 was overcome with an economic program designed to restore and maintain strong fiscal discipline. Privatisation was a critical part of the program. Privatisation would also help to obtain much needed foreign investments.

Since then, privatisation gathered pace and a number of state-held industrial and service companies including former public utilities like Türk Telekom were sold off. The privatisation drive brought to the fore the need for regulatory reform. In other words, as in many other developing countries, it was the feared outcome of transferring a public monopoly to private hands which fuelled the debate on regulatory reform.

Finally, it should be underlined that the EU full membership objective represents a strong anchor for regulatory reform in Turkey. The EU acquis provides a detailed blueprint for regulatory changes in candidate countries. The same is true for Turkey. The Turkish experience in regulatory reform has significantly been influenced by the need for the adoption of the EU *acquis*. Even before the start of accession talks in 2005, the EU blueprint was used by Turkey to underpin its regulatory convergence. The publication the Commission's yearly report on Turkey which sets out the progress achieved within a year on the convergence with EU laws and regulations represented a useful tool in this regard.

4.3. Progress with Harmonization

Table 4-1 summarizes the state of play regarding the degree of regulatory harmonisation in the key network infrastructure industries.

Table 4-1: Degree of regulatory harmonisation

Sector	Degree of harmonisation	Degree of market competition	Weight of state incumbent
Electricity	High	Medium	High
Natural Gas	High	Low	Very high
Telecommunications	High	Medium	None*
Land transport	Medium	High	None
Sea transport	Low	High	Low
Rail transport	Low	Very low	Very high
Air transport	High	Medium	High

** As majority of TTAŞ shares have been privatized, the weight of state incumbent is interpreted as none.*
Source: Own evaluation.

As can be seen, there are marked inter sectoral differences in terms of the regulatory convergence as well as market outcomes. These differences are also reflected on sectoral productivities. As highlighted in the accompanying studies, sectoral productivity and efficiencies are closely related to the degree of market competition enabled by the regulatory regime.

De-regulation and liberalisation of rail services is a complex and difficult process. It has happened gradually in the EU. Even now, the process is still continuing and its implementation is fraught with difficulties. Vertical separation, accounting or institutional, constitutes the backbone of EU regulation in the railway sector. This is complemented by allowing free and non-discriminatory access to the railway network and enhanced by the separation of accounting for transport services (passenger & freight) and PSOs. In Turkey, despite the longstanding goals of separation of infrastructure management from provision of transport services and the restructuring of the TCDD with a commercial mindset, the TCDD does not operate on commercial principles. There are private sector enterprises that provide more and more rail transport services; yet they are dependent on TCDD for locomotives. Railway Package is being prepared in line with EU Directives, not only to vertically separate the TCDD, but also to liberalise the railway services market.

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In road transport market in Turkey, there has been a serious progress in terms of harmonising the Turkish road transport legislation with the EU *acquis*. A new Road Transport Law and the following bylaws adopted in 2003 and 2004 have created a similar regulatory framework for road transport services; and defined market access rules based on the criteria of good repute, financial standing and professional competence, as in the EU. There are nonetheless some residual differences in the regulatory framework stemming from the difference of the market structures. The Road Transport Law and Bylaws addresses the fact that the sector is too fragmented and the vast majority of players are too small. As a result, market access rules and licensing provisions are adapted to Turkish market. The proper implementation of the law is expected to lead to consolidation and transformation of the sector, and allow market players to achieve economies of scale. The sector would then be able to assume the EU Directives more precisely.

The Turkish legislation in the area of air transport is compatible in many respects with the EU *acquis*. However, full harmonisation should bring additional benefits as increased competition, productivity and transparency, and positive impact on cost and quality. The incorporation of Turkey within the Single European Space will increase the competition in the sector as EU carriers can begin to service the Turkish market as Turkish carriers can then operate between and within EU countries without any discrimination. The current opaque system of imposing public service obligations (PSOs) on air carriers as a condition to grant route permits would be replaced with a more objective and transparent set of conditions governing the PSO rules which would have a significant impact on the implementation cost and quality of the prevailing regulation. A regulatory harmonisation would also require Turkey to amend its existing bilateral air transport agreements and do away with the legal duopolies and price fixing arrangements created on some international routes to the benefit of the national flag carrier THY. This would enable other privately owned air carriers to compete on a more equal footing with THY on these routes.

Turkish maritime sector is in a transition phase characterized by a gradual shift from state run and state held assets to private enterprise. In the area of port management, the privatization process is well under way and some of Turkey's main ports have been successfully privatized. In the area of maritime transport, the focus is on the need for a more business friendly regulation so as to eliminate the current impediments to the growth of cabotage as well as transit trade. As mentioned in the Commission's Progress Report on Turkey regarding maritime transport, progress remains limited to the degree of the adoption of the EU *acquis*. The full range of sea safety and security regulations of the International Maritime Organization including SOLAS 78, SOLAS 88, Load Line 88 and Mar-Pol are yet to be adopted by Turkey. In terms of market entry regulations, the discriminatory provisions of the ship registry are to be overhauled. Finally additional investments in institutional enforcement capacity would lead to an enhanced reputation for Turkish ships travelling in international waters. The corresponding decrease in detention rates would increase the competitiveness of the Turkish fleet in providing international maritime transport services.

In the Turkish telecommunications industry, regulatory reform was jumpstarted in 2000, with the enactment of Law No. 4502 which established the Telecommunications Authority and stipulated that the monopoly rights of the incumbent operator, Türk Telekomünikasyon AŞ, would be abolished at the end of 2003. Initially the regulatory framework in Turkey was modelled after the EU 1998 package. After the 2003 framework was launched in Europe, the Telecommunications Authority based its own secondary legislation increasingly on that new framework, specifying *ex-ante* regulatory obligations on the basis of market analyses and identification of operators with Significant Market Power. However, significant divergences remain, especially in the area of authorizations, which in Turkey is still governed by an individual licensing regime.

Actual competition in the telecommunications industry has been slow to develop. This was partly due to delays in regulatory actions. Delays occurred both because of the initial inexperience

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of the Authority as well as a perception that speedy development of competition could hurt the revenues that could be raised by the prospective privatization of the incumbent operator, which took place in 2005. Competition is expected to pick up with the implementation of unbundled access to the local loop, carrier pre-selection and number portability.

The milestone development in the regulatory reform in the electricity industry was the enactment of the Electricity Market Law (EML) in 2001. At the time of its enactment, the EML provided close to full harmonization with the EU Directives: The law established an independent regulatory authority (currently called the Energy Markets Regulatory Authority, EMRA), organised state owned generation, transmission and distribution into separate legal entities, and introduced eligible consumers who would be free to choose their suppliers. The consumption level thresholds for eligible consumers would be set by the regulatory Authority, with projected full liberalization in 2011. Currently the main gap in terms of harmonization with the EU *acquis* is that the same legal entity can engage in generation, distribution and retail supply only subject to accounting separation. A Competition Authority decision stipulates that distribution and retail supply will need to be legally separated after the privatisation of distribution companies.

Despite much progress in terms harmonization, however the expected investment by the private sector has not been forthcoming and the country is likely to suffer from shortages in 2-3 years. As discussed in the chapter on energy the original strategy has failed to deliver because of delays in privatization of distribution assets and inconsistent pricing policies.

In the gas industry as well the Natural Gas Market Law which was enacted in 2001 provided significant steps in terms of harmonization with the 2003 EU directive on gas. The law stipulated regulated third party access and introduced eligible consumers. The law fell short of legal unbundling and introduced accounting unbundling for the incumbent operator BOTAŞ as well as private sector actors; however, it also envisaged that BOTAŞ would be legally unbundled by 2009. Private sector entry is significant in the city distribution of gas. However, there is practically no competition anywhere in the market mainly because of long term contracts BOTAŞ holds with international suppliers such as Russia, Iran, Algeria, etc. Plans to release contracts and/or volumes to the private sector are seriously delayed.

To summarize, then, Turkey's progress in terms of harmonization with the EU *acquis* has been uneven, but overall, not too disappointing. It seems that compared with the gap in the legal frameworks, the gap in implementation and more importantly, in terms of *impact*, that is, the degree of development of effective competition is larger, especially when Turkey is contrasted with successful examples in Europe in this regard. In the rest of this chapter we examine further elements of the legal and institutional environment and search for factors that may help explain this divergence.

4.4. Regulation, Productivity and the Foreign Direct Investment Environment

There is a close relationship between regulation and productivity. Several studies have demonstrated that in sectors where the prevailing regulatory regime allows the establishment of a competitive or contestable market structure, market efficiency improves[1]. Levels and rate of growth per capita GDP tend to be higher in countries where local markets have higher entry and competition (World Bank, 2003). Analysis of data for another sample of countries finds that net market entry can account for more than 30 % of productivity growth (Khemani, 2006). New entrants stimulate incumbent firms to increase productivity to maintain their profits. Likewise firms facing strong competitive pressures are at least 50 % more likely to innovate than those not subject to such pressure (World Bank, 2005). The challenge for policy makers is to introduce pro-competitive regulation in network industries which partially exhibit natural monopoly characteristics.

1 See for instance World Bank (2003).

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In addition to pro-competitive regulation, foreign direct investments (FDI) represents an additional dimension linking regulatory reform and productivity. FDI is generally believed to have a positive impact on sectoral productivity. Empirical work has typically shown that foreign affiliates tend to be more capital and skill intensive and invest more in research and development than domestic firms in the same industry (Keller, 2004; Keller and Yeaple, 2003; OECD, 2001). As a result, foreign affiliates tend to grow more quickly and make a larger contribution to productivity growth in comparison to domestic firms (Criscuolo, 2005). Foreign affiliates may also contribute indirectly to higher productivity growth by disseminating better management practices, diffusing new know how and educating the labour force.

Therefore a regulatory climate conducive to FDI should also contribute to higher productivity growth. Indeed as shown by Nicoletti et. al. (2003), regulatory policies that restrict market access or reduce the potential returns to foreign investment negatively influence the share of foreign investment in OECD countries. Conway et. al. (2006) have for instance shown that regulatory restrictions to domestic competition and FDI have a significant negative effect on the amount of FDI. They indicate that by raising barriers to entry, anti competitive product market regulation discourages the establishment of foreign affiliates and their propensity to increase employment. They conclude that regulatory settings have a relatively large impact on the cross-country variability foreign affiliates' employment shares[2].

Viewed from this perspective, the adoption of the EU *acquis* in the network industries should enable Turkey to significantly enhance its potential for attracting foreign investment in those industries. The Turkish sectoral legislation still contains a number of barriers to foreign investments as summarized in Table 4-2.

Table 4-2: Residual barriers to foreign investment in Turkey

Sector	Investment barrier
Sea transport	Cabotage limited to domestic ships where in order to fly the Turkish flag, the shipping companies must have the majority of 51 per cent Turkish shareholders.
Air transport	Air carriers operating on domestic routes must be owned by Turkish citizens
Electricity	Foreign natural or legal persons cannot have a market share that would give them a 'control power' in the electricity generation, transmission and distribution sectors (Electricity Market Law Art. 14).

For the Turkish case, the impact of the disincentive for foreign investments stemming from the statutory restrictions imposed by the regulatory regime can also be seen from the following tables which show the FDI intensiveness[3] of the main sectors for 2001 and for 2006.

2 Their regression estimates imply that product market regulation explains around 10 % of the cross country variation in the data wheras direct restrictions on FDI account for a further 13 %.

3 FDI intensiveness is defined as the ratio of the sectoral shares in total yearly inflows of FDIs to the sectoral shares in GNP.

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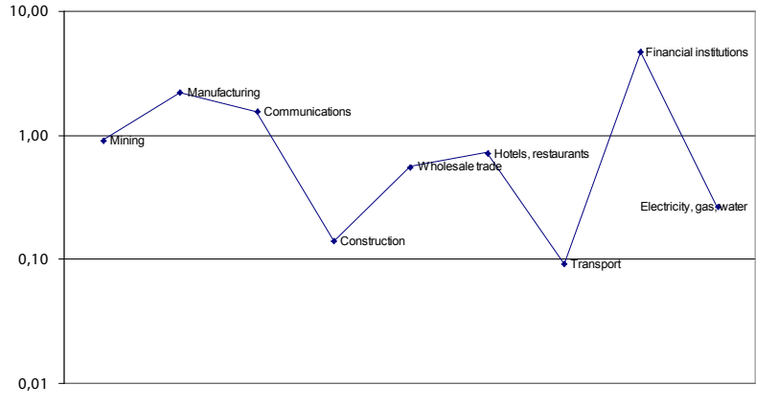
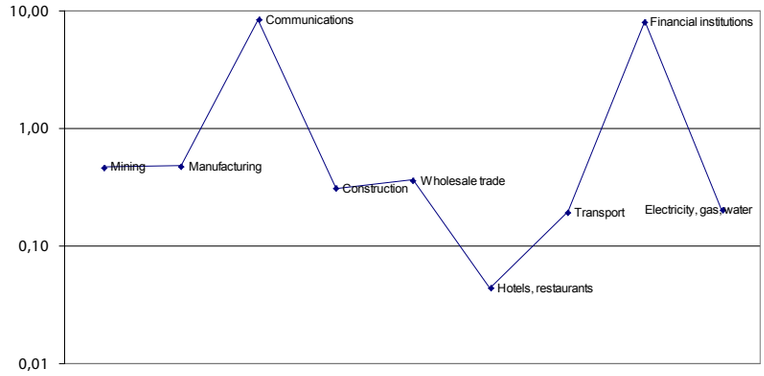
Figure 4-1: FDI intensiveness (2001)



Source : Own calculations. Compiled from TUIK, OECD Communications Outlook 2007 and Turkish Treasury statistics.

Figure 4-2: FDI intensiveness (2006)



Source : Own calculations. Compiled from TUIK, OECD Communications Outlook 2007 and Turkish Treasury statistics.

In the 5 year time frame, the FDI intensiveness of the communications sector increased considerably. This is the result of a combination of regulatory reform, liberalisation and privatisation which was carried out in this sector. The FDI intensity of the transport sector also registered a slight increase on account of the public private partnerships in airport construction and operation. In energy, the FDI intensity is still low as a consequence of enduring restrictions in the regulatory framework and the lack of progress in opening the sector to full competition especially in the area of distribution.

The adoption of the EU *acquis* is set to lead to the elimination of these regulatory restrictions on foreign investments in the network industries and the consequent removal of existing disincentives for FDI. As a result, these sectors may attract increased inflows of FDI with concomitant benefits in terms of productivity growth.

4.5. Competition Law

The regulation of competition is an intrinsic part of the overall regulatory approach. Therefore the implementation of competition rules as well as the nature of the relationship between the competition authority and the sectoral independent regulatory authorities have a significant impact on sectoral policies.

In Turkey, competition law is an area where significant progress has been made. The Competition Law was adopted in 1997 and a Competition Authority was setup in 1997. Since then the Competition Authority established itself as a highly competent and efficient regulatory body. The work of the Turkish Competition Authority was commended in the Commission's yearly Progress

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Reports. Similarly, the 2005 OECD review of competition policy in Turkey also underlined the good performance of the Turkish Competition Authority stating that "the Turkish Competition Authority can take justifiable pride in its reputation as one of Turkey's most effective and best-administered agencies. It has pursued its mission with energy, imagination, and integrity and has won respect and support from leaders in the business community. The Competition Authority's particular strengths include its devotion to articulating and efficiently implementing sound competition policy; its focus on due process and transparency; and its attention to developing and training expert staff. Its fiscal and administrative autonomy and the absence of substantive government interference in its work, also contribute significantly to its efficacy."

In short, the regulatory framework of competition rules is well established in Turkey. However problems remain in essentially three areas: a) Relationship between the competition authority and other regulatory bodies b) State aids and c) Judicial review. The first two are covered in here and the third is discussed in section 8.

4.5.1. Relationship Between the Competition Authority and Other Regulatory Bodies

As discussed, one of the aims of regulatory reform in network industries has been the introduction of competition in hitherto state held sectors. Given the relevance of establishing and safeguarding the right competitive framework in ensuring the best long term outcome for industrial performance, the nature of the relationship between the different administrative bodies that have been entrusted with a regulatory responsibility acquires importance. In other words, the definition of the jurisdiction and relationship between the Competition Authority and the Independent Regulatory Authorities (IRAs) is critical in ensuring good and market- friendly regulation.

Competition policy is mainly *ex post* whereas industry regulation is primarily *ex ante*. Thus it is important to provide a way for cooperation between these administrative bodies preferably through statutory measures. The allocation of work in between these institutions does not only depend on the best models of competition policy and regulation and the capabilities of the institutions but it is also shaped under the limitations of the legal and administrative systems and sometimes even bureaucratic culture and traditions of the country concerned (Öz, 2006).

In Turkey, the legal provisions concerning the relationship between the Competition Authority and IRAs are incomplete and relatively ineffective. A communiqué had been issued in 1998 and repeated in 2001 by the office of the Prime Minister encouraging other agencies of the government to consult with the Competition Authority in advance about proposed regulations and decisions that had implications for competition policy. Given that the Prime Ministry's communiqué is not viewed as being obligatory and there are no sanctions if an agency fails to notify the Competition Authority of an important regulation, compliance in the Turkish administration with these stipulations has been limited and haphazard.

As regards the regulatory bodies, the telecommunications law both obliges the Telecommunications Authority to consult with the Competition Authority about certain matters (such as investigations of Türk Telekom and preparation of proposed regulations) and provides that the Competition Authority should consult with the Telecommunications Authority before taking any decisions respecting the telecommunications sector. In September 2002, a cooperation protocol was signed between the Competition Authority and the Telecommunications Authority to promote cooperation and coordination between the two agencies with respect to law enforcement investigations, merger review, and exemptions and negative clearances. But the protocol has not been effectively implemented.

The OECD (2005) reports that meanwhile, private sector telecommunications firms complain that, due to overlapping jurisdictions, they are subject to penalties by both the Competition Au-

EdamENG.indd 194 1/3/08 2:20:11 PM

thority and the Telecommunications Authority for the same conduct. It is also possible that a firm could be subject to directly conflicting rules. For example, telephone service providers face both the Competition Law's prohibition of resale price maintenance and the Telecommunication Authority's regulations barring price discrimination in sales of phone services to end users.

Ironically, the situation in the area of energy is quite the opposite. The sector laws on electricity and natural gas, do not contain analogous provisions requiring consultations between the Competition Authority and the Energy Market Regulatory Authority (EMRA). Yet, the two agencies have willingly concluded an agreement laying down specific consultation and collaboration rules. They have thus been able to coordinate the consideration of common issues even without legislative direction.

According to the European Commission[4], "*Although the Competition Authority has exclusive competence to enforce anti-trust rules, it has not been able to intervene in distortions of competition which arise from other legislation containing anti-competitive provisions… The sector regulatory authorities such as the Energy Markets Regulatory Authority, the Telecommunications Authority, the Banking Regulatory and Supervision Authority do not ensure efficient cooperation and use of consultation mechanisms with the Competition Authority in order to prevent any competition distortions in their respective regulated markets yet".* The screening report on the competition chapter[5] highlights a similar problem *: "However, the enforcement record in this area is also hampered by the competing responsibilities of sector regulatory authorities such as the Energy Market Regulatory Authority, the Telecommunication Authority, and the Banking Regulatory and Supervision Authority*."

In order to remedy this deficiency, the new draft bill on competition prepared by the Competition Authority sets forth a provision expressly requiring public institutions and organisations to obtain the Board's opinion concerning *"any acts, by-laws and regulations … which shall affect competitive conditions in markets for goods or services in the whole or a significant part of the territory."* State agencies would not be obliged to accept the Competition Authority's opinion, but failure to obtain it would render the resulting measure unenforceable as a matter of law. This measure would be most effective if opinions so provided are made available to the public and if the originating agency is required to address publicly issues which have been raised by the Competition Authority.

The uncertainties created for businesses by the twin implementation of competition and sectoral legislation and the existing overlap of this set of legislation is a critical problem. The codification of the relationship between the Competition Authority and the IRAs should be achieved to eliminate the resulting barriers to investment. In this respect, the law should introduce a consultation requirement with clearly defined deadlines. The law should also clearly spell out the division of tasks between the Competition Authority and IRAs. To the extent that multiple responsibilities remain in matters related to the enforcement of competition rules in network industries, a provision for resolving the potentially conflicting views of the regulatory authorities should be devised. The High Administrative Court could be authorized for instance to adjudicate in case of conflicting views. The opinion of the said Court would be binding on the regulatory institutions.

4.5.2. The Issue of State Aids

The control and monitoring of state aids is a critical element of the EU *acquis*. For the creation of a EU wide level playing field, the anti trust provisions of the Rome Treaty were accompanied with provisions seeking to limit the ability of individual governments to hinder competition through state aids. The state aids regime in the EU fulfils this critical role. Nonetheless, over the years the enforcement of state aids rules have been among the most sensitive and problematic areas of Community law. This is certainly understandable given that the state aids regime curtails the capacity of

4 2005 Progress Report.

5 http://ec.europa.eu/enlargement/pdf/turkey/screening_reports/screening_report_08_tr_internet_en.pdf

EdamENG.indd 195 1/3/08 2:20:11 PM

governments to support specific firms or industries. As such, the state aids regime acts as a barrier to populism and clientelism in economic policy.

Turkey had assumed the responsibility with the Customs Union Agreement to adopt similar rules by 1997. Since then no progress was made. The question of state aids is the most blatant failure on the Turkish side related to the implementation of the Customs Union. This state of affairs has to do with the political economy of controlling state aids. Unlike the EU countries where the supranational dimension of the Rome Treaty has enabled the European Commission to obtain and fulfil the role of a watchdog, the Association Agreement between Turkey and the EU is essentially an intergovernmental agreement with no supranational provisions. As a result, there are no joint institutions operating on the basis of sovereignty sharing. This is also why, in the area of state aids no common body could be created nor the Commission could be entrusted with the role it fulfils vis a vis the Member States. The monitoring of state aids had to be accomplished under a purely national setting. The creation of an independent body with the prerogative of enforcing the state aids legislation has proved to be contentious in a setting where the responsibilities regarding state aids were diffused among several competing state authorities (State Planning Organization, Treasury, Foreign Trade, Ministry of Finance, Ministry of Industry, TÜBİTAK, Eximbank etc.). Turkish policy makers were unable to overcome the institutional reticence to adopt a state aids monitoring legislation so as to comply with the Customs Union commitments of the country. The adoption of state aids legislation has now become a benchmark for the opening of the competition chapter of the full membership negotiations.

The lack of a proper state aids monitoring regime creates a series of difficulties for Turkish economic operators. First of all, the regulatory regime does not give any guarantees against acts or practices of state authorities which may undermine competition. Practices such as Treasury guarantees for the national flag carrier in air transport, facilities provided by local authorities to state owned electricity producers or even the tax benefiting the public broadcaster TRT imposed on the retail sale of electricity cannot be challenged under the current Turkish legislation. This uncertainty acts as a barrier to investment.

This is all the more important in the network industries where the role of the state continues to be dominant or where state held incumbents continue to enjoy significant market shares. The state aids legislation is indeed an inalienable part of the EU regulatory framework in the network industries and it provides the foundation for tackling some of the state related anti-competitive practices. The application of rules regarding universal service or services of public interest relies on a significant extent on the existence of appropriate rules regarding state aids. The pro-competitive regulation of state owned companies in Turkey will therefore remain incomplete as long as a state aids control mechanism is not properly established.

4.6. Regulation of Public Service Obligations

De-regulation and the introduction of competition in some service sectors usually triggers the question of the continued universal availability of these services. Indeed the traditional state monopoly model in service industries such as telecommunications or transport services relied on a tacit cross subsidy to maintain services to non-profitable areas or consumer groups. The monopoly rents derived from the more affluent segments of the market subsidized the supply of services to the more disadvantaged areas. This model cannot be sustained once full competition is introduced. The commercially minded and profit oriented companies can engage in "cherry picking" and choose to service the profitable part of the market to the detriment of potentially loss making consumers. This would be the case for telecommunications services to remote and sparsely populated areas or air transport services to small towns.

The EU has developed a specific strategy to deal with the supply of services of general interest under a competitive framework. State owned or even private companies can be entrusted with a

EdamENG.indd 196 1/3/08 2:20:11 PM

public service obligation provided that the loss making part of the business is financed in a transparent and non discriminatory manner[6]. This framework ensures that the level playing field is maintained for service providers while the universal availability of core services is ensured.

Turkey lacks a specific framework dealing with this critical issue. The question of public service obligations is not treated in a uniform and transparent manner. Regarding the telecommunications industry, a Universal Service Law was enacted in 2005, followed by implementing secondary legislation adopted in 2006. These require that providers of universal service be designated through a tender mechanism and on the basis of calculations of net cost of service. However, these principles are not yet applied. The problem in the telecommunications industry is not severe as the universal availability of core telecommunications service has not been a sizeable problem (though there are still many villages which do not have access to basic telephone services) . However in the area of air transport, public service obligations are allegedly carried out without a rule based system. As indicated in the accompanying Chapter on transport services, air carriers claim that the granting of requested permits for specific routes are made conditional to their acceptance of regular scheduled flights to loss making destinations. Principles of public service obligations in electricity are not clearly spelled out either, an issue that is clearly going to raise problems once distribution companies are privatized.

A legal and regulatory framework for public service obligations is a critical component for regulatory reform as it attempts to minimize potential conflicts between social objectives and the development of competition. The lack of a proper regulatory framework applicable for all service industries which takes into account the need to implement a rule based and transparent public service obligation methodology leads state authorities to apply ad hoc solutions for safeguarding the widespread availability of core services. This increases costs at best and induces rent seeking behaviour at worst. It is also doubtful that universal access can be achieved through such ad-hoc means. The absence of a state aids monitoring legislation compounds this problem by failing to establish a legal procedure for repealing the anti-competitive ad-hoc decisions of state authorities concerning public service obligations. In addition, the lack of an overall framework on public service obligations introduces uncertainties for economic operators in the network industries who may at any time face new constraints or conditions imposed by public authorities aiming to attain universal service goals.

4.7. Privatisation

A key component of regulatory reforms in the network industries has been the privatisation process. EU law is in fact agnostic regarding the nature of ownership. In other words, there is no requirement in EU law for the privatisation of state companies or monopolies. The EU acquis is more concerned with the introduction and regulation of competition in previously state held industries. Therefore the requirement to adopt the EU *acquis* has not been a factor in Turkey's approach to privatisation in the network industries.

Successive Turkish governments' approach to privatisation has rather been influenced by the need to raise revenues to assist the maintenance of fiscal balance. This attitude may be viewed as natural in a country where traditionally fiscal profligacy tended to cause frequent economic crisis. So raising revenues for the Treasury became a supremely important political and economic objective. Even though Turkey underwent a successful economic reform and significantly improved

6 For additional information refer to Commission Decision of 28 November 2005 on the application of Article 86(2) of the EC Treaty to State aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest Official Journal L 312, 29.11.2005, p. 67-73 and the Community framework for State aid in the form of public service compensation Official Journal C 297, 29.11.2005, p. 4-7

EdamENG.indd 197 1/3/08 2:20:11 PM

its fiscal situation, the approach to privatisation has not changed fundamentally. The primary objective of the government is still to raise a maximum amount of revenues. This downside of this approach is the lack of proper attention to the ex-post regulatory framework. Indeed as long as privatisation revenue remains the overriding concern, insufficient attention is devoted to achieving longer term efficient market outcomes in the industry concerned. At least in the short run the objective of revenue maximization may conflict with measures that need to be taken in order to ensure the development of competition in those sectors.

In the Turkish case the authorities seem to have resolved this trade-off in favour of revenues with less regard for competition. Evidence for this argument exists in both the telecommunications and electricity industries as discussed in chapters ahead. In the former, some competition enhancing measures were delayed until after the privatisation of the incumbent fixed line operator. In the latter, unbundling of distribution activities was curtailed in order to make the privatization of distribution assets "more attractive."

The following table summarizes the main privatisation deals in the network industries:

Table 4-3: Privatisation deals in network industries

Sector	Nature of the deal	Name	Date	Revenues (USD)
Air transport	Selling of concession rights for airport construction and management	Istanbul Atatürk	10.06.2005	2.900.000.000
		Istanbul Sabiha Gökçen	10.07.2007	1.932.000.000
	IPO of flag carrier THY	THY	03.12.2004	191.279.167
			18.05.2006	207.820.151
	Block sale of state shares held in Cyprus Turkish Airlines	KTHY	09.09.2005	33.000.000
Sea transport	Selling of concession rights for seaport construction and management	Mersin	11.05.2007	755.000.000
		Kusadasi	07.07.2003	30.000.000
		Antalya	10.08.2006	60.000.000
		Çeşme	28.05.2003	11.250.000
Telecommunications	State incumbent operator Türk Telekom	Türk Telekom	14.11.2005	6.550.000.000
Electricity distribution	Selling of concession rights for regional electricity distribution	Başkent Elektrik Dağ. A.Ş.	31.08.2006	
		Sakarya Elektrik Dağ. A.Ş.		
		Istanbul Anadolu Yakası Elektrik Dağıtım A.Ş.		
Natural gas distribution	Selling of concession rights for regional electricity distribution	Esgaz	10.03.2004	43.000.000
		Bursagaz	19.04.2004	120.000.000
Total revenues				12.625.529.167

Source : Privatisation Administration

As can be seen, Turkey has been able to generate a not insignificant sum of revenues from the privatisation of network industries or network industry related assets. Moreover, the privatisation process is still continuing. In the near future, it is expected to gather pace especially in the energy sector with the slated selling of concession rights for regional electricity and gas distribution companies while the port privatization process is set to continue. These privatisations will radically transform the industry structure and pose new challenges for regulatory authorities.

Privatisation plays an especially crucial role in the reform strategy in the electricity industry. The sequencing is such that distribution assets are to be privatised first, followed by the privatisation of generation assets. The apparent reason for this intriguing sequencing which puts bottleneck segments ahead of competitive segments is to render distribution companies as credible counterparts for bilateral contracts with generation companies. The consequence of this excessive dependence of the reform strategy on privatisation has been that delays in privatisation of distribution assets have led to significant delay in the introduction of competition in the generation segments.

Overall, it can be said that the authorities seem to discount the importance of competition in generating social welfare gains out of ownership changes. There is one factor which compensates for this gap, which is Competition Authority's review of privatization transactions. As discussed in

EdamENG.indd 198 1/3/08 2:20:12 PM

the OECD peer review mentioned above, this review has played an important role in privatisation transactions in infrastructure industries.

4.8. Regulatory Authorities

It should be underlined from the outset that Turkey's experience with independent regulatory authorities (IRAs) is a relatively recent phenomenon. In fact, the prevailing political environment has not traditionally been conducive to the sharing of executive and quasi-legal power by independent regulatory bodies. On the contrary, the political prerogatives were safeguarded and populist interferences in economic policies were all too common. The establishment of IRAs is a by-product of Turkey's willingness to undertake regulatory harmonisation with the EU. The blueprint provided by the EU *acquis* which called for the establishment of IRAs was utilized to prepare the new sectoral legislation in the network infrastructure industries. In addition, the deep and frequent economic crises of the 1990s led to a change of perception regarding the role of IRAs in general. Public acceptance of this form of governance increased as a reaction to the political corruption and incompetence associated with traditional public policy institutions.

Table 4-4: Summary table of regulatory authorities

Name of regulatory body	Date of establishment	Board Members proposed by	First Appellate Body	Decisions Published	Budget (2006) million YTL	Staffing	Statutory Professional Requirements for Board Members
Telecommunications	27 January 2000	- Ministry of Transport - Ministry of Industry and TOBB** - Telecoms industry	Administrative Tribunals	N	138	128*	- University degree - 10 year experience in private or public sector - Sufficient experience in the telecoms industry
Energy	20 February 2001	Not specified	High Administrative Court	N	67	573	- University degree - 10 year experience in private or public sector
Competition	27 February 1997	- Competition Board - Ministry of Industry - Minister of State in charge of State Planning - High Administrative Court - High Judicial Court - Inter-university Council - TOBB	High Administrative Court	Y	32	321	- University degree - 10 year experience in private or public sector

** number of white collar personnel*
*** TOBB : Union of chambers and commodity exchanges*
Source : TUSIAD, 2002 and own research.

As can be seen from the previous table, Turkey now boasts a range of IRAs. These bodies have been setup in accordance with the relevant EU legislation and they have significant competences in regulating the industries in question. The effectiveness of the IRAs have therefore a sizeable impact on market outcomes and the overall performance of the industries concerned. Even though a full operational assessment of the IRAs in Turkey would fall outside the scope of this study, it may nonetheless be useful to at least underline the most salient deficiencies observed in relation to the IRAs.

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4.8.1. Policy Versus Regulation

It is generally accepted that making choices between major policy alternatives belongs to the political and not the administrative realm. Hence, IRAs can function effectively only when there is political responsibility and ownership for a clearly defined overall policy agenda. This has not been the case in Turkey, especially for the telecommunications and energy sectors. If there was a general expectation that creation of regulatory agencies with significant rule making power would be sufficient to pursue the objectives of regulatory reform, the Turkish experience has proved such expectation wrong and showed that success in regulatory reform requires clear ownership at the political level. Even when IRAs have substantial administrative and rule-making capacity, the effectiveness of such authority can be greatly diminished when governments, in their capacity as policy makers and owners of assets that remain under public ownership, take decisions that do not support or worse remain in conflict with the overall objectives of regulatory reform. Hence as discussed in the following chapters, reform in the telecommunications industry was significantly delayed because of perceived conflicts between privatization and increasing competition. Attracting private investment in a competitive framework was one of the main objectives of reform in the electricity industry. However, such response has been mute basically because the government did not seem willing to allow wholesale prices to be determined in a competitive manner.

Regulatory reform is a complicated process with actions on many interrelated fronts. Hence often adopting a policy is only a first step. For success, the policy needs to be translated into an implementation strategy and this strategy needs to be clearly and credibly communicated to the players. These both ensure that the components create an internally consistent package and, in areas where success needs actions by non-government players, that such actions are forthcoming. The chapters on telecommunications and energy both suggest that this strategic aspect of regulatory reform has been weak in Turkey. Both chapters suggest that one instrument that may be useful in that respect is "white papers", prepared perhaps by the cooperation of ministries and regulators, which clearly spell out the objectives of reform, provides justifications for the measures adopted and presents the intended sequencing between different policy regulatory measures.

4.8.2. Regulating the Regulators

The performance of regulators critically depends on the degree to which they are transparent and accountable. Admittedly, most regulatory agencies are more accountable and transparent than the traditional line ministry agencies; however, significant improvements are possible. There are various well known measures that ensure accountability and transparency. One institutional measure is consultation, that is, soliciting the opinions of stakeholders while preparing regulations. The quality and effectiveness of new legislation can certainly be enhanced by certain common and binding rules which would improve the transparency of the rule making process while allowing for the opinion of other public and private stakeholders to be taken into consideration. In Turkey there are no uniform rules imposing consultation requirements with other governmental bodies or interest groups in drafting new legislation; whatever rules that do exist are not implemented effectively. For example, the Prime Ministry's communiqué mentioned above requiring government agencies to solicit the opinion of the Competition Authority before finalizing primary or secondary legislation is not uniformly applied, if anything because in some cases the originating agencies fail to appreciate that their interventions may have competitive implications. The CA, the TA and EMRA routinely put draft regulations on their website for consultative purposes. However, a) they rarely disclose opinions they send to other agencies, b) they do not disclose opinions received from public agencies or private parties, and c) they do not disclose how they use those opinions. [7]

7 Currently IRAs are requested to send their draft legislation only to the State Planning Organisation which checks the compatibility of this legislation with the goals set out in 5 year development plans. Consultation

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Another important measure is to force regulators to make public their decisions[8] and the justifications behind them. All three agencies mentioned above publish secondary legislation issued by them on their web sites. However only the CA is legally obliged to publish all decisions of the Board, and it is required to publish justifications as well. The TA and EMRA currently are not required to provide any justifications for decisions. Finally neither provide sufficient justifications (or preambles) or provide any impact analysis for the regulations they adopt. All three publish annual reports but these reports provide little analysis if any in terms of impact assessment.

4.8.3. Selecting the Regulators

According to Smith (1997), although complete independence of the IRAs may not be attainable in practice, desirable requirements may include i) providing the regulator with a legal mandate, ii) ensuring that it is structurally separated and autonomous from government, iii) defining a multi party process for its appointment involving both the executive and legislative bodies, iv) protecting it from arbitrary removal, v) defining its professional standards and adequate renumeration levels, vi) designing a reliable source of funding (e.g. through industry fees instead of government budgets). A majority of these criteria deal with methodology adopted for choosing the management of the regulatory institution. It can indeed be claimed that the genuine independence of an IRA from government, special interest and private industry can only be ensured if the Board Members are sufficiently qualified to regulate the IRA's area of competence. There are however no generally accepted best solutions to this thorny question. Countries adopt a method best suited to their political, economic, social and cultural needs and traditions. Even in the EU, there are no uniform rules in this regard. In Turkey, there are not even uniform rules covering all the IRAs. Rules regarding the selection of the IRA's board members are different for almost every regulatory body. As a result, the selection process becomes too open to political interference and politically motivated appointments. The Board Members who are so appointed cannot contribute to the work of the IRA in a meaningful manner. There is therefore a need to ensure that a minimum standard of professional knowledge and experience is kept when new board members are to be appointed at the helm of IRAs. Common rules should be adopted to guarantee that the governance of IRAs is entrusted to a group of "wise men".

One noteworthy rule would be to increase the transparency of the selection process. Applicants' resumes may be made public, so that a public discussion may be held about them in the media. A short list of applicants may be questioned in the parliamentary committee for their competence. Irrespective of who makes the ultimate appointment, such measures may enhance the average quality of appointments.

4.8.4. Controlling the Regulators

The judicial review of IRA's decisions represents another dimension of good regulation. Ideally, the judicial review mechanism should provide for a clear, fast and efficient path for appealing IRAs decisions. In addition, judicial reviews are also instrumental in creating the jurisprudence in a regulated area. In Turkey, there is no single rule concerning the judicial review of IRA's decisions. For some IRAs, like the Telecommunications Board the appeal mechanism is administrative courts while for some others like the Competition Board and the Energy Board it is the High Administrative Court (Danıştay). In either case, the main problem is the lack of qualified and experienced personnel within the judicial review organs to deal with the issues posed. The insufficiency in terms of human resources of the judicial review bodies undermines the effectiveness of the IRA's as well given that the appeals process then becomes an option for effectively challenging and possibly

with the line Ministries is not required.

8 We refer to decisions that are related to issues concerning their main regulatory duties, rather than , for example, purely administrative or organizational decisions.

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evading the implementation of the IRA's verdicts. For instance most of the Competition Board's decisions imposing significant fines have been appealed, and many of the appeals are still pending. OECD (2005) lists inexperienced judicial review as one of the factors that slows down the enforcement of competition law. To address the problems posed by Turkish judges' unfamiliarity with competition law, legislation in 2004 created a special chamber in the High Administrative Court to deal with appeals against the Competition Authority's rulings.

For the judicial review mechanism to operate flawlessly, the procedural aspects of the sectoral regulation as it relates to the operational aspects of IRAs should be clarified. For instance, the provisions on agenda setting rules; rules regarding the frequency of Board meetings; criteria related to the type, scope and nature of information needed for decisions; the procedural issues including timing and deadlines related to internal decision making should be clearly set out in the regulation.

Another problem with judicial review in Turkey is that there is no obligation to publish the decisions of the High Administrative Court. Some decisions are published in the Court's journal and found in the database in the Court's website, but others are merely provided to the parties involved in the specific case. This lack of transparency creates unnecessary costs and limits public discussions of individual cases.

The lack of an agreement between Turkey and the EU on services trade is a difficulty which limits the value of the relevant EU jurisprudence in domestic judicial review. As a result, for the implementation of regulatory provisions in the network industries, the EU body of law has not played the crucial role that is fulfils in EU countries where the twin principles of the precedence of Community law and the doctrine of direct effect has greatly facilitated the uniform application of regulatory rules at the national level. It is worth recalling that the Turkey-EU Customs Union agreement not only foresees the harmonisation of Turkey's legislation with the EU *acquis* but also stipulates that the decisions of the European Court of Justice will be taken into consideration in the interpretation of the Agreement's provisions. As a result, ECJ decisions on issues related to the free movement of goods can have an impact on the Turkish regulatory and judicial sphere. However, the Customs Union only covers trade in manufactured goods and processed agricultural products. It specifically excludes services. Therefore the linkage between the EU jurisprudence and the Turkish jurisprudence in the area of services in general and the network industries in particular is much weaker. This is certainly a significant deficiency which undermines legal certainty in the implementation of regulatory rules in Turkey.

4.8.5. Overall Capacity to Design and Implement High Quality Regulation

IRAs recruit most of their entry level professional staff (called "assistant experts") through exams. In order to obtain a promotion to the "expert" level, staff needs to successfully conclude an expert thesis, a procedure that allows staff to gain in depth competence in a specific field. As a result of such measures, the average quality of professional staff is relatively high, especially in comparison to other government agencies. Still, there are improvements that can be made to enhance human capital. Compared to advanced examples in the EU, the degree to which IRAs in Turkey can tap and mobilize academic competence is very low. In addition, the general level of competence for economic analysis in the IRAs is not high. This is especially of concern since the role of economic analysis has been increasing significantly in both areas of competition law and regulation of network industries. The number of staff holding Ph.D.'s in economics is very low. One way to enhance the agencies' capacity to undertake economic analysis is to create in each agency the position of a chief economist that would be held by a person holding a postgraduate (preferably doctoral) degree in economics. In addition, IRAs can play an important role in encouraging universities to train more economists and undertake more research in the areas of industrial economics, competition law and regulation of network industries.

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4.9. Overall Productivity Impact of Enhanced Regulation

This analysis focused on the assessment of the Turkish regulatory framework in the key network industries in light of the ongoing effort to harmonise Turkey's legislation with the EU *acquis*. It was also underlined that the enhancement of the regulatory framework would bring important benefits from the standpoint of sectoral productivities and efficiencies which still lag behind the well performing EU countries as illustrated by the accompanying reports.

However regulatory reform in the key network industries will also have a productivity enhancing effect on the overall economy on account of the "knock on" effects of improved productivity in these sectors which affect indirectly many other sectors where firms use the output of these industries as intermediate inputs in their production process. In order to better demonstrate this phenomenon, we have constructed a cost incidence index based on Turkey's input/output tables[9]. The cost incidence index is a normalized figure computed as the product of the share of the cost of the network industry's output in a particular industry's total input and the share of that industry in total production. The following table therefore shows the overall linkages between productivity improvements in the network industries and the most significant cost efficiencies for the overall economy[10].

Table 4-5: Sectoral cost inter-linkages

Transport		**Energy**		**Telecommunications**	
Index	**Industry**	**Index**	**Industry**	**Index**	**Industry**
0,86	Petroleum products	1,00	Mining of coal and lignite	0,891	Land transport
0,49	Sales motor vehicles	0,39	Financial intermediation	0,397	Commission trade
0,46	Restaurants	0,34	Petroleum products	0,104	Electricity distribution
0,44	Hotels	0,24	Electrical machinery	0,037	Medical instruments
0,15	Manufacture of motor vehicles	0,20	Other manufacturing	0,031	Financial intermediation
0,15	Financial intermediation	0,14	Fabricated metals	0,031	Education
0,08	Ready wear	0,09	Cement	0,022	Petroleum products
0,08	Confectionary	0,09	Land transport	0,017	Communications equipment
0,07	Telecommunications	0,07	Hotels	0,013	Water distribution
0,06	Vegetable production	0,05	General machinery	0,011	Hotels
0,05	Wholesale trade	0,04	Other business activities	0,007	Paper products
0.04	Health and social services	0.03	Telecommunications	0.006	Electrical machinery
0.03	Rubber products	0.02	Ready wear	0.006	Cleaning products
0.03	Insurance	0.02	Insurance	0.006	Printing services
0.02	Aircrafts and equipment	0.01	Special purpose machinery	0.003	Machinery renting
0.01	Electricity production	0.01	Real estate	0.002	Motor vehicles
0.01	Ship building	0.01	Furniture	0.002	Other business activities
0.01	Sugar manufacturing	0.01	Rubber products	0.002	Gas distribution
0.01	Other business activities	0.01	Cosmetics	0.001	Cereals
0.01	Retail trade	0.01	Plastics	0.001	Restaurants
0.01	Metal products	0.01	Other textiles	0.001	Coal mining

Source: Calculations based on TURKSTAT input-output data for Turkish economy (1998)

9 The basic data was obtained from the supply and use tables of 1998. Available from TUIK http://www.turkstat.gov.tr/PreIstatistikTablo.do?istab_id=180

10 In doing the calculations the sectors have been weighted according to their share in the economy. Therefore there might actually be other sectors which would benefit more from a productivity increase in telecommunications for instance, but they would not appear in this table due to their low share in the overall economy of the country.

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It can therefore be contended that the improvement of productivity through enhanced regulation and EU regulatory harmonisation in the key network industries will have a considerable impact on the cost structure of many other industries. For instance, more efficient transport services would decrease productions costs in the manufacturing of petroleum products, followed by motor vehicles sales activities, catering and accommodation businesses and the manufacturing of motor vehicles. Productivity increases in the energy sector would lead to lower costs in coal mining, financial intermediation, production of petroleum products and the manufacturing of electrical machinery. Likewise improvements in the performance of the telecommunications will affect the overall economy primarily by the cost efficiencies introduced in land transport, electricity distribution, manufacturing of medical instruments, financial services and even education services.

4.10. Conclusion

A combination of both domestic and global factors triggered the move towards regulatory reform in Turkey in the past few years. The key feature of the regulatory reforms in network industries was a gradual shift from the coercive use of public policy instruments such as strict regulation or the public ownership of enterprises to a greater reliance on market mechanisms as well as private investment. The design of the new competitive framework had three main dimensions: liberalisation, state retrenchment and new regulatory design. Liberalisation involved the liberalisation of prices and access to markets which had previously been restricted by legal and regulatory barriers. State retrenchment implied a wave of privatisations so as to allow the private sector to overtake activities that had been run partially or completely by the government. Finally new regulatory design was concerned with achieving the concurrent objectives of:

- Definition of rules to make access to the non-competitive segments of the industry by a plurality of service providers possible and efficient,
- Creation of new markets where liberalisation had involved the unbundling of vertically integrated monopolies to replace transactions that were previously taking place within the state run firm,
- Implementation of public service obligations in industries where market failures could potentially undermine the supply of a service which had to be universally available,
- Replacement of the regulation by public ownership by arms' length regulation (OECD 2001).

In all these areas, the EU *acquis* provided a blueprint for Turkey's own regulatory reforms. Turkey's record in implementing these reforms is however mixed. As the accompanying reports demonstrate, legal harmonisation is most advanced in telecommunications, air transport and energy. There are nonetheless implementation issues that remain unresolved even in these sectors. Road and rail transport are the two industries where even legal harmonisation is at an early stage.

This study aimed to uncover the different institutional and political economy factors which could explain the variance in the implementation of regulatory reforms. Some of the salient issues can be summarized as follows:

Improvements can be obtained in the performance of IRAs. Given the importance regulatory bodies have in implementing the new competitive framework, their performances have a significant impact on the performance of the regulated industry. The track record of the independent regulatory authorities in Turkey has been mixed. Improvements in appointment mechanisms to guarantee the establishment of a governance structure consisting of professional and knowledgeable "wise men" would improve the performance of the IRAs. The performance of the regulatory authorities depended on the effectiveness of the individuals which happened to be appointed to the governing board. The Competition Board for instance was able to establish itself very quickly

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as an able and competent body. It gave priority to fostering an institutional culture. It also invested heavily in enhancing its human resources. Remaining problems with the implementation of competition rules in Turkey was essentially an external problem from the standpoint of the Competition Board to the extent that it involved issues such as a lack of statutory powers for the Competition Board as in the case of state aids, or the inefficiencies related to judicial review caused by Turkey's administrative law system. Improvements in the appointment mechanisms can be obtained by making the process more transparent and creating platforms whereby candidates can be questioned by stakeholders. Additional measures that would improve the quality of the design and enforcement of regulations include: Further increasing transparency and accountability, in particular requiring IRAs to present justifications for their decisions; improving the quality of consultative mechanisms and increasing the technical capacity of the IRAs, especially in economics, possibly by creating the position of a "chief economist". Finally, clarification of the jurisdictions of the competition authority and sectoral regulatory agencies would also contribute to reduce regulatory uncertainty.

The absence of state aids legislation in Turkey acts as a serious barrier to the development of competition in infrastructure industries. Given the prevalence of state ownership in infrastructure, state aids legislation is necessary to ensure that state actions do not have anti-competitive effects. Requiring public agencies to solicit the Competition Authority's opinions on proposed laws and regulations (and making such opinions public) would also contribute to limiting public interventions with anti-competitive effects. To complete the picture, it is also necessary to establish a framework for the provision of public service obligations. The universal service legislation enacted in the telecommunications industry is a step in the right direction. The absence of a framework for public service obligations create incentives for governments to adopt non-transparent means to serve constituencies; creation of such a framework would both ensure better access and possibly reduce costs.

Reform in infrastructure industries can improve welfare only if it is guided by a clearly articulated strategy and strong political ownership. The Turkish experience suggests that without the support of these two components regulatory reform may be seriously delayed in generating benefits, or, worse, it may not generate them at all. Hence one of the crucial recommendations for success of regulatory reform is clear ownership of reform efforts at the political level. But ownership is not sufficient. Reform policy needs to be translated into an implementation strategy. One instrument that may help generate credibility in that regard is to issue strategy documents that articulate policy objectives and the means to achieve them.

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