The Regulation of Network Infrastructures in the New European Union

Regime Similarity after two Decades of Reform?

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Preface

There are so many potential topics a dissertation in political science could be about: the experiences of Alexis de Tocqueville in America, the struggle for stable democracy in the Weimar Republic or the creation of a new World Order after the Second World War. However, as it is often the case in someone's life, topics and agendas are not always self-determined. And it was similar when I called my doctoral father in summer of 2002. He instantly offered me the chance to jump onto a research project that he had been leading for almost two years at that time. Although I did not really expect to come back to Konstanz after I had left upon finishing my studies in March 2001, the idea of working with Volker Schneider as well as the research agenda he offered me was rather appealing.

At the beginning, the goal of the research project sounded rather dry to me: to find out about the determinants behind privatization patterns in the OECD countries. Very soon, however, I realized that this topic was an extremely current one and the chance to promote these results also outside the inner circle of academic wisdom, gave me an additional push to support the project's ambitious time schedule. Today, several conferences, paper presentations and co-authored publications later, in September 2005, I am extremely grateful to have had the chance to work on this project. Not only did I get the possibility to look authentically inside academics as a profession; I also gained enriching experience for the entrepreneurial life I was able to start during the second half of my dissertation project.

To Volker Schneider and my team colleagues of the DFG-project, namely Carmen Ehni, Simon Fink, Julia Galka, Alexander Jäger, Nadja Schorowsky and Janina Thiem, I am indebted for three years of exciting, diverse and often joyful work in one of the most inspiring university environments. I am further indebted to Dirk Hyner and Achim Lang, with whom I shared many moments of reflection on our work and academic life in general, as well as to Frank Janning for the good collaboration in the regulation seminar and in general. Without financial support of the Hanns-Seidel-Foundation and the helpful comments of Roland Sturm and my colleagues in the 'Promotionskolleg', work would not have been as successful. Finally, I thank my parents for their generous support and loving care over all these years, and Anna: it's only over when it's over!

Summary

Based on a regime definition that goes beyond the narrow perspective of existing case studies, the dissertation focuses on a combined analysis of privatization, liberalization and reregulation policies in network infrastructures. By pointing to the individual role of each of the three dimensions as well as their interconnectedness, it becomes possible to analyze the emergence of distinct regulatory regimes at the European and at the national level. The telecommunications and the electricity sectors are archetypical for the privatization of state-owned companies, the opening of product and service markets and the establishment of new regulatory institutions whose task is to ensure fair competition between the incumbent and new market entrants. In this dissertation, regulatory reform is perceived as the transformation of the public ownership regimes of the 1960s and 1970s to new regime forms, i.e. private competition regimes.

So far, no study exists that systematically compares and categorizes regulatory regimes in the enlarged European Union, and that asks for reasons behind potential regime diversity among the new member countries. The empirical analysis thus seeks to answer three research questions that are derived from the discussion of the regulation literature. Time series data for both sectors between 1980 and 2003, contained in an Infrastructure Data Set that was exclusively compiled for this study, made it possible to analyze in some detail the pattern of state retreat across countries and sectors. According to the timing and scope of privatization, we can indeed ascertain an encompassing retreat of the state in both infrastructure sectors of the EU-15. For the CEEC-10, in contrast, it does not seem adequate to speak of a general retreat of the state due to different outcomes in the telecommunications and electricity sector. The second research question asks whether regulatory reform did result in similar national regimes or whether diversity prevailed. The analysis revealed that in both sectors regime similarity is higher among the EU-15 than among the CEEC-10. In addition to greater regime similarity, Western EU members also show a significantly larger scope of reform than the CEEC-10.

The third research question sheds light on the factors behind regime diversity among the CEEC-10. Using the example of two first round accession countries, it becomes clear that neither vertical policy transference nor horizontal policy diffusion can account for the fact that Hungary had progressed substantially further as regards reforms than Slovenia. To compensate these methodological insufficiencies, the focus is therefore put on the role of

domestic variables: first, in Hungary the institutional environment was much more favourable for reforms than in Slovenia. A second difference was the role of civil society, which was relatively weak in Hungary and strong and consensus-orientated in Slovenia. A third difference was the high continuity of party rule in Slovenia and the breaks in government constellations in Hungary. Fourth, differences in party ideology played a role, and in Slovenia the dominant belief was that protection against Western companies was necessary. Finally, strong unionization in Slovenia prevented major reform efforts while weakly organized labour interests facilitated reforms in Hungary.

As regards methodology, the study employs a combination of quantitative and qualitative analysis for answering the three research questions. While the former allows a structuration of the regime landscape in the EU-15 and CEEC-10, a systematic cross-country comparison of central domestic variables reveals the origins of regime diversity among two new EU members with strongly diverging reform outcomes. This dualistic approach demonstrates that exogenous forces, i.e. Europeanization or policy diffusion, are necessary but by no means sufficient elements of an explanation behind regime dissimilarity in infrastructures. In sum, the evaluation confirmed the assumption that also in the CEECs domestic factors need to be explicitly considered for a more encompassing analysis of regulatory reform.

Zusammenfassung

Auf der Grundlage einer Regimedefinition, die über die enge Perspektive existierender Fallstudien hinausgeht, unternimmt die vorliegende Dissertation eine kombinierte Analyse von Privatisierungs-, Liberalisierungs- und Reregulierungsmaßnahmen in netzgebundenen Infrastrukturen. Die Betrachtung der individuellen Eigenschaften dieser Politiken als auch ihrer wechselseitigen Verknüpfung, erlaubt einen systematischen Vergleich der regulativen Regime auf nationaler und europäischer Ebene. Besonders der Telekommunikations- und Elektrizitätssektor sind typische Beispiele für die Privatisierung ehemaliger Staatsunternehmen, die Öffnung vormals monopolistischer Märkte sowie die Schaffung neuer Regulierungsinstitutionen, die einen fairen Wettbewerb sicherstellen sollen. Der Begriff der regulativen Reform wird in dieser Arbeit als ein Prozess verstanden, der die Transformation von den staatsmonopolistischen Regimen der 1960er und 1970er Jahre zu neuen Regimeformen, z.B. privaten Wettbewerbsregimen, umfasst.

Bislang existiert keine Studie, welche die neu entstandenen Infrastrukturregime in den 25 Staaten der erweiterten Europäischen Union miteinander vergleicht bzw. kategorisiert, und versucht, die Ursachen für mögliche divergente Entwicklungen unter den neuen Mitgliedsstaaten zu benennen. Die empirische Analyse geht daher der Beantwortung von drei Forschungsfragen nach, die aus der aktuellen Regulierungsliteratur abgeleitet werden. Zeitreihendaten für beide Sektoren zwischen 1980 und 2003 ermöglichen einen Vergleich der Intensität des Staatsrückzuges zwischen den Sektoren und den Ländern. Für die 15 alten EU-Mitglieder lässt sich tatsächlich von einem Rückzug des Staates sprechen. Dies trifft jedoch nicht für die neu beigetretenen Staaten Mittel- und Osteuropas (CEEC-10) zu; hier liegen die Entwicklungen im Telekommunikations- und im Elektrizitätssektor zu weit auseinander. Die zweite Forschungsfrage beleuchtet, ob der europaweite Reformprozess in der Tat zur Herausbildung ähnlicher bzw. identischer Regime in den 25 EU-Staaten geführt hat. Die Analyse zeigt dabei, dass in beiden Sektoren die Regimeähnlichkeit unter den EU-15 deutlich größer ist als unter den CEEC-10. Darüber hinaus ist der Reformprozess in den EU-15 insgesamt deutlich weiter fortgeschritten als in den CEEC-10.

Im dritten Teil der Dissertation wird untersucht, welche Faktoren ursächlich sind für die Regimeunterschiede zwischen den CEEC-10. Am Beispiel von Ungarn und Slowenien, die beide 2004 der EU beigetreten sind, wird deutlich, dass weder vertikale

Transfermechanismen noch horizontale Diffusionsprozesse in der Lage sind, die deutlichen Unterschiede in den Reformergebnissen zu erklären. Erst durch den Einbezug von Variablen auf der nationalen Ebene können die Hintergründe dieser Unterschiede zufrieden stellend beleuchtet werden. So war in Ungarn das institutionelle Umfeld für Reformen deutlich positiver als in Slowenien. Ein zweiter Unterschied bezieht sich auf die Rolle der Zivilgesellschaft, welche in Ungarn relativ schwach und in Slowenien stark ausgeprägt, sowie sehr konsensorientiert war. Drittens führte die die große Kontinuität im Parteiensystem Sloweniens zu einer stärkeren Verankerung des Status Quo als die häufigen Regierungswechsel in Ungarn. Viertens spielte Parteiideologie eine Rolle: in Slowenien war die vorherrschende Auffassung unter den Parteien, dass Protektionismus gegenüber westlichen Unternehmen notwendig sei. Schließlich stand in Slowenien wichtigen Reformvorhaben eine starke Gewerkschaftsorganisation gegenüber, während in Arbeitnehmerinteressen in Ungarn nur schwach organisiert waren.

Um die drei Forschungsfragen beantworten zu können, verwendet die Studie eine zweistufige Vorgehensweise aus quantitativer und qualitativer Analyse. Durch die quantitative Analyse auf der Makroebene wird zunächst die Regimelandschaft der 25 Staaten strukturiert. Anhand dieser Strukturierung können dann die Länder identifiziert werden, die die deutlichsten Unterschiede in den Reformergebnissen hervorgebracht haben. Ein systematischer Ländervergleich auf Basis klar spezifizierter Variablen schließlich ermöglicht es, die Hintergründe dieser Regimeunterschiede näher zu beleuchten. Diese Vorgehensweise macht deutlich, dass exogene Faktoren notwendige aber keinesfalls hinreichende Elemente einer Erklärung von Regimediversifizierung darstellen. Insgesamt bestätigt die Analyse die Annahme, dass auch im Geltungsbereich der neuen EU-Staaten nationale Faktoren explizit berücksichtigt werden müssen, um einen ganzheitlichen Blick auf die Ergebnisse regulativer Reform zu erhalten.

Table of Contents

Preface 2
Summary 3
Zusammenfassung 5
Tables and Figures 11
Abbreviations 14
Introduction 16

1. Analyzing Regulatory Reform 38
   1.1. The Literature on Regulation: A Critical Assessment 38
   1.2. The Agenda for Further Research 44
      1.2.1. Patterns of State Retreat 44
      1.2.2. Regime Similarity 46
      1.2.3. The Factors for Regime Change 49
   1.3. Choosing the Research Design 50
   1.4. Analytical Framework 54
      1.4.1. Privatization 54
      1.4.2. Regulatory Reform and the Regime Approach 55
      1.4.3. Explanations for Diversity: The Role of Exogenous and Domestic Factors 57
   1.5. Empirical Basis 58
      1.5.1. Sector Selection 59
      1.5.2. Country Selection 62

2. The Regulation of Network Infrastructures 64
   2.1. Theoretical Aspects of Regulation 64
      2.1.1. Network Infrastructures as Natural Monopolies 68
      2.1.2. Public Ownership Regulation 70
   2.2. The Reform of Regulation 74
      2.2.1. Regulation as a Form of Governance 77
      2.2.2. Three Dimensions of Regulatory Reform 80

2.3. Regulatory Regimes 82
2.3.1. The Nature of Regulatory Regimes 83
2.3.2. Regime Change 89
2.3.3. The Environment of Regulatory Change 92

2.4. Regime Diversity 96
2.4.1. Europeanization and Policy Diffusion 97
2.4.2. Actor-Centered Approaches 101
2.4.3. Institutional Theories 103

3. The Spectrum of Reform Policies 106

3.1. Privatization 106
3.1.1. Public versus Private Ownership in Infrastructures 107
3.1.2. Objectives of Infrastructure Privatization 109
3.1.3. The Outcomes of Privatization 113

3.2. Liberalization 115
3.2.1. Competition in Network Infrastructures 117
3.2.2. Sector Restructuring 120
3.2.3. The Level of Competition in the Market 125

3.3. Reregulation 126
3.3.1. Sector-Specific Regulation vs. General Competition Law 126
3.3.2. National Regulatory Authorities (NRAs) 132
3.3.3. The Independence of NRAs 135

4. The European Dimension 137

4.1. The Europeanization of Regulation 139
4.1.1. European Regulatory Frameworks 141
4.1.2. The *Acquis* in the Telecommunications Sector 146
4.1.3. The *Acquis* in the Electricity Sector 152
4.1.4. The Impact of Community Law at the National Level 156

4.2. EU Enlargement and Its Impact on the CEECs 159
4.2.1. Accession Negotiations 161
4.2.2. The Adoption of the *Acquis Communautaire* as the Basis for Accession 164

5. Infrastructure Regulation in Central and Eastern Europe in the Light of Transition 168

5.1. Political Transition 172
5.1.1. State Formation 173
5.1.2. Central Institution Building 176

5.2. Economic Transition 177
5.2.1. Large-scale Privatization 178
5.2.2. Competition Policy 182

5.3. Network Infrastructures in the CEECs 185
5.3.1. The Role of Infrastructures under Central Planning 186
5.3.2. Regulatory Reform in Times of Transition 188
5.3.3. Privatization Patterns 190
5.3.4. Regime Diversity 192

6. The Outcomes of Reform and Regime Similarity 194

6.1. Methodological Remarks 194
6.1.1. Indicators for the Dependent Variables 195
6.1.2. Facet Theory and Partial Orders 196
6.1.3. Infrastructure Data Set 198

6.2. Telecommunications 201
6.2.1. Privatization 204
6.2.2. Liberalization 214
6.2.3. Reregulation 220
6.2.4. Telecommunications Regimes 234

6.3. Electricity 239
6.3.1. Privatization 242
6.3.2. Liberalization 252
6.3.3. Reregulation 259
6.3.4. Electricity Regimes 270

6.4. State Retreat and Regime Similarity 273
6.4.1. Patterns of State Retreat 275
6.4.2. Regime Similarity 276

7. Hungary and Slovenia: The Factors for Diversity 282

7.1. Europeanization and Policy Diffusion 284
7.1.1. Vertical Policy Transference 284
7.1.2. Policy Diffusion From Western Countries 292
7.1.3. What Does It Explain? 296

7.2. Domestic Categories of Reform 298
7.2.1. The Institutional Environment for Reform 299
7.2.2. Actors in the Reform Process 303

7.3. Summary and Conclusion 315

References 321

Appendix 343

Tables and Figures

Table 1.1	Studies on Infrastructure Reform	41
Table 1.2	Classic Network Infrastructures	60
Table 2.1	Regulatory Failure	78
Table 2.2	Transformation of Governance	79
Table 2.3	Regime Types	88
Table 3.1	Desirability and Feasibility of Competition	118
Table 4.1	Opening and Closure of the Accession Chapters	165
Table 5.1	Economic Growth CEEC-10 (1995-2003)	169
Table 5.2	Government Expenditure CEEC-10 (1995-2002)	170
Table 5.3	Foreign Direct Investment CEEC-10 (1995-2003)	171
Table 5.4	Privatization Methods in the CEECs	181
Table 6.1	State Ownership of PTOs (2003)	205
Table 6.2	Regulatory Competencies in the Telecommunications Sector	229
Table 6.3	Material Independence of Telecommunications NRAs	233
Table 6.4	Coding Example Denmark	235
Table 6.5	Basic Statistics of Telecommunications Regime Similarity	238
Table 6.6	State Ownership of NECs (2003)	243
Table 6.7	Electricity Industry Structure in the CEEC-10	253
Table 6.8	Regulatory Competencies in the Electricity Sector	265
Table 6.9	Material Independence of Electricity NRAs	269
Table 6.10	Coding Example Hungary	270
Table 6.11	Basic Statistics of Electricity Regime Similarity	273
Table 6.12	Summary of Reform Outcomes	274
Table 6.13	EBRD Infrastructure Reform Analysis	280
Table 7.1	Regime Comparison Hungary – Slovenia	283
Table 7.2	Timing of Regulatory Reform in Hungary and Slovenia	286

Figure 0.1	State Expenditure (1960-2005)	18
Figure 0.2	Public Sector Compensation Cost (1985-1998)	21
Figure 1.1	Factors Impacting on Domestic Regulatory Reform	58
Figure 2.1	Meanings of Regulation	65
Figure 2.2	Layers of Infrastructure Business	72
Figure 2.3	Regime Change in Network Infrastructures	90
Figure 3.1	Reasons for Privatization	110
Figure 3.2	Competition in Network Infrastructures	119
Figure 3.3	Industry Structure Electricity Sector	121
Figure 3.4	Vertical Integration with Liberalization	122
Figure 3.5	Vertical Separation with Liberalization	124
Figure 6.1	Telecommunications Reform in the EU-25	202
Figure 6.2	Distribution of State Ownership in Telecommunications	206
Figure 6.3	Telecommunications Privatization in the EU-15 and CEEC-10	208
Figure 6.4	Privatization Steps in the EU-15 Telecommunications Sector	211
Figure 6.5	Privatization Steps in the CEEC-10 Telecommunications Sector	212
Figure 6.6	Privatization Dynamic in Telecommunications	213
Figure 6.7	Timing of Fixed-Voice Telephony Liberalization	216
Figure 6.8	Telecommunications Liberalization in the EU-25	219
Figure 6.9	Full-Time Staff of Telecommunications NRAs	224
Figure 6.10	Budget Sources of Telecommunications NRAs	226
Figure 6.11	Regulatory Responsibilities of Telecommunications NRAs	230
Figure 6.12	Regulatory Regimes in the Telecommunications Sector	237
Figure 6.13	Electricity Reform in the EU	240
Figure 6.14	Electricity Prices 1996-2004	241
Figure 6.15	Distribution of State Ownership in Electricity	246
Figure 6.16	Electricity Privatization in the EU-15 and CEEC-10	248
Figure 6.17	Privatization Steps in the EU-15 Electricity Sector	249
Figure 6.18	Privatization Steps in the CEEC-10 Electricity Sector	250
Figure 6.19	Privatization Dynamic in Electricity	251
Figure 6.20	Timing of Electricity Liberalization	255

Figure 6.21	Electricity Liberalization in the EU-25	257
Figure 6.22	Full-Time Staff of Electricity NRAs	262
Figure 6.23	Budgets of Electricity NRAs	263
Figure 6.24	Regulatory Responsibilities of Electricity NRAs	266
Figure 6.25	Regulatory Regimes in the Electricity Sector	271
Figure 6.26	Privatization Patterns EU-15 and CEEC-10	275
Figure 6.27	Regime Comparison EU-25	277
Figure 6.28	Sector Regime Comparison EU-15/CEEC-10	278

Abbreviations

AID	Access and Interconnection Directive
CEEC	Central and East European Countries
CEFTA	Central European Free Trade Agreement
COCOM	Communications Committee
CPE	Centrally Planned Economy
CRF	Common Regulatory Framework
DeSUS	Pensioners' Party (Slovenia)
DG	Directorate General
EBRD	European Bank for Reconstruction and Development
EC	European Community
ECJ	European Court of Justice
ECSC	European Coal and Steel Community
ECT	Treaty of the European Communities
EMU	European Monetary Union
EP	European Parliament
ERA	European Regulatory Authority
EU	European Union
FD	Framework Directive (Telecommunications)
FDI	Foreign Direct Investment
FIDESZ	Federation of Young Democrats (Hung.)
FKGP	Independent Smallholders Party (Hung.)
GDP	Gross Domestic Product
HLCG	High-Level Communications Group
IEA	International Energy Agency
IMF	International Monetary Fund
IPP	Independent Power Producer
ITU	International Telecommunications Union
LDS	Liberal Democratic Party (Slovenia)
MDF	Hungarian Democratic Forum

MSZP	Hungarian Socialist Party
NCA	National Competition Authority
NEC	National Electricty Company
NRA	National Regulatory Authority
OECD	Organization for Economic Cooperation and Development
PTO	Public Telephone Operator
SEA	Single European Act
SEM	Single European Market
SLS	Liberal Democrats (Slovenia)
SME	Small and Medium Sized Enterprise
SMP	Significant Market Power
SZDSZ	Alliance of Free Democrats
USD	Universal Service Directive
WTO	World Trade Organization
ZLSD	United List of Social Democrats (Slov.)

Introduction

Over the past decades, societies around the world have been caught by a fundamental transition process. New technologies are developed in ever shorter time periods, national economies are growing together and political sovereignty is increasingly being transferred to supranational organizations. According to a rule of thumb, global scientific knowledge is doubled every seven years. Today, societies around the globe are linked by fast information and communications technologies; this in consequence leads to the blurring and even dissolution of boarders between countries and continents. One result of the spread of technological innovations has been the emergence of a global information society. In addition, the globalization of the economy and several other kinds of transactions has created new market-places that are detached from the narrow confinements of national political environments.

How has the state reacted to this development? If we believe what politicians, social science scholars or journalists are not growing tired of emphasizing, then the role of the modern state has fundamentally changed over the past decades. They point to the fact that traditional welfare state services, i.e. health or unemployment security, cannot be provided on a similarly high level as in the 1960s or 1970s any longer and that instead the state has to refocus its activities on forms of less direct intervention. It is argued that phenomena such as the internationalization of the economy or the European (economic) integration process have sparked and catalyzed this trend. Especially infrastructures are often used as examples of sectors in which the state has begun to retreat from its traditional functions and significantly reduced material service provision (cf. Yergin and Stanislaw 1998).

Regardless of the answer to the question whether regulatory reform has actually swept the world or not, it definitely ranks high on the political agenda of governments in Western industrialized countries. The privatization of public enterprises and the liberalization of closed markets have become common synonyms for a paradigm shift that set in almost three decades ago. Beginning in the mid-1970s, governments have gradually changed their view of the role of the state in the provision of public goods and services.

This paradigm shift is most clearly visible in network infrastructures. It is, however, rather astonishing that state involvement in those sectors is being reduced because modern infrastructures are becoming increasingly important for the functioning of an internationalized economy. In times of globalization, telecommunications and physical transportation networks have become sectors of central relevance for economic competitiveness.

Whether infrastructure reform does indeed reflect a much broader trend of state retreat is at least questionable. Other areas of state activity in which governments are still heavily involved, i.e. social security provision and subsidies, seem to have resisted this trend so far. Despite all reform efforts, public spending for health or pension systems continues to rise. However, as social security systems of most EU countries have reached their limits due to high levels of structural unemployment and an unfavourable demographic development, reforms in those areas have occupied onto the political agenda of most governments in Europe. A similar development can further be observed in the field of national security: after the end of the Cold War almost all West European countries began to rethink their foreign security strategy and reduced military expenses. This trend was interrupted only recently as a reaction to the newly emerging challenges of world-wide terrorist attacks.

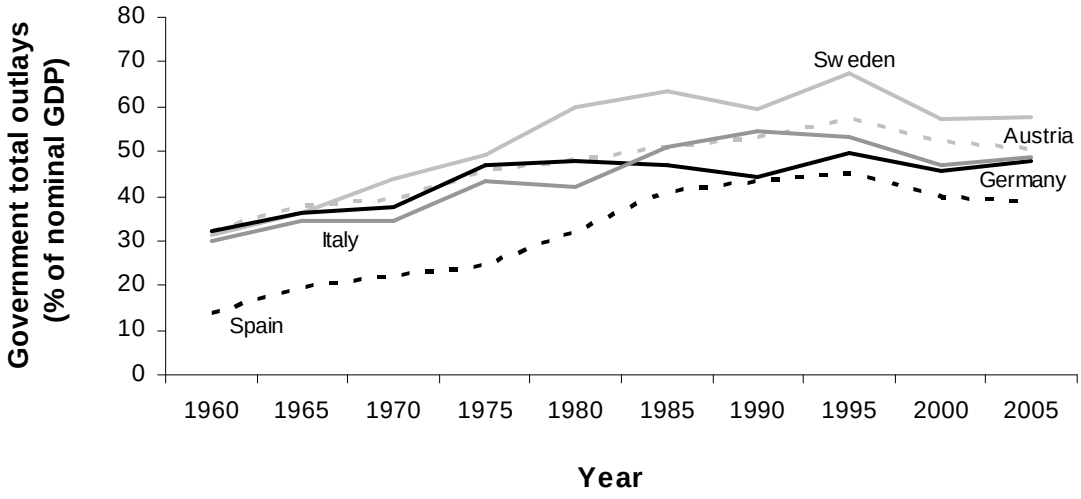
Retreat of the State

The trend of state retreat can be captured by mapping the development of government expenses over time. Up to the mid-1990s state expenditure as a share of Gross Domestic Product (GDP) increased continuously.[1] As we can see from Figure 0.1, between 1960 and 1995 total government outlays of the old member countries of the European Union (EU) have in average more than doubled. In Spain, for instance, the ratio of state expenditure to nominal GDP increased from 13.7 per cent in 1960 to 45.0 per cent in 1995

[1] State expenditure, or total government outlays, is here defined as current outlays plus capital outlays. The definition includes social security expenses, subsidies, interest payments, capital and other current transfers and state consumption (OECD 2004: 7). Data refer to the general government sector, which is a consolidation of accounts for the central, state and local level plus social security systems.

and in Sweden from 31.1 per cent to 67.6 per cent in the same period.[2] This trend set in right after the Second World War. Especially in the 1960s and 1970s we can observe a heavy expansion of the public sector in all countries of the Western industrialized world. The major reason for this development was the heavy expansion of social programmes, i.e. health care, pension systems or unemployment benefits, and of public infrastructure provision.

Figure 0.1 State Expenditure (1960-2005)



Note: The diagram depicts the development of state expenditure between 1960 and 2005 for two founding members of the EU (Germany and Italy), one member of southern enlargement in the 1980s (Spain) and two members of enlargement in the 1990s (Austria and Sweden).

Data Source: OECD (1981; 1991; 2003); figures for 2004 and 2005 predicted.

[2] Usually, the public sector development is plotted using the state expenditure to GDP ratio. It can be considered as the most accurate form of statistical representation. Nevertheless, the use of figures on relative public expenditure shares is controversial. One problem certainly is the demarcation of the public sector. In most OECD statistics, the numerator 'state expenditure' commonly includes general government spending, expenditures of public enterprises and of public financial institutions. It further covers public sector purchases (material and services) from the private sector, costs for the publicly employed, public investment and transfer and interest payment (Gretschmann 1991: 197-199). As we will see later, similar problems arise in the context of infrastructure privatization. There, it is also difficult to establish meaningful comparative data since the definition of 'public enterprise' varies greatly across countries (Vickers and Wright 1988: 9).

If we look at Figure 0.1, we find that the trend of increased public spending as a percentage of GDP seems to have reversed since its peak in the mid-1990s. Although spending for social programmes has continued to expand, total government outlays as a percentage of GDP have declined. The reason for this recent decline in government expenses are mainly 'one-off factors'.[3] But also the prolonged economic and employment boom over the second half of the 1990s, which resulted in lower transfers to households, contributed to this decline. In the future, pressures on social spending are likely to further intensify as a consequence of ageing populations. However, EU member countries have no scope for raising taxation or making new debts to finance higher expenditures. Thus, governments will need to curb public expenditure and at the same time raise its cost effectiveness. Currently, strategies of EU governments indeed foresee fundamental reforms in the budget process and public management, and the introduction of market instruments in social security systems (OECD 2004: 5).[4]

Pressure on state expenditure has remained intense over the past two decades, mainly because of spending for welfare state provisions. The latter has shown a clear upward trend due to several reasons. This trend was catalyzed by demographic developments that led to steady increases of costs for the public pension systems. Furthermore, new anti-poverty programmes have been introduced, while existing provisions have been made more generous, i.e. through a minimum guaranteed income in France, Italy or Portugal. Another reason is the introduction of costly provisions to facilitate the transition from welfare to work. In the health care sector, technological changes and rising medication costs have added to cost pressures stemming from ageing populations. A final factor is the upward trend of spending in the education sector, i.e. through the expansion of primary education and child care.

Nevertheless, if we look at the data in cyclically-adjusted terms, in the EU the ratio of general government outlay to GDP has remained almost constant over the past two

[3] 'One-off factors' are transient effects that can be activated only once.

[4] To enhance the efficiency of the budget process many countries have introduced or strengthened fiscal benchmarks. The reform of public management practices shows a tendency of result-orientation whereby policy-makers define output or outcome objectives, while leaving it to managers to decide how to best attain them.

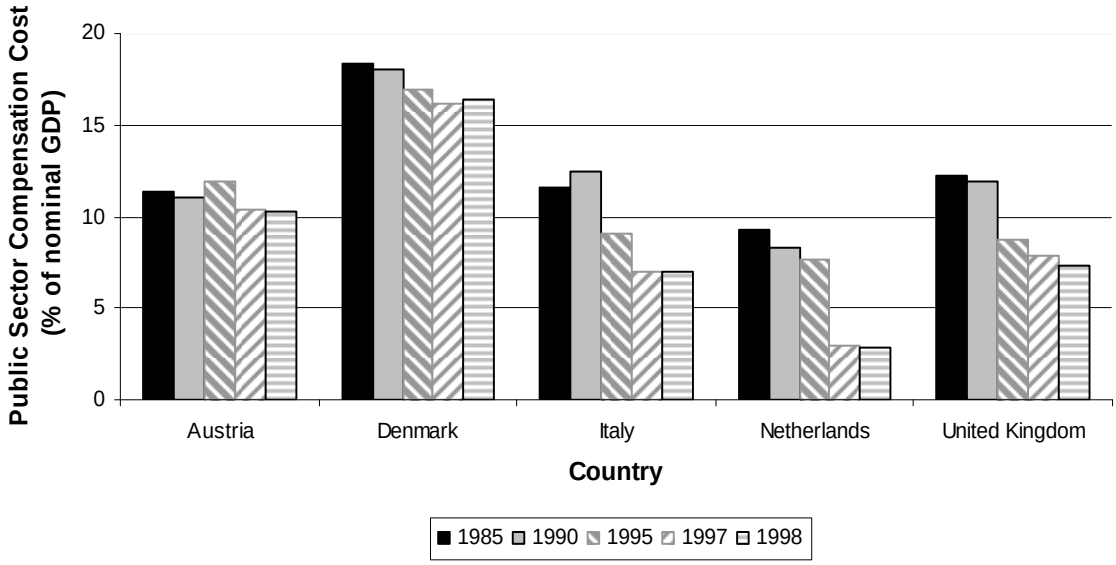
decades. In the first place this has been achieved by *one-off factors*, which have temporarily offset more persistent pressures on public spending. First, lower interest rates have contributed to a reduction in debt serving costs, especially for the founding members of the European Monetary Union (EMU). Second, proceeds from privatization programmes have been used to lower public debt and, thus, to reduce interest payments. Public enterprise restructuring has further enabled many governments to reduce state subsidies. A third reason for declining total public expenses are falling levels of defence spending. In most Western countries, military spending declined to record lows after the end of the Cold War.[5] In some EU member countries, i.e. France and the United Kingdom, this trend has been reversed only recently after the terrorist attacks of September 11th 2001. And finally, many countries have managed to reduce public employment, freeze wages and cut or defer capital costs (OECD 2004: 6-9).[6]

These developments are expressed graphically in Figure 0.2. In Italy, for instance, total public sector compensation cost as a percentage of nominal GDP has decreased from 12,5 per cent in 1990 to 6,9 per cent in 1998 and in the Netherlands from 8,2 per cent in 1990 to 2,9 per cent in 1998. As a result of this decrease, even with welfare service costs increasing continuously, the size of the public sector has been kept at about the same level since the mid 1980s and has even been reduced over the last years. However, most of these factors, especially privatization programmes, constitute one-time effects. It will therefore be interesting to see, how the EU member states tackle the challenges of public spending in the future without the possibility to fall back on similar options.

[5] In case of the United States, defence spending declined to 3 per cent of GDP in 2000, compared with a record high of over 6 per cent at the peak of the Cold War in the mid-1980s.

[6] Some countries have in addition gained considerable proceeds from the sale of Universal Mobile Telecommunications Systems (UMTS) licences. In Germany, for instance, revenues amounted to approximately 2,5 per cent of GDP in 2000. The allocation of UMTS licences have in most countries been treated as a sale of an asset, thus constituting a negative investment.

Figure 0.2 Public Sector Compensation Cost (1985-1998)



Note: The diagram depicts the development of total public sector compensation costs as a percentage of GDP between 1985 and 1998 for two founding members of the EU (The Netherlands and Italy), two members of enlargement in the 1970s (Demark and the United Kingdom) and one member of enlargement in the 1990s (Austria).

Data Source: OECD (2001)

Does globalization thus lead to a convergence of national policies and institutions? One strand of authors believes that successful governance has to consider international efficiency standards set by the globalization process. They argue that the internationalization of the economy in combination with the increasing importance of mobile production factors forces states into competition with one another for capital and knowledge (Boyer 1996; Ohmae 1995; Strange 1996).[7] In order to compete successfully, inefficient structures have to be dismantled and central areas of state responsibility, i.e. network infrastructures, have to be made attractive for foreign investors (Scharpf 1991). This could be achieved through the privatization of public companies and the liberalization of markets, with the effect of improving the allocative efficiency of a sector and creating

[7] In the literature there are diverging opinions of what is to be understood by the term 'globalization' (Beisheim et al. 1999; Garrett 1998; Milner and Keohane 1996; Zürn 1998). Throughout the study, I will adhere to the focus of Grande and Risse (2000: 236) who concentrate on one aspect of globalization, "internationalization tendencies in the economic sector".

effective competition. It is argued that, as a consequence, even countries with different structural characteristics are inevitably forced on a similar development path. Thus, ideological differences between governing parties or cross-national variations in state-society relations should play a much less important role than in times prior to the globalization developments.

The opposite position is held by authors who believe that globalization does not lead to a convergence of national polices and institutions and that for the most part states maintain an individual room to manoeuvre (Berger and Dore 1996). Their argumentation is based on the assumption that domestic institutions and the ideological orientation of the government remain significant factors even under pressures of globalization (Garrett 1998; Swank 2002). These factors mediate the impact of internationalization processes on the nation states and influence their reactions. As an example, scholars like to refer to deregulation policies which are implemented to a much greater extent in pluralist and liberal market economies such as Great Britain or Canada than in coordinated economies, i.e. Germany or the Scandinavian states (Hall and Soskice 2001; Schwartz 2001). Statistical analyses with large country samples tend to support this view.[8]

The Importance of Network Infrastructures

Infrastructures can be considered as fundamental for the existence as well as the proper functioning of the modern state. As such, they have even been compared to the nerve system or the systemic circulation of the human corpus (cf. Deutsch 1966). However, there is a lot of disagreement in the literature on the precise definition and meaning of the term. The same applies to the term 'public utilities', which covers the key sectors electricity, gas, postal services, and telecommunications (Coen and Doyle 2000: 18) plus the waste disposal, sewage and water supply sector. In many cases, it is linked to the 'public interest' or to the existence of a natural monopoly. By definition, however, the

[8] Quinn (1997) and Rodrik (1998), for instance, find that higher international capital mobility and trade integration – common indicators of globalization – lead to an increase of state expenditure. This is regarded as proof for the relevance of the compensation hypothesis which predicts higher transfer payments by the state in compensation for the increased volatility of national economic activity (Cameron 1978).

term 'public utilities' does not cover the transportation sector. Confusion about the exact meaning can be avoided by focussing the concept on the relevant sectors to which it applies. Therefore, in the following, the term 'network infrastructures' will be employed instead. It emphasizes the network character of basic infrastructures and covers the classic sectors communications, energy, and transportation (Welfens 1999: 11).[9]

Why focus on network infrastructures? Transitions in the area of network infrastructures constitute the most visible and dramatic development of state reform over the past two decades. Heavy state expansion after the Second World War was followed by a phase of consolidation and reduction of state intervention. While all OECD countries had drastically increased government expenditure from the 1960s onwards, this development has slowed down and was even reversed in the 1990s. Recently, we are even able to observe a reduction of public spending in several areas of state responsibility. Especially the governance of network infrastructures has shifted from state- to market-orientation. Former nationalized companies are now under partial or full control of private actors and in many sectors the liberalization of monopolies has resulted in lower costs for the consumer.

Second, infrastructure provision always belonged to the core responsibilities of the modern state. The sovereign territorial state, as it developed in the 16th and 17th century in Europe, relied heavily on a solid infrastructure for military and economic purposes. It needed to move military quickly to every corner of its territory in order to secure the autonomy of the sovereign towards its people and the independence of the country as whole towards other states.[10] It is not unrealistic to assume that there would be no state without infrastructure. In addition, a good internal organization of the state is an elementary prerequisite for its economic prosperity. Trade, for instance, was significantly facilitated by the existence of a well connected set of transportation routes. With the upcoming industrialization of the 19th century, all states began to depend even more on a

[9] For a detailed discussion of the naturally monopolistic features of network infrastructures, see chapter 2.1.

[10] Beside the 'territorial state' there were two other forms of post-medieval state organisation, the 'unions of cities', such as the 'Hanse' in Germany, and the 'city states', such as i.e. Genoa in Italy. The territorial state distinguished itself in that it possessed autonomy towards the inside. A clear hierarchy, which was absent in the other two state forms, gave the sovereign the necessary powers to rule his country (Bernauer 2000: 40ff.).

professional and functioning infrastructure for further growth and economic success. During this period new infrastructures such as a country-wide energy grid or telegraph and telephone services were created and operated by the state. In sum, infrastructure provision is and has always been a core element of the existence and the functioning of the modern state (Schneider and Jäger 2003: 114-118).

Electricity, for instance, "is a core public infrastructure, upon which both private and industrial users rely heavily" (Mez and Midttun 1997: 307). In addition, the construction and maintenance of infrastructures make up a large portion of public expenditure: "it [electricity, *the author*] is large, including perhaps the largest capital stock ever invested in any one sector" (ibid. : 307). Another central infrastructure is telecommunications. As Schneider (2001b: 60) states, "the provision of long-distance communications facilities was […] considered to be an indispensable infrastructure […] and a major component in the 'logistics of power' of the state". A similar significance can be attributed to the transportation sector: functioning rail and air traffic is elementary for modern industrial countries. Regulatory reform in infrastructures thus touches the core domain of state responsibility. The paradox of the current situation, however, lies in the fact that infrastructure provision seems to become more important as globalization forces countries into competition with one another, while at the same time the control possibility of the state over these functions is drastically reduced (Streeck 1998).

The Role of Infrastructures in a Changing Environment

After the Second World War almost all governments of the Western hemisphere started to build up welfare states and engaged in positive state activism with fiscal redistribution and macro-economic stabilization. One important aspect was the expansion of public ownership, not only in sectors traditionally characterized as natural monopolies. State-owned industries were supposed to protect the public interest against particularistic private interests.[11] It was a period in which not only prices, market entry or service quality

[11] The term 'public interest' plays an important role in infrastructure regulation. However, there are various different perceptions about what exactly constitutes the public interest. For now, it suffices to distinguish

were regulated, but in which the state also tried to steer the development of the economy, technological innovation or employment. The normative justifications for these policy imperatives were based on arguments of market failure, i.e. guaranteed provision, imperfect consumer information, negative externalities or excessive competition.[12] For most of the 20th century, public ownership was considered to be the appropriate model for the regulation of natural monopolies. Hence, in almost all Western countries it became the wide-spread mode of governance in sectors such as telecommunications, electricity or transport.[13]

However, new global challenges and the economic crises of the 1970s started to erode the post-war order of the Keynesian welfare state which was characterized by costly governmental intervention and service provision. Upcoming monetary and economic competition in combination with increasing fiscal retrenchment called for alternative regulatory strategies (Seidman and Gilmour 1986). At that time, a new economic paradigm emerged and caught the attention of policy-makers around the globe. The new ideas and strategies inherent in this new paradigm led to significant structural changes in which the correction of market-failures via rule-making replaced taxing and spending (Majone 1994b). In course of redefining the role of the state in several policy fields, many governments began to cut back public expenditure through a reduction of their interventionist activities such as social compensation and macro-economic stabilization (Moran and Prosser 1994).

'public interest' regulation from 'special interest' regulation. The former refers to regulation promoting diffuse interests, while the latter describes the delivery of rents to certain societal groups. For a discussion, see Mitnick (1976).

[12] For an comprehensive overview, see Müller (1996: 9-51).

[13] While governments had begun to nationalize telecommunications already in the late 19th century, electricity nationalization mainly started in the inter-war period.

Emergence of the Regulatory State

On the surface, the reactions of governments to the crisis of the interventionist state appear to have been rather similar: all Western industrialized countries have started to contain public spending and set up reform initiatives in several areas of state activity. However, if we look at the issue more closely, we find that the interpretation of these developments varies considerably among scholars of regulation. A first view posits that the regulatory state reflects a new response to the economic crisis of the Keynesian welfare state (Ayres and Braithwaite 1992: 11). These authors observe the expansion of new regulatory instruments into areas previously reserved for public ownership and state monopolies and conclude from this the emergence of a new mode of governance (Majone 1994b; McGowan and Wallace 1996).

According to this perspective, the welfare state and the regulatory state are two alternative modes of governing economy and society. In this context, the 'regulatory state hypothesis' posits a shift from the former to the latter. In other words, governments have begun to use regulatory intervention as a new instrument of public policy based on a change in regulatory tools and methods and on an expansion into sectors formerly subject to a different form of economic regulation.[14] It is claimed that this development was expressed through fundamental changes in state functions, actors, institutions, political arenas and policy styles. Independent regulatory bodies, parliamentary committees and courts, for instance, have begun to supplant legislatures, departments and national industries (Majone 1997). Specialized and supposedly independent agencies replaced direct government control and new actors, i.e. the judiciary, emerged in the policy arena.[15]

This shift from direct to indirect government also included decentralization and new forms of control and accountability. Instead of providing infrastructure services, the new task of governments became to ensure the provision of public utilities by private actors through monitoring and indirect control, i.e. the delegation of competencies to regulatory

[14] In this context, it has been argued that "a certain 'spill-over' of regulatory reform has taken place" (Müller 2002: 3).

[15] As we shall see further below, the European Court of Justice (ECJ) began to play a central role in the regulatory system of the EU from early on.

authorities. In other words, state functions were shifted from "rowing to steering" (Osborne and Gaebler 1992). According to Majone (1994a: 54), "regulation became the new frontier of public policy and public administration in Europe, the new battleground of ideas on industrial and social policy". In the centre of the discussion stood thus no longer questions about property rights but about the form of regulatory intervention.

The second view criticizes these global assumptions and posits that regulation as a distinct form of governance and the state as an actor that regulates social and economic interactions have both already existed before the reform movement, albeit in different forms and with a different focus. The only thing that has changed in course of upcoming regulatory reform is the appearance of regulation, expressed through different regulatory regimes (Müller 2002; Vogel 1996). Hence, the regulatory state replaced *certain* functions of the traditional Keynesian welfare state but did not fundamentally alter its basic idea and conception. Accordingly, this second perspective questions whether regulatory reform has indeed resulted in the formation of an all encompassing new regulatory state and calls for a more flexible and sector-specific interpretation of the events.

In line with this second perspective, some authors regard the term 'regulatory state' more as fiction than as reality. For Moran (2002: 411-412), for instance, the term provides "a sort of intellectual brazier around which we [the scholars of regulation, *the author*] can all gather, to warm our hands and speak to each other, in a world of increasingly fragmented academic professionalism". In this minimalistic interpretation of the term the centrality of regulation and regulatory institutions for economic governance is largely contested. In addition, this interpretation points to the fact that the notion of regulation and thus the regulatory state is not employed similarly across academic disciplines.

The Nature of Regulatory Reform

Regardless which of the two abovementioned perspectives we adhere to, developments in the industrialized world over the past two decades confirm the shift from direct state involvement to a greater reliance on market mechanisms, norms and incentives to pursue industrial or employment objectives and consumer welfare. Traditional goals of

public interest regulation, i.e. access to universal services or safety and environmental concerns, are today increasingly met within a competitive framework. The reform strategies in the classic infrastructures in the light of European integration and globalization pressures comprise three different but interrelated dimensions.

First, the state transferred activities that had previously been provided by the administration or public enterprises to private actors. As a consequence of this new strategy, public infrastructure business was *privatized*. In many cases, this implied a subsequent sale of company shares at the stock exchange. Second, monopoly structures were broken up and new companies were allowed to compete on the markets for products and services. At the centre of this reform dimension stood the *liberalization* of prices and access to markets which had previously been restricted by legal barriers. Finally, regulatory reform comprised *reregulation*, which covers new regulatory institutions and instruments, in order to ensure new suppliers and providers fair access conditions to liberalized markets. Thus, where firms had been privatized, regulation through public ownership had to be replaced by new rules and incentive-based regulation (OECD 2000: 5-6).

Privatization

Privatization is only one but probably the most visible variable in the reform process (Vickers and Wright 1988; Wright 1994). Through privatization programs governments have fundamentally reshaped the organization of network infrastructures. The term ‘privatization’ denotes a multitude of different activities, from the private provision of public services over contracting out to joint capital projects using public and private finance. In narrow terms and its most commonly used meaning, the privatization concept captures changes in property rights of formerly state-owned enterprises, in other words the sale of public assets (Jackson and Price 1994: 4-5). Not even 20 years ago, in almost all countries around the world companies operating in network industries formed part of the public administration or were either fully owned or controlled by the state. Today, we encounter a large number of privately owned infrastructure companies, many of which are listed at the stock exchange. The forerunner of the privatization development in Europe

was Great Britain. Beginning with the reform programme of the Thatcher administration in the early 1980s, the privatization wave subsequently swept across Western Europe.

Liberalization

In many instances, privatization programs are accompanied by liberalization initiatives that aim at opening up the respective sectors for competition (Coen and Thatcher 2001). Also in network infrastructures, the breaking-up of monopolistic structures was based on the assumption that liberalized markets were a necessary prerequisite for the successful participation in the globalization process. Telecommunications as a network infrastructure was the first sector to be opened for competition on a broad scale. The liberalization wave was kicked off by the United States (Schneider 2001b). With the break up of the private monopoly and the divestiture of AT&T in the year 1982 it was the first country to liberalize its national telecommunications market (Coll 1986). In the course of this event, all major industrialized countries followed suit, and by today far over 100 countries have liberalized their telecommunications markets.

Reregulation

In course of infrastructure reform, governments of Western industrialized countries have reorganized control over infrastructure provision but at the same time have not substantially reduced the level of regulation. Hence, the notion of *re*regulation instead of *de*regulation (Vogel 1996). In most sectors, national regulatory authorities (NRAs) have been granted important powers such as the approval of mergers, the right to grant licences or the duty to prevent unfair competition.[16] They define and interpret rules, monitor and supervise them, and even introduce sanctions if necessary, and thus combine legislative, executive and judicial functions (Baldwin and Cave 1999: 70). The basic difference

[16] Based on their organizational separation from the executive and autonomy from policy-makers the role of NRAs is to increase credible commitment of market reforms (Majone 1997: 152-155). Their autonomy helps them to focus on specific regulatory objectives and allows transparent policy-making while giving them a certain procedural legitimacy. With the exception of national competition authorities in Germany and the United Kingdom, in the 1970s regulatory authorities were rather rare in Europe. In most EU member states this changed with upcoming regulatory reform. Especially since the mid-1990s, the role of NRAs began to grow significantly (Doern and Wilks 1996).

between national competition authorities (NCAs) and NRAs is that the former are usually responsible for the regulation-of-competition on an *ex post* basis while the latter focus on regulation-for-competition on an *ex ante* basis. However, the legacy of the interventionist state seems to have caused a certain reluctance of governments to accept full agency independence and the corresponding danger of "behind-the-scenes-pressure" on the newly created sector regulator (Prosser 1989: 147).

The Europeanization of Regulation

Besides globalization pressures, processes of Europeanization play an important role for national developments of regulatory reform. In the literature, the term 'Europeanization' is used according to several different meanings. Two of these meanings are central for the discussion in this study. The first focuses on processes at the EU-level and regards Europeanization as "the emergence and development at the European level of distinct structures of governance" (Cowles, Caporaso and Risse 2001: 3). The second meaning takes into account the member state level in the sense "that EC political and economic dynamics become part of the organizational logic of national politics and policy-making" (Ladrech 1994: 69). Both perspectives are important for the subject matter, and only in combination they will further our understanding of infrastructure reform in the EU.

First efforts to promote EU-level action in infrastructure regulation started in the mid 1970s when competition between Europe, Japan and the United States began to grow and a common industrial policy in the EC was regarded as indispensable.[17] Based on institutional reforms inherent in the Single European Act of 1987, the Community institutions, mainly the Commission, were able to advance integration and to expand their regulatory tasks into new policy fields, i.e. telecommunications and electricity. As several studies have shown, policy-making at the EU-level can have considerable impact on national legislatures and executives (cf. Knill 2001; Lodge 2000). Thus, one question that arises in the context of

[17] A further reason for EU-level action was the creation of mutual commitment to support in situations of energy supply shortage. This policy goal was based on experiences from the two oil crises in 1973 and 1981/82.

the debate is whether the emergence of European structures of regulatory policy-making does indeed push the member countries on the same development path. If this was true, we should expect similar outcomes of the regulatory reform process, and thus similar regulatory regimes, at least within the EU-15 and the CEEC-10.[18]

The emergence of distinct forms of regulatory governance at the EU-level is especially important for reform developments in Central and Eastern European Countries (CEECs). In course of the Union's eastern enlargement, whose first round was completed in 2004, the applicant countries were required to meet the Copenhagen Criteria. A central element of these criteria was the complete takeover of the *acquis communautaire*, the Communities' Secondary law (Schimmelfennig 2001: 59). If we assume that the pressure which was exerted on the applicant CEECs to completely take over all Directives and Regulations was similar across countries, it should depend on the impact of diffusion processes and national categories whether these countries show similar regulatory regimes after 15 years of market-oriented reform.

The enlargement rounds prior to the one in 2004 have demonstrated that EU provisions with regard to regulatory alignment are both rigid and flexible. They are rigid because the *acquis* can only be modified with great difficulties due to institutional constraints at the EU-level. But at the same time, EU law is flexible because it can, to a certain degree, accommodate regulatory systems that foresee comparable or higher levels of protection. Looking, however, at the enlargement round in 2004, we notice that all countries that joined the Union had a much lower level of regulatory standards prior to accession. Because the EU system is less tolerant towards lower standards of regulation and since more economic interests were threatened by Eastern enlargement, it was quite correctly predicted that the negotiating position of the EU would be more rigid than it was in earlier enlargement rounds (Young and Wallace 2000: 123-124).

[18] In the following, the abbreviation EU-15 will be used for those countries which were EU members already before the last enlargement round in 2004. The abbreviation CEEC-10 will be used for the eight new EU members from Central and Eastern Europe (the three Baltic States, Poland, Hungary, the Czech Republic, the Slovak Republic and Slovenia) plus the two accession candidates Bulgaria and Romania. Cyprus and Malta will not be analyzed here.

McGowan and Wallace (1996: 573) argue that the necessity of national implementation will lead to a two-tiered system of EU regulation, in which there remains scope for variation across countries as regards style and substance of this regulation. They predict that the new member countries may prove to be more susceptible to pressures of regulatory alignment than old members due to national mechanisms which are less resilient and also lacking in established procedures.[19] According to this line of argumentation, the Europeanization of regulatory governance would exert an uneven effect on the countries in the EU. Thus, some authors claim that the role of the Commission and of EU-level policies promoting liberalization in general were stronger in the CEEC-10 than in countries of Western Europe (cf. Mayhew 1998; Nunberg 2000).

As regards EU enlargement, it is often asked how it affects the distribution of power and interests within the organization, and how it impacts on the effectiveness and efficiency of the organization. A dimension that is extremely relevant for the study of horizontal institutionalization but that has so far largely been neglected in studies on enlargement refers to the question, how enlargement changes the identity, the interests, and the behaviour of governmental and societal actors. As Schimmelfennig and Sedelmeier (2002: 507) state,

> "with regard to eastern enlargement, there is little cross-fertilization between theoretical studies of the impact of international organizations, the Europeanization literature, the more theoretical literature on the transformations in the Central and East European countries (CEECs), and the mainly descriptive literature on the effect of the EU on the candidates which is often limited to single countries and single policy areas."

The authors (ibid.: 524) go on and claim that

> "the state of research on enlargement demonstrates once more the limits of single-case studies […] and the need for an enlargement of enlargement research – to more comparative analysis and to the integration of under-researched dimensions such as member state politics, substantive politics and the impact of enlargement."

[19] In the following the term 'old member countries' is used for the EU-15 while the term 'new member countries' denotes stands for the eight CEECs that acceded in May 2004.

The present study aims at closing this research gap somewhat further by combining quantitative macro-data analysis with focussed cross-country comparison: while the former aims at broadening the scope of descriptive analysis of the outcomes of EU-wide regulatory reform, a more detailed cross-country comparison helps us to further understand the mechanisms behind Europeanization and its interaction with domestic processes of transformation.

The Transition Process in the CEECs

In the CEECs, first infrastructure reform steps became possible only after the demise of the Soviet Union and the regaining of national independence in 1989. For all countries the major challenge was the transition of a Centrally Planned Economy (CPE) into a market economy.[20] This implied the creation of markets and the establishment of legal, commercial, and socio-political institutions that are necessary to safeguard market reforms. In addition, the CEECs began to prepare for global competition with states from the West. Regulatory reform in infrastructures thus occurred in the context of fundamental institutional transition and mass privatization.[21] This general transition process was much bigger in scope than sector-specific reform projects in West European countries, which took place in the context of a functioning market environment framed by solid legal and political institutions.

[20] The collapse of the Socialist regimes in the CEECs came more or less as "a surprise" (cf. Huntington 1991). Theories of convergence expected the democratic and the Socialist systems to align themselves. Theories of totalitarianism predicted that the Socialist regimes gain legitimacy over time and will thus stabilize. These hypotheses, however, were based on the assumption that the CPEs had a fair chance of survival.

[21] At the outset of transition, privatization was frequently regarded as the central means to achieving the key goals of reform, i.e. general political support for a market economy, macro-economic stabilization or the establishment of efficiently operating enterprises. In other words, it was hoped that large-scale privatization programmes would catalyze the transition process. Basically, we can observe three privatization paths in the CEECs. First, privatization as it occurred shortly after 1989 when small-scale service enterprises, such as shops or restaurants, were sold to private investors. For larger companies, i.e. network industries, other means of privatization had to be found. In these sectors, privatization occurred through capitalization. The third form of privatization took place through liquidation, in which case the assets of bankrupt companies are either sold off by means of an auction or leased out, most frequently to other private corporations (Jackson and Price 1994: 229-232)

This process of 'grass-root' state-building brought about a variety of challenges for the CEECs. First of all, it required the development of a reliable constitutional framework: before new economic policies could become effective, potential distribution conflicts among competing societal groups had to be framed by dependable rules of the game. A second prerequisite for successful economic reform was the establishment of new economic institutions and actors, i.e. central banks, Ministries of Economy and of Finance or independent expert organizations. While this implied much leeway for the new states concerning institutional design, it also posed big challenges as regards the political decision-making process. A third challenge of state-building refers to the upsurge of nationalism which in several CEECs shaped the course of economic reform. The nationalist resurgence was not only a by-product of economic crisis and transition. Rather it was an integral element of the political transformation from Communist states into Western-style democracies.

Before transition began in 1989, state, society and economy were strongly intertwined.[22] Despite differences in the degree of authoritarianism among the CEECs, the general discrepancy to the market-oriented, democratic state model of the Western hemisphere was clearly evident (Sturm et al. 2000: 17-18). In course of transition, the old system promoting the primacy of politics had to be eliminated and the interrelations between the newly separated subsystems had to be defined from scratch. A widely held view at the beginning of the transition process was that CEECs should rapidly introduce Western regulatory mechanisms in order to quickly internationalize their economies. This strategy of emulation or copying was based on the assumption that no elements of the status quo ante were to be preserved because most CEECs could not draw on a distinct regulatory culture or certain regulatory preferences prior to the Second World War. The

[22] According to the Anglo-American model, 'society' and 'economy' are directly connected in that the economy can be perceived as a specific expression of societal existence. This separation distinguishes between public and private law. While in the latter individuals are free actors with equal rights, the public law concept foresees hierarchies concerning interests and competencies (Ogus 1994: 1-28). Most Anglo-American contributions to the debate on regulation do thus not distinguish between society and economy but rather focus on the relations of the latter to the state. As long as not indicated otherwise, I will stick to this perspective throughout the study.

strategy was basically to quickly modernize the economic system and to move from lower to higher standards of regulation (Young and Wallace 2000: 117).

Vertical policy transfer through international organizations or the EU was another promising channel for the diffusion of Western regulatory structures to the CEECs. Shortly after 1989, governments of the CEECs began to copy economic models of the West. As Przeworski's (1991: 183) states

> "[m]arket-oriented economic reforms are an application of a technical blueprint based on theories developed inside the walls of North American universities and often forced on governments by the international lending agencies".

Today, EU institutions are the dominant actors in determining the reform agenda of CEEC governments. In course of the enlargement process and corresponding accession negotiations, the CEECs were required to take over large parts of the *acquis*. Thus, the criteria set by the European Council in 1993 in Copenhagen have fundamentally influenced the process of regulatory alignment. Since then, the alignment process has been considered as preparation for the membership responsibilities and as test for their acceptation as an auspicious candidate (cf. Sedelmeier 1998).[23]

In the Socialist economies infrastructure sectors were only poorly developed, except for some military applications. However, with the transition towards a decentralized and market-oriented economic system the importance of infrastructures began to increase. This is not only due to the need for national and international co-ordination and execution of business transactions, but also for satisfying fast-growing private consumer demands (Müller 2000: 185-186). Shortly after the general political and economic transition process had started first reform steps began to set in also in the infrastructure sectors. Regulatory reform in the CEECs was part of the so called 'big transformation' in which large state-owned companies were privatized formally and materially.

[23] In several declarations after Copenhagen, the Council emphasized the significance of regulatory approximation of the CEECs. However, in a corresponding White Paper, the Commission made clear that "alignment with the internal market is to be distinguished from accession to the Union which will involve acceptance of the *acquis communautaire* as a whole" (European Commission 1995b).

Structure of the Thesis

The process of regulatory reform and differences in regulatory regimes of the EU-15 and CEEC-10 can only be captured in full scope if the basic theoretical aspects of regulation, the mechanisms behind the Europeanization of regulatory policy as well as the logic of the general economic and political transformation process in the CEECs are considered in combination. The study is organized along on three major parts: the first part 'theory and concepts' (chapters 1, 2 and 3), the second part 'processes and structures' (chapters 4, 5 and 6), and the third part 'explanations and conclusions' (chapter 7 and 8).

The first chapter starts with a brief presentation of the state-of-the-art of the literature on regulatory reform in infrastructures. It discusses critically the theoretical frameworks and empirical concepts used in current academic contributions to the topic and proposes necessary improvements. Based on this discussion, the first chapter derives three research questions that the study seeks to answer. In addition, it outlines in much detail the research design, i.e. sector and country selection, that is employed to analyze empirically regulatory reform in the telecommunications and electricity sector of the EU. Chapter two introduces the concept of regulatory reform and discusses the characteristics of regulatory regimes in infrastructures. It focuses especially on the typology of different regimes and on aspects of regime change. The third chapter discusses the individual reform policies privatization, liberalization and reregulation in more detail. The goal is to explicate how these policies are intertwined and what implications this has for the reform agenda.

The second part 'processes and structures' starts with chapter four and a presentation of the Europeanization of regulatory policy-making in the field of network infrastructures. The focus is put on the emergence of regulatory settings at the EU-level in telecommunications and electricity. The discussion of the milestones of the enlargement process and the accession criteria outlines the special situation the applicant countries were facing in course of national infrastructure reforms. Chapter five focuses on the transition process in the CEECs, and here mainly on the aspects of political and economic reform. The chapter further discusses the role of infrastructures in the applicant countries and summarizes the major reform developments since the early 1990s in the context of general

macro-economic transition. Chapter six then describes the outcomes of the reform process in the EU-25 using standard methods of visualization, i.e. time series graphs and status quo diagrams. For both sectors, the privatization, liberalization and reregulation outcomes are presented and evaluated on the basis of the Infrastructure Data Set. With the help of *Partial Order Scalogram Analysis* (POSA), the progress of reform is assessed and national regulatory regimes compared.

The empirical part uses a dualist approach which does not only employ quantitative analysis but also a qualitative evaluation of the subject matter. By analyzing national categories of the reform process, the third part 'explanations and conclusions' tries to find factors for potential cross-country divergence revealed by the macro-analysis in the previous chapters. In order to discuss the reasons behind the divergence of national reform outcomes and dissimilarity of regulatory regimes, a comparative case study design is employed. This case study concentrates on a few selected criteria for comparison and does not conduct an in-depth analysis. The goal of the comparison is to find out whether the observed variations in national regulatory regimes can be explained by differences in domestic institutions, political-economic ideas or actor interests. The thesis closes with a short summary of the central findings of the descriptive and the explanatory analysis and provides a synoptic assessment of the various findings. It concludes by looking at current regulatory developments at the European level and gives a brief outlook to future developments, especially with regard to regulatory convergence of the infrastructure sectors in the CEEC-10.

1. Analyzing Regulatory Reform

The overview of the literature on regulatory reform and its critical assessment are the starting point for the analysis conducted in this study. Through theoretical and methodological improvements of the research design it will be possible to assess the state of regulatory transformation and the extent of regime diversity among the member countries of the enlarged EU. On the basis of an improved research design we are further able to infer more generally from the analysis of infrastructure reform to the changing role of the state. In a second step, the assessment of regulatory diversity and the classification of the various regulatory regimes serve as an orientation for the analysis of the factors that have thus far influenced the reform development in the new member states. The idea is to single out those countries that possess striking regime characteristics and whose divergent development justifies a closer analysis of the factors causing this diversity.

The introduction showed that the literature still faces several unsolved questions as regards the outcomes and causes of regulatory reform. As we will see, the topic has produced a variety of analytical approaches over the past two decades. Thus, in order to answer certain unresolved questions there is need for a better structuration and focus of the analysis. The first chapter shall guide the reader through theory discussion and subsequent empirical analysis in this study. It presents open research questions and formulates necessary improvements to established research designs that have so far dominated the analysis of infrastructure reform.

1.1. The Literature on Regulation: A Critical Assessment

Thus far, the academic literature has developed an enriching array of studies on regulatory reform. Starting with developments in the United States, Japan and Great Britain in the early and mid 1980s, reform programmes in the telecommunications and electricity sector have sparked a trend in the social science literature to study this topic more closely. In the 1980s the discussion began with a focus on privatization policies in the context of the upcoming era of globalization for which the initiatives of the Thatcher

government in the United Kingdom served as a primary example (cf. Vickers and Yarrow 1988). By the time European legislation had begun to demand national liberalization initiatives from the member countries in order to create a Single European Market (SEM), the literature commenced to deal with issues of market opening and competition (cf. Doern and Wilks 1996). Finally, towards the late 1990s the focus shifted once again. This time, the discussion centred around aspects of regulatory governance, i.e. new instruments and institutions with which competition in newly liberalized sectors could be safeguarded (cf. Jordana and Levi-Faur 2004b).

However, although regulatory reform has been widely discussed over the last two decades, research in this field is far from being complete. Studies often focus on single country, single sector or cross-country analyses, thus limiting the analytical scope for the identification of the factors behind regulatory reform. By reducing the scope to selected countries or sectors, it becomes difficult to assess the influence of certain exogenous factors in the reform process, i.e. the diffusion of policies or ideas. What is more, existing studies are in most cases limited to developments in countries of the Western hemisphere; the new EU member states have for a long period almost completely been neglected in academic research on this topic. It was not until recently that scholars have turned their attention towards regulatory policy in the CEECs (Hare, Batt and Estrin 1999; Sturm, Müller and Dieringer 2000; Young and Wallace 2000). Nevertheless, what is still missing is a systematic comparison of regulatory reform that integrates all new EU members and applicant countries from Central and Eastern Europe.

Beyond Case Studies

Several studies make general statements about cross-national policy convergence and regulatory similarity. A closer look at the literature on regulatory reform reveals that a systematic and encompassing comparison of the reform outcomes across the old member states of the EU, and especially across the CEEC-10, is still missing. However, general conclusions are hard to derive if analyses fail to employ an adequate research design. Thus, the most frequently used analytical approach in the field of regulatory reform – case studies – is problematic for a variety of reasons. First and foremost, case studies are in

general highly selective as regards the countries and sectors under study. This, in turn, constrains the validity of general conclusions across a sample of 25 countries and several sectors. In addition, most case studies are based on theoretical frameworks that miss to integrate certain policy dimensions of regulatory reform. As a consequence, the generalizability of conclusions about cross-national regime convergence is limited.

As can be seen from Table 1.1 below, most contributions to the literature use a rather similar research design. They are either single country, single sector (Eberlein 2000; Schmidt 1995; Werle 1999) or cross-national, single sector studies (Midttun 1997; Schneider 2001a; Sturm and Wilks 1997; Thatcher 1999). Such an approach is obviously well-suited for an in-depth description of national reform processes and for the assessment of the factors behind cross-national differences. And undoubtedly, these study designs have contributed much to our understanding of the reform process in infrastructures. However, for a broad assessment of regulatory reform, the methodological problem becomes evident: by focusing exclusively on the role of actors and institutions at the national level we run danger of underestimating the impact of exogenous forces (cf. Schneider 2001b). In order to assess the role of exogenous pressures, single sector approaches have to be complemented by cross-sectoral studies. Thus far, the latter have been relatively rare. Exceptions are, for instance, contributions from Bartle (2002), Coen and Héritier (2000) or Levi-Faur (2001). They all stress the importance of cross-sectoral comparison and point to the relevance of non-institutional, exogenous factors for reform, i.e. techno-economic forces or ideas.

Table 1.1 Studies on Infrastructure Reform

Author(s)	Sectors			Country Focus			
	Telecoms	Electricity	Aviation	Single	Cross-National	EU-15	CEEC-10
Schmidt (1995)	•			•			
Werle (1999)	•			•			
Eberlein (2000)		•		•			
Schneider (2001a)	•				•		
Thatcher (1999)	•				•		
Héritier and Schmidt (2000)	•				•		
Eberlein (2001)		•			•		
Mez and Midttun (1997)		•			•		
Sturm and Wilks (1997)		•			•		
Midttun (1997)		•				•	
O'Reilly and Stone Sweet (1998)			•			•	
Button (2000)			•			•	
Cave (1999)	•						•
Müller (2000)	•						•
Hirschhausen and Opitz (2001)		•					•
Sturm, Müller and Dieringer (2001)			•				•
Bartle (2002)	•	•			•		
Levi-Faur (2001)	•	•			•		
Coen and Doyle (2000)	•	•				•	
Coen and Héritier (2000)	•	•				•	

But not only can the focus on one specific sector be problematic. It is also difficult to derive general conclusions from small country samples. One recent exception are the contributions to the volume edited by Schneider and Tenbücken (2004) which analyze infrastructure reform in 26 OECD countries and three sectors. Based on a large country-sample the authors find significant differences in the pace, timing and scope of privatization. Larger country-samples are also used by Gilardi (2002) and Levi-Faur (2003), but generally they are rather scarce. Sustainable conclusions have to rely on a solid

comparison of a sufficiently large number of countries which is embedded in an adequate analytical framework.

Problems of Existing Research Designs

First and foremost, studies on regulatory reform very often omit important *analytical dimensions* of regulatory reform. Many publications focus either on liberalization (Eising and Jabko 2001; Werle 1999), privatization (König and Benz 1997; Wright 1994) or reregulation (Coen and Thatcher 2001; Gilardi 2002). Thus far, there has not yet been an integrated approach which adequately considers all three of these reform policies in combination. However, cross-national regime similarity can only be assessed if suitable variables and measures are being employed. We therefore need to integrate all relevant aspects of reform: the timing and extent of privatization, the scope of market liberalization and the level of reregulation. These three dimensions are intertwined in that developments along one dimension can feedback into the other. Regulatory similarity does not only relate to the adoption of the same institutions. It is also expressed through similar levels of privatization and liberalization. Since the latter two variables are more easily quantifiable than reregulation, the comparison of reform developments across countries becomes more objective if we include them into the analysis.

A second problem regards the fact that most studies scrutinize hypotheses on an *empirical basis* that is too weak for broad generalizations. The literature mostly provides evidence on the basis of comparative case studies that focus on a rather small number of countries. In addition, the cases are often highly selective. Cross-national analyses among the EU-15, for instance, have focused almost exclusively on the ‘big three’, France, Germany and the United Kingdom. And also the few existing studies on regulatory reform in the CEECs have focused on the more ‘prominent’ states, such as Poland, Hungary or the Czech Republic. The Baltic states or Bulgaria and Romania have almost totally been neglected. Hence, there exists no comprehensive overview of the current level of regulatory diversity, neither among the EU-15 nor the CEEC-10, and, thus, a profound East-West comparison is also missing.

Although, significant time has elapsed since the demise of the Soviet Union and the beginning of the transition process in the CEECs, most contributions of the literature have thus far focused on questions of general political reengineering and macro-economic restructuring (cf. Herr, Tober and Westphal 1994; Hirschhausen and Bitzer 2000). A large majority of publications on regulatory reform have analyzed developments in OECD countries. In contrast, studies on infrastructure reform in the CEECs or in developing countries have been rare. There are only a few studies dealing with regulatory reform of infrastructure sectors in the new member states, i.e. the contributions by Dieringer (2001a), Hare (1999), Hirschhausen and Opitz (2001), Hruby (1999), Kubasik (1999), or Sturm, Dieringer and Müller (2001). Thus, there is need for further and systematic analysis of regulatory reform and its driving factors in the CEECs.

Third, looking at regulatory reform in infrastructures we find that certain *sectors* are largely understudied. This is certainly due to the fact that regulatory reform has by far been more dynamic in communications and energy than in other infrastructures, i.e. water supply, waste disposal or transportation (Henry, Matheu and Jeunemaître 2001). Among these two infrastructures the sub-sectors of telecommunications and electricity have shown the largest dynamic of change, especially in respect to sector-specific governance structures.[24] As a consequence, the vast majority of academic studies focuses on either one of these two sectors. Although the rail or air transport markets may so far not have experienced a comparable transformation as for instance telecommunications, the provision of transportation infrastructure belongs to a country's core functions.

Thus, if we restrict the analysis of infrastructure reform to one or two analytical dimensions of the reform process, a handful of countries and a specific sector, the conclusions will possess only limited generalizability. Even more problematic is the tendency to extrapolate the results obtained from the comparison of a couple of cases and to derive general conclusions about the regulatory reform process in the enlarged EU. Although the validity of the regulatory state hypothesis seems to be contested for the old

[24] The *communications* sector can be subdivided into telecommunications, postal services and broadcasting (radio and TV), the *energy* sector into electricity, gas, oil and coal. *Transportation*, in turn, can be subdivided into road, rail and air transportation.

member states, it could well be that we can observe a relatively high level of regulatory similarity among the CEEC-10. Possibly too that in the new members the retreat of the state from infrastructure provision occurred on a larger scale than in the Western EU countries due to the existing dynamic of the post-socialist transition process.

1.2. The Agenda for Further Research

The shortcomings of the regulation literature as they were exposed in the preceding section point to several unsolved puzzles in the debate on infrastructure reform. It was pointed out that due to the theoretical and methodological characteristics of most case studies we are not able to assess all aspects of infrastructure reform. We are thus left with several unanswered questions, i.e. concerning the validity of the regulatory state hypothesis. The focus of the thesis lies on the comparison of the outcomes of regulatory reform in the enlarged EU and an analysis of the diversity of national regulatory regimes.

1.2.1. Patterns of State Retreat

The introduction briefly discussed the relationship between regulatory reform in infrastructures and the changing role of the state. It seems to be largely undisputed that we have experienced a redefinition of state functions over the past two decades. Whether this development is also an expression of a general retreat of the state can be challenged, however. The changing role of the state might be analyzed in many areas of government activity and along several different functions, such as welfare state services, security provision or general administrative activity. Although many governments have recently experienced strong pressure on their social security systems, i.e. the health and the pension systems, significant changes have thus far occurred mainly in material infrastructure provision.

Considering the analytical characteristics of our three policies that constitute regulatory reform, we find that liberalization and reregulation are problematic dimensions for the analysis of state retreat. To illustrate this point, consider state retreat along the

reregulation dimension: regulatory reform might in a first step lead to deregulation measures, that is the reduction or elimination of government rules and regulations. In the short term, this observation points to state retreat because deregulation reduces the level of state intervention in market processes. However, in the long term regulatory reform is usually not limited to elements of deregulation. Instead, new regulatory instruments are introduced in order to safeguard parallel liberalization efforts. At the same time, NRAs, which are supposed to be independent from government influence, are often still controlled by ministries through the back-door. Thus, initial initiatives of deregulation can not automatically be equated with long-term and enduring state retreat.[25]

We thus need to focus on a different policy dimension, one that captures state retreat in its material sense. 'Privatization' is a variable which possesses all relevant characteristics for mapping such a material retreat of the state. By reflecting policy outcomes at the level of property rights, the privatization variable can thus provide information about material state involvement in public service provision. Here, privatization is understood as the transfer of assets from the public to the private sector. Corresponding indicators of privatization, i.e. the level of state ownership, offer inter-subjective comprehensibility as well as cross-national and cross-sectoral comparability. In addition, the variable privatization has the advantage of being more easily quantifiable than the liberalization or reregulation variable.

Hence, the first research question:

> *How has the material privatization of network infrastructures in the CEEC-10 developed compared to the EU-15?*
>
> Research Question 1

We know from the analysis of regulatory reform in the OECD countries that infrastructure privatization has taken a rather different development across states and

[25] The renewed government influence after deregulation can be regarded as a legacy of the old interventionist state in which ministries were charged with infrastructure regulation (cf. Majone 1997).

sectors in the past two decades. We find early movers and laggards as well as spontaneous and incremental privatizers (Schneider, Fink and Tenbücken 2005). Which reform patterns do we expect in the CEECs based on our knowledge about the general transition process, which among others included radical privatization programmes? Did privatization in the new member states proceed much faster in course of mass privatization than in the EU-15? Or did it possibly develop rather similarly across countries and sectors?

1.2.2. Regime Similarity

From existing empirical findings we can derive the assumption that a shift away from the interventionist welfare state to some form of regulatory state has indeed taken place. However, one could argue that the regulatory state is not a new phenomenon since regulation has always existed since the emergence of modern statehood (Müller 2002: 4). The issue therefore centres around the question whether we have indeed experienced a fundamental transformation towards the regulatory state or whether only the appearance of the regulatory state has changed. If we accept the proposition that public ownership constitutes one alternative form of economic regulation (see chapter 2), we would need to accept that not the general mode of governance, that is regulation, has changed but simply its form and appearance. And this transformation of the form or appearance of regulation can best be captured by the regime concept.

Convergence can be defined as a process of "becoming" rather than a condition of "being" more alike (Bennett 1992: 219). It thus includes a dynamic perspective which represents the change or transformation from one condition to another. This study, however, will not be able to cover all three reform dimensions across time and can thus not directly derive assumptions about convergence dynamics. However, the data that are used can be employed for assessing regime *similarity* through the cross-country comparison of reform outcomes. Prior to regulatory reform in infrastructures, the situation was characterized by public monopolies with 100 per cent state ownership, no competition in the market and the absence of independent regulatory authorities. Thus, an analysis of the

status quo two decades after the beginning of the reform process should reveal certain dynamics among the EU members.[26]

I have already pointed to possible limitations of the regulatory state hypothesis. These limitations are mainly derived from results of cross-country and cross-sectoral case studies which emphasize the importance of national institutions. The fact that all countries have engaged in programmes of regulatory reform does not suffice to speak of similarity. We need to look at the issue more closely by analyzing the development of the various elements of regulatory regimes. As findings of the literature suggest, we should expect a variety of regimes across sectors and countries. While it might be possible to observe similarity along one regulatory dimension, developments along other dimensions might reveal dissimilarity instead. A country might, for instance, have fully liberalized its market for infrastructure services under the auspices of a successfully operating NRA, while the shares of the dominant operator are still entirely or partially controlled by the government. We could also think of a situation in which the former state-owned infrastructure company has been fully privatized but where institutions of reregulation do not function properly so that effective competition in the market is non-existent. These are just two of several possible scenarios.

For obvious reasons, it is difficult to assess regime similarity in absolute terms. What is possible, however, is to assess similarity across subpopulations, i.e. groups of countries or across sectors. Maybe we detect significant differences in reform outcomes among the CEEC-10 and the EU-15? Or we find different outcomes for the telecommunications and the electricity sector within both groups of countries. The assessment of this relative diversity would contribute much to our picture of regulatory reform in the enlarged Union. For instance, a relatively high regime diversity among the CEEC-10 compared to that among the EU-15 would indicate that factors other than Europeanization and globalization pressures are responsible for the outcomes of regulatory reform. Such an analysis can thus provide the basis for further case-study research on the interactions between exogenous pressures and national implementation mechanisms. In case we do indeed find significant

[26] Such a perspective, however, excludes any projection on future developments which constitute important aspects for a complete analysis of regime similarity.

dissimilarity of national reform developments across the CEEC-10, we could ask for the determinants of that diversity, assuming that all of these countries have been exposed to similar exogenous forces in course of the enlargement process.

A similar logic applies to developments *across sectors*. There is indication that some sectors show greater regime similarity across countries than others. We know, for instance, that over the last two decades regulatory reform in telecommunications has proceeded much faster than in any other infrastructure sector. However, even in the case of telecommunications we might come to the conclusion that a significant level of diversity still exists. While most markets for telecommunications equipment and services have been liberalized due to strong international pressures and an proactive competition policy of the Commission, there seems to remain significant variation as regards privatization. In addition, NRAs still seem to possess significantly different structures and functions and, thus, levels of independence from political and administrative influence. Thus, the question arises whether regime diversity in telecommunications is relatively higher than diversity in the electricity sector, independent of the countries we are analyzing.

We can thus formulate the second research question:

> *Are there significant differences in regime similarity, first, across the EU-15 and the CEEC-10 and, second, across the telecommunications and the electricity sector?*
>
> Research Question 2

In other words, the study seeks to answer whether we can observe diversity or similarity as regards the outcome of privatization, liberalization and reregulation policies. One goal is to come up with a topology or categorization of regulatory regimes in the three infrastructure sectors. In this context, it will be interesting to analyze if there are any significant differences between the EU-15 and the CEEC-10. Especially interesting is the question as regards the regulatory situation in the new member states because this region has so far largely been excluded from systematic analysis. In addition, the study also looks

at cross-sectoral differences at an aggregate level. This in turn allows us to assess another mechanism that is heavily disputed in the regulation literature: the impact of internationalization or Europeanization pressures.

1.2.3. The Factors for Regime Change

As several comparative country studies have revealed, national factors can mediate the impact of common exogenous pressures, i.e. globalization and Europeanization forces, which would otherwise push countries on a similar evolutionary path. As a second step after the quantitative analysis of regime similarity among the CEECs, the mission would be to investigate the drivers for potential diversity in more detail. The regulation literature has produced several different explanations for the variation of regulatory regimes across Western Europe. The task will therefore be to find out what exactly caused the observable differences and similarities in the reform outcomes of the CEEC-10.

Basically, we can assume that Europeanization pressures were comparable across the CEEC-10 during the accession negotiations. Bulgaria and Romania face a slightly different situation, because both countries were not part of the first enlargement round in 2004. On the surface, the exposition of the new members and applicant countries to identical exogenous pressures should lead to similar reform outcomes in those countries. However, as we have learned from developments in West European countries, domestic factors, such as actor interests and institutions, can have a significant influence on the reform process as they mediate the impact of these exogenous forces. Albeit or maybe because of the fact that national institutions, i.e. the political and judicial system, had to be developed from scratch in the CEECs after the demise of Communism, these countries should be expected to show significant cross-national differences as regards outcomes of regulatory reform (cf. Hare, Batt and Estrin 1999; Hirschhausen and Opitz 2001; Sturm et al. 2000).

Hence, can differences in national political and economic categories account for the diversity of regime configurations and the patterns of national regulatory adaptation among the CEEC-10? In this context, it would be further interesting to ask which role horizontal policy learning and emulation played in initiating and accelerating liberalization and

privatization policies? Possibly, new economic ideas promoting fast regulatory reform which originated in the United States or Great Britain have spread faster to some countries than to others. An analysis that takes such diffusion processes into account might contribute somewhat further to the explanation of why some countries have engaged in radical reform programmes while others have obviously hesitated to fundamentally reform their infrastructure sectors.

These puzzles are summarized in the third research question:

> *Which factors can account for significant differences in the process and outcomes of regulatory reform across the CEEC-10?*
>
> Research Question 3

The third research question builds on the answers to the first two questions. By mapping differences and similarities of privatization patterns and regulatory regimes across the EU-25, we can single out those countries that call for a more detailed investigation. For some countries of Western Europe the role of domestic factors in the process of infrastructure reform has extensively been discussed. In contrast, a systematic analysis of these factors for the CEECs on the basis of a macro-data analysis is still missing. In this respect, the thesis does not only provide empirical data for an assessment of theoretical conceptions and hypotheses of the regulation literature. It further offers a perspective on the mediating factors behind regulatory reform in the new EU member and applicant countries.

1.3. Choosing the Research Design

In order to find profound answers to the questions formulated above we need to employ an appropriate research design. The major requirement is that it delivers a comprehensive description and comparison of the reform outcomes in the countries of the enlarged EU. Going further than a separate comparison of liberalization or privatization policies (Schneider and Tenbücken 2004) or a cross-national analysis of regulatory

authorities (Tenbücken and Schneider 2004), such a research design would have to integrate the three dimensions of regulatory reform into one coherent framework. However, since reform developments seem to differ significantly between countries and sectors, such an analytical concept needs to be flexible in its classification of the various national reform trajectories.

Based on these requirements, the concept of *regulatory regimes* seems to be most suited for the comparison of the reform outcomes in the EU-15 and the CEEC-10 (cf. Eisner 2000; Francis 1993; Harris and Milkis 1996; Hood, Rothstein and Baldwin 2001). The reason is that it allows for the flexible combination of quantitative as well as qualitative reform aspects and thus an integration of the three dimensions that are central for the analysis. As Thatcher (2002a: 869) argues, the concept of regulatory regimes is "[…] the framework that has greatest potential for understanding the diversity of regulatory reform across both countries and sectors […]". By employing the regime concept the analytical framework is not limited to material state retreat, but can be extended to two other reform dimensions: liberalization and reregulation.

The use of the regime concept allows for cross-sectoral variation. We may find various regulatory regimes in a country at the same time, depending on the specific sector under analysis. A research design based on the concept of regulatory regimes thus possesses sufficient flexibility and accuracy for mapping complex reform developments as in the case of infrastructure reform. It can be employed to investigate national reform patterns as well as specific sector developments. The latter are important characteristics of an analytical framework because sectoral regulatory regimes, although generally sharing certain features of the national regulatory system, often differ significantly from each other (Vogel 1996: 22).

Regarded from a methodological perspective, the study also is innovative as it combines quantitative and qualitative elements of empirical analysis. It tries to overcome the somewhat artificial separation of statistical evaluation and case study design that often leads to disputes between political scientists. On the one side, the study profits from a quantitative analysis which structures the large data universe constituted by 25 countries

and two sectors (chapter 6). Thus, the researcher can more easily sort out those cases that deserve closer analysis and cross-country comparison. On the other side, a case study design allows a more precise and country-specific analysis of the reform process and its outcomes. This in turn is necessary to investigate the factors that are responsible for potential regime diversity (chapter 7). As Marin and Mayntz (1991: 21-22) claim, the advantage of a combined qualitative and quantitative approach is that "[…] it offers the chance of greater precision, and of discovering both details and comprehensive patterns that would otherwise have remained invisible".

An analysis that sets out to capture all aspects of regulatory reform and draw general conclusions has to choose a sufficiently large empirical basis. Thus far, case studies have furthered our understanding of the causal mechanisms behind national reform processes, their drivers and mediating forces. They have provided valuable information on exogenous pressures, processes of policy diffusion and the role of domestic institutions impacting on those pressures and processes. As such, single case studies and comparative case studies are without doubt of great analytical value (cf. Eckstein 1975; Lijphart 1971). They are especially well-suited for an in-depth analysis and comparison of domestic political and economic characteristics. In doing so, they can scrutinize and, thus, refute or strengthen existing theories on the basis of a thorough examination of their propositions. However, case studies also posses certain methodological limitations. For instance, it becomes problematic to draw broad generalizations from a small number of observations. Case analyses are often highly selective and might thus employ an empirical basis that is not representative for the composition of the basic population.

Deficits of inferring from a small number of cases can be overcome by changing certain features of the research design. The basic idea is to increase the number of observations. This can be accomplished using "new units and new measures" (King, Keohane and Verba 1994: 217ff.). As regards the *units* of analysis, the number of observations can be increased through variation across space and time. The empirical analysis in this study incorporates improvements on both. First, the number of countries analyzed is significantly higher than in other studies of regulatory reform. The statistical evaluation will not be restricted to a few selected member states but integrates all 23 old

and new EU member and two applicant countries into the analysis. Second, data is collected from two classic infrastructure sectors, telecommunications and electricity. And third, analysis is not limited to the comparison of the status quo at a certain point in time. Instead, historical data will be used for the analysis of privatization. This enables us to map developments over time, i.e. the patterns of state retreat. Privatization data cover two sectors in 15 countries over a period from 1980 to 2003 (EU-15) and in ten countries over a period from 1990 to 2003 (CEEC-10).[27] Based on these three methodological improvements, the number of observations can be significantly increased and the results should possess greater generalizability.

Secondly, the number of observations can be increased using *new measures*. As outlined above, I will base my comparison of the reform situation on the three dimensions privatization, liberalization, and reregulation. Changes along these dimensions correspond to policy outcomes at three distinct levels of analysis that are at the same time the characterizing features of a regulatory regime as it is perceived in this study: ownership structure, market liberalization and regulatory institutions.[28] To each reform dimension we can find corresponding indicators for the collection of empirical data. Although these three variables have been used individually in many studies on regulatory reform, an empirical assessment of regulatory diversity based on the combination of all three of them is truly innovative.

[27] Problematically, a consistent time series data set on privatization for a total of 25 countries is difficult to collect. In addition, if we want to fully capture the regulatory turnaround we need to consider recent data of the last five years. These data are in some cases difficult to obtain since many sources provide information only until the mid or end 1990s. Therefore, more detailed research on the country and the specific sector, i.e. through press releases or annual reports, becomes necessary in order to construct a reliable data set.

[28] Please note that the term 'regulatory institution' is employed in a much wider sense than the term 'NRA'. While the former represents any kind of regulatory organization, such as a NCA, NRA, ministry or central bank, the term 'NRA' stands exclusively for a sector-specific regulatory body with specifically-defined characteristics.

1.4. Analytical Framework

Regulatory reform is defined as a process in which the old regime of public ownership is replaced by a regime that is characterized by privatized enterprises, liberalized markets and new regulatory norms and institutions. Thus, each of the three reform dimensions, privatization, liberalization and reregulation, reflects a constituting element of regulatory reform. In the first place, they are individual reform policies. As such, they employ different instruments and produce different outcomes on the dependent variable. However, the three policy dimensions are also closely intertwined. In several instances, privatization is the prerequisite for liberalization. Reregulation, on the other hand, serves to provide the necessary institutional environment to ensure effective competition aimed at by liberalization policies.

1.4.1. Privatization

The globalization literature offers competing hypotheses about state retreat. Some authors argue that increasing internationalization of the economy leads to more competition among nation states. This, in turn, demands efficient markets and thus the need to downsize the public sector (Scharpf 1991; Strange 1996). According to this position, governments are forced to sell state assets in order to make the public sector leaner and to increase the competitiveness of their economies on the world markets. As a result, all countries are pushed on a similar development path. The opposite position is taken by authors who claim that even under conditions of globalization national governments retain a considerable capacity to act (Garrett 1998; Swank 2002). Among other factors they emphasize the continued importance of ideological differences, i.e. the party composition of the government. In other words, states are not pushed on the same development path and material state retreat might vary considerably across countries.

As outlined at the beginning, mainly privatization developments in infrastructures have been responsible for the reduction of government outlays since the mid-1990s. Whether this development is representative for all sectors of state activity remains an open question. It does, however, reflect a changing role of the state at least in one important

area. Considering the impact of national factors for reform, we should expect the new EU member states to show similar diffuse reform patterns as it is the case for the OECD countries (cf. Schneider, Fink and Tenbücken 2005). In contrast to liberalization requirements, the *acquis communautaire* did not demand from the accession candidates the privatization of their infrastructure companies. Thus, in the new member states the decision to sell state assets is likely to have been subject to more specific national considerations, i.e. party orientation, or certain economic paradigms stemming from the internationalization of the economy.

1.4.2. Regulatory Reform and the Regime Approach

Prior to reform, all European countries showed similar regulatory regimes: the utilities were entirely owned by the state, there was no competition in the market for infrastructure services and regulation was exerted by a ministry that was often also the provider of infrastructure services.[29] When reforms began in the 1980s, a variety of different developments and outcomes were possible. Today, after two decades of reform we can observe these outcomes and interpret them accordingly: significantly different reform speeds and outcomes across countries or sectors could be interpreted as diversity, whereas similar reform results, expressed, for instance, through comparable levels of market opening or state ownership, can be regarded as regulatory similarity.

A similar logic also applies to reregulation. However, for this dimension it is much harder to identify a common starting point prior to reform since states possess different regulatory histories and traditions (cf. Richardson 1982). However, if we compare policies of reregulation by looking at the structures and functions of NRAs, we come to a similar conclusion as in the case of liberalization and privatization: since there existed no NRAs prior to reform, we can assess similarity or diversity of reregulatory institutions by comparing the organizational and functional characteristics and, thus, the level of independence of the newly created NRAs.

[29] We have to differentiate between the situation prior to reform in the EU-15 and CEEC-10 countries. While in the latter all sectors were under public control, in the EU-15 public ownership was dominant only in network infrastructures; companies in other sectors were able to operate in a relatively free market system.

The concept of regulatory regimes thus offers a useful analytical framework for the analysis of cross-country and cross-sectoral regulatory diversity (Thatcher 2002a: 869-870). The integration of the three reform dimensions into the regime concept provides analytical flexibility in that it allows for different combinations of policy outcomes in different sectors of the same country. This is due to the fact that the reform policies are not *necessarily* dependent on each other although they are in many ways intertwined. While a country might on the one side proceed rapidly in privatizing its former state monopolist, it might on the other hesitate to open the market to competition or to create an independent sector regulator. By applying the regime concept we are able to flexibly map all existing configurations, regardless of the individual specifications, which in turn allows us to categorize regimes accordingly.

Regulatory regimes cannot only be used as a dependent variable for mapping cross-country and cross-sectoral differences in the outcomes of regulatory reform. The regime concept can also be employed for the analysis of the factors that cause these differences. Variation in actors' policy ideas or interests can produce quite different policy outcomes (Eisner 2000). While one government might adhere to reform-oriented ideas, the successor government might instead be guided by an ideology that opposes programmes of infrastructure privatization and liberalization. The same logic applies to the interests of the actors in the policy-making process, i.e. business or consumer interest groups. Cross-national variation or variation over time of these interests can be used to explain potential differences in the reform process and also in the resulting regime configurations.

Especially interesting in this context is the situation in the new member states and applicant countries. Due to pressure for legal conformity exerted on them in course of the accession negotiations, diversity should be weaker within this group of countries. In course of the enlargement process the applicant CEECs were demanded to completely take over the *acquis communautaire* within a short period of time. This requirement should have mediated the diversity of national regimes. In addition, the CEEC-10 have lost many of their national regulatory traditions during the period of Soviet rule and build up new governance structures in course of political transition. As a consequence, national mechanisms are both less resilient and lacking in established procedures. They might thus

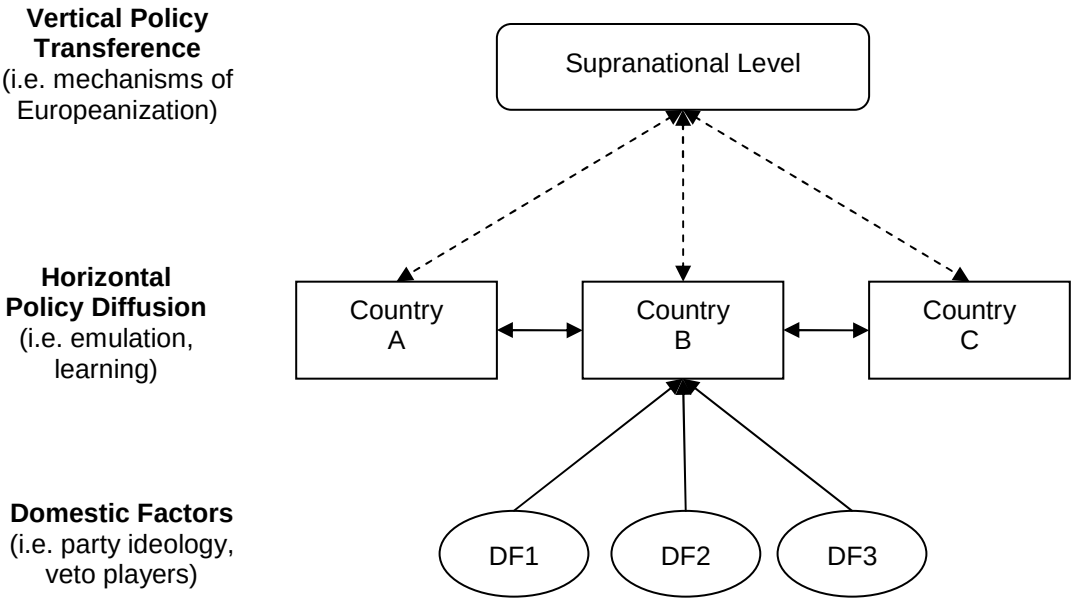
be more susceptible to the pressures of regulatory alignment than the old member states (McGowan and Wallace 1996: 573). Since regulatory traditions seem to be much more deeply rooted in states of the West, we should therefore expect more diversity among the EU-15 than among the new member states.

1.4.3. Explanations for Diversity: The Role of Exogenous and Domestic Factors

The explanatory part discusses those factors that might have caused regime diversity among the CEECs. As Meseguer (2003) argues, while international forces are better equipped to answer the question of timing and the number of countries involved, domestic variables are better suited for the explanation of differences in the intensity and pattern of the reform process. With the help of statistical methods, we are able to single out countries from the ten CEECs which show dissimilar regime configurations or privatization patterns. In a second step, a systematic cross-national comparison of the reform processes in form of focused case studies shall provide explanations for the observable differences in national regulatory regime configurations of those countries.

All EU member countries are subject to top-down Europeanization pressures which impact on national administrations and jurisdictions (cf. Knill 2001). EU accession also implies the transposition of the *acquis communautaire* into national law. With regard to regulatory reform in specific, the CEECs had to comply with liberalization and reregulation requirements inherent in the Treaty. One could now argue that Europeanization is not a one way street, and that such top-down pressures are not purely exogenous since EU law is shaped by negotiations between member states. In other words, to a certain extent the emergence of national policies and administrations at the EU-level originates in the preferences of member states' governments. This logic, however, does not apply in case of enlargement because applicant countries did not have the chance to influence EU Secondary law prior to accession. The latter was exclusively shaped and formulated by the old members. Thus, processes of Europeanization in the context of enlargement can indeed be regarded as a purely exogenous top-down imposition of the *acquis*.

Figure 1.1 Factors Impacting on Domestic Regulatory Reform



By analyzing the impact of *vertical policy transference* and *diffusion processes* on the one side and *domestic factors* on the other, we should be able to single out those variables that have caused cross-national differences among the CEEC-10. The relationship between those categories of variables is depicted in Figure 1.1. While vertical and horizontal transfer processes assume interdependent policy-making, domestic categories stress the impact of independent national variables (Simmons and Elkins 2004: 172). However, all three are linked to each other. Together, they form a set of country-specific variables which determine the reform propensity in the CEEC-10. Hence, the working hypothesis posits that the combined impact of vertical policy transference, horizontal policy diffusion and domestic variables, i.e. party ideology or the role of veto players, is responsible for the diversity among regulatory regimes in the CEEC-10.

1.5. Empirical Basis

The empirical part of the study combines elements of quantitative and qualitative analysis (chapters 6 and 7). The former is based on the *Infrastructure Data Set* which was

compiled exclusively for this study. It covers privatization, liberalization and reregulation data for 25 countries and two sectors. All statistical analyses build on the information contained in this data set. While data for the liberalization and reregulation dimension are status quo data for the year 2003, privatization data are available as a 13-year and 23-year time series for the CEEC-10 and the EU-15, respectively. The statistical analyses allow us to draw conclusions on reform developments and regime diversity in the enlarged EU and thus provide answers to research questions one and two. In doing so, the research design transcends the more narrow focus of case studies, provides encompassing information about the current status of regulatory reform in infrastructures, and thus offers scrutiny to presumably established hypotheses.

1.5.1. Sector Selection

Theory discussion as well as the empirical analyses in this study refers to the regulatory situation and the reform outcomes in the infrastructure sectors of the enlarged EU. The decision to focus on developments in the latter is based on the significance and the history of these sectors. First, the infrastructures communications, energy and transportation traditionally represent core functions of state activity (cf. Schneider and Jäger 2003). As network industries they are crucial for the functioning of a country's economy and thus its competitiveness. They serve, for instance, as inputs for other sectors of the economy and raise the productivity of complementary factors by increasing the economy's fixed capital stock (Welfens 1999: 15). In addition, without the existence of these structures and services the state would not be able to fulfil its basic public responsibilities.

Network infrastructures can be divided into several sub-sectors as depicted in Table 1.2. They are also called 'universal service infrastructures' because they provide universal services to all citizens. Exactly the latter characteristic of infrastructures was in the past used as a justification for state ownership. The main argument was that only the state would provide high service quality at reasonable prices to all citizens, regardless in which

part of the country they live. As a consequence, the reform of infrastructures could be understood as a fundamental transformation of functional state activity.

Table 1.2 Classic Network Infrastructures

	Sector		
	Communications	*Energy*	*Transportation*
Sub-Sectors	Telecommunications	Electricity	Road
	Postal Services	Gas	Water
	Broadcasting	Oil	Railway
	Internet	Coal	Aviation

For the discussion of regulatory reform, the focus is put on the sub-sectors telecommunications and electricity.[30] Especially these two sectors are of central importance to the functioning of modern societies (cf. Coen and Thatcher 2001; Midttun 1997). If we consider the developments of the last two decades, the telecommunications and electricity sector can be attributed the largest dynamic of change. As a consequence, we can expect a certain variation in the policy outcomes in both sectors. All other sectors listed in Table 1.2 have demonstrated much weaker change dynamics for a variety of reasons. In contrast to, for instance, the water sector, telecommunications and electricity have undergone a significant transformation over the last two decades, albeit with important national variations. In several cases, state ownership has been significantly reduced and markets have been opened for competition by new entrants. In other sectors, market reforms have been much slower and the state retained significant shares of the dominant operator, i.e. in the aviation sector.

[30] In the following, for reasons of consistency and ease of reading, I do not refer to telecommunications and electricity as 'sub-sectors' but simply as 'sectors'.

Differences in change dynamics also apply to the *timing* of reform. In telecommunications and electricity first effective reform steps were already undertaken in the late 1970s and early 1980s. In contrast, postal services, railways or gas have experienced first significant reform initiatives rather late, mostly towards the end of the 1990s. As a consequence, the level of cross-country variation is much lower in the latter, mainly because less time has elapsed since the beginning of the reform process. The existence of a certain level of variation, however, is an important prerequisite for the assessment of the relevance of domestic reform factors. Without variation on the dependent variables, there is nothing we could explain with our national categories.

The third reason for putting the focus on the telecommunications and electricity sector has to do with the scope of transformation they underwent. No other publicly organized industry underwent bigger changes in the light of globalization and Europeanization developments than the two sectors. Especially the telecommunications sector has experienced the internationalization of the economy and the resulting pressure to liberalize the national markets for equipment and services. The world-wide opening of borders demanded significant national reforms in order to be competitive on newly emerging foreign markets (cf. Schneider 2001b). Further pressure for liberalization came from the European Commission which began to promote its new industry policy with a 'pro-competition agenda' already in the mid 1980s.

The Commission's policy demanded national efforts of deregulation and strengthened European level reregulation (chapter 4). This approach has not only driven reforms in the telecommunications but also in the electricity sector, in which the structures changed significantly over the last decade. Today, several EU Directives constrain the influence of national governments on the regulation of infrastructure sectors. They demand, for instance, the break up of monopolies, the liberalization of markets and the enforcement of fair competition among the providers of infrastructure services. In other words, countries have not only experienced indirect pressure to liberalize their network infrastructures due to the internationalization of the economy; regulatory frameworks set

by the EU have further forced countries directly to abandon monopolistic structures and to open up markets for competition.[31]

1.5.2. Country Selection

The descriptive part of the empirical analysis is conceptualized as a cross-country as well as a cross-sectoral analysis. The focus lies, however, on the comparison of the national configurations of regulatory regimes and the timing and scope of state retreat in the member states. The expansion of the analytical scope beyond that of existing case studies, which generally cover only a small sample of countries, makes it possible to assess the validity of assumptions in the literature. In addition, the statistical evaluation should reveal typical sectoral differences and characteristics that are constant across countries. The explanatory part then focuses on a cross-country comparison of national categories that impact on regulatory reform in network infrastructures. In addition, cross-sectoral analysis of the factors behind reform promises to reveal differences in exogenous pressures. We can, for instance, assume that Europeanization pressures differed significantly across sectors in course of the enlargement process.

Since the study discusses and analyzes regulatory reform in the enlarged EU, the selection of countries for the empirical analysis was relatively obvious. Besides the 15 old member states (EU-15), Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom, the Infrastructure Data Set covers those countries which joined the Union on 1 May 2004 as full members. These ten countries from Central, Eastern and South-Eastern Europe are Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia.

Since Cyprus and Malta are countries with relatively small economies and since their geographical positions are somewhat distanced from the rest of the new member states,

[31] Obviously, the legislative pressure exerted by the EU on the member states is also a reaction to international developments. Thus, both developments feed back into each other. An example is the industrial policy initiative of the Commission in the 1980s that was mostly a reaction to the growing power of the Japanese economy.

they were excluded from the analysis.[32] Instead, Bulgaria and Romania, two countries with considerably large economies and public sectors, were added to the group of countries under analysis. Both countries will most likely join the Union around the year 2007. In addition to the aspect of economic significance, the inclusion of Bulgaria and Romania makes the group of countries analyzed in this study more coherent in respect to their geographical position. All ten belong to the Central or Eastern European region, most of them sharing common borders. Hence, the abbreviation used for these ten countries is 'CEEC-10'.

As it is the case for the Western EU members, the data for the liberalization and the reregulation dimension in the CEEC-10 reflect the status quo as of the year 2003. Privatization data for the CEEC-10, however, cover the time period from 1990 to 2003. The reason is that before 1990, the year in which the general political and economic transition process was sparked, all companies were 100 per cent owned. By considering reform outcomes in 25 countries, the number of observations is significantly enlarged compared to case studies which usually analyze developments in only a handful of states. Although two of the new member countries are omitted for reasons explained above, the number of observations in the statistical analysis is sufficiently large to draw general conclusions to the situation in the enlarged EU and in the CEECs in specific.

[32] Another, more pragmatic reason for the exclusion of Cyprus and Malta from the analysis turned out in course of data collection. For both countries data on regulatory reform in network infrastructures, especially for electricity, are extremely difficult to obtain.

2. The Regulation of Network Infrastructures

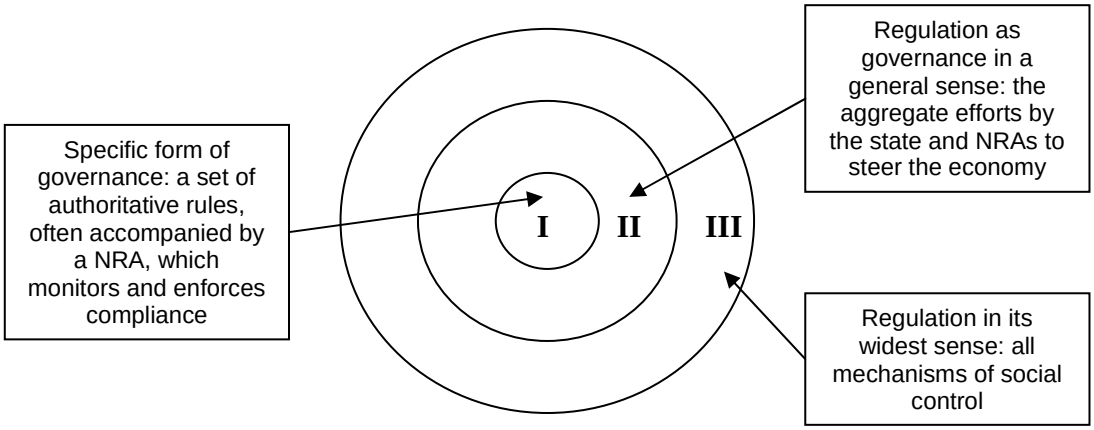
In the early 1970s, George Stigler stated that "regulation and competition are rhetorical friends and deadly enemies: over the doorway of every regulatory agency […] should be carved: Competition Not Admitted" (Stigler 1975: 183). Is this perception still a valid description of reality in the age of Europeanization and globalization? Or have the developments of the past two decades changed the conventional perception of the relation between regulation and competition? As the use of the term 'deregulation' in contemporary political science and economics demonstrates, there exists a broad misconception of the role of regulation and its impact on the organization and working of the economy. However, if the basic idea behind regulation and, in the same vein, the relationship between privatization, liberalization and reregulation policies remains unclear, it is hardly possible to discuss developments of regulatory reform with all its implications. Therefore, the meaning and the role of the term 'regulation' need to be specified more precisely.

2.1. Theoretical Aspects of Regulation

In the literature, several different definitions of the term 'regulation' are used. The existence of such a variety of definitions reflects the specific meanings of the term according to disciplinary concerns and different research traditions (Jordana and Levi-Faur 2004a: 3). However, a basic common perception of what constitutes regulation is necessary if we want to discuss aspects of regulatory reform and regime change. Based on Baldwin, Scott and Hood (1998), we can identify three basic *meanings of regulation*: targeted rules (I), all modes of state intervention in the economy (II), and all mechanisms of social control (III).[33] The three different meanings are depicted in Figure 2.1. The circles expand from the narrowest meaning of regulation (circle I) to its broadest (circle III).

[33] For a discussion of further meanings and a corresponding categorization of these meanings, see Mitnick (1980: 2-11). For a detailed discussion of the origins and development of regulation, see Baldwin, Scott and Hood (1998).

Figure 2.1 Meanings of Regulation



Source: Baldwin, Scott and Hood (1998)

In its narrowest sense, regulation refers to "the promulgation of an authoritative set of rules, accompanied by some mechanism, typically a public agency, for monitoring and promoting compliance with these rules" (Baldwin, Scott and Hood 1998: 3). The second circle refers to regulation as "all efforts of state agencies to steer the economy" (ibid.). Since this definition also includes positive state action, i.e. subsidies, redistributive policies and public ownership, it is significantly broader than the former. Finally, the broadest meaning of regulation comprises all mechanisms of social control and also extends to more general mechanisms such as the development of norms or the effects of markets. According to this notion, anything producing effects on behaviour can be considered as regulatory intervention (Baldwin, Scott and Hood 1998: 4).

The difference between these meanings of regulation can be exemplified by looking at the regulatory traditions in Europe and the United States. Until the early 1990s, in Europe the term 'regulation' referred to the whole realm of legislation, governance as well as economic and social control, and thus reflected something between meaning II and III in Figure 2.1. Regulation was understood to be similar to state intervention (Majone 1994b: 77-78). In the United States, however, the notion of regulation always possessed a narrower meaning. Selznick (1985: 363), for instance, defined as the central meaning of regulation "the sustained and focused control exercised by a public agency over activities

that are valued by a community".[34] This definition explicitly refers to 'focused control' through 'public agencies' and thus reflects a picture of regulation that is closer to that of meaning I above. In the EU, the creation of NRAs was sparked by the diffusion of regulatory reform in the 1980s. Today, the European situation resembles somewhat more the narrower American perception of regulation.

Throughout the twentieth century we have been able to observe a continuous growth of regulation. This growth culminated in the developments of the 1970s. The increase was caused by four distinct but interrelated factors. First, it was based on the changed perception of the role of the state according to Keynesian ideas. Interventionist state programmes were perceived to be better capable of dealing with socio-economic problems than the market.[35] Secondly, governments started to adopt policies which supposedly appealed to broader circles of the society. This kind of populism was fostered by the expansion of media coverage. A third factor for the increase of regulation was rapid technological change. Radical advancements posed new threats to the health and safety of citizens and created problems of consumer choice. Finally, at least for the United States, we can observe a heavy expansion of social regulation. What came to be known as the 'rights revolution' of the 1960s and 1970s led to numerous federal initiatives in environmental protection, occupational safety, public health, consumer affairs and equal opportunity (Harris and Milkis 1996: 6).[36] The scope of regulation, economic as well as social, thus increased enormously.

While the *normative* theory of regulation prescribes the way in which regulation ought to be designed in order to maximize social welfare, the *positive* theory predicts the way regulation will work in practice (Newbery 1999: 136).[37] Normative aspects of

[34] The reference to control by an agency suggests that regulation is not simply achieved by passing laws but requires detailed knowledge of and deep involvement with the regulated activity (Majone 1994b: 81).

[35] In the United States, this regulatory reorientation already set in during the period of the New Deal. The latter was partly influenced by Keynesianism (Sunstein 1990: 18-24).

[36] The 'deregulation' programme which was propagated with much vigour by the Reagan administration can thus be regarded as a counter-revolution to the expansion of social regulation in the 1970s.

[37] In the 1970s, the Chicago School pointed to the fact that in practice regulation often diverges from the normative justifications for intervention. Its scholars emphasized the impact of private interests on regulatory policies (cf. Peltzman 1976; Posner 1974). Their assumption was that regulatees have an incentive to lobby

infrastructure regulation are based on public interest considerations. But how do we figure out what exactly constitutes the public interest?[38] One solution is offered by Müller (2002: 14), who posits that "regulation is always bound to the *politically defined* public interest" (emphasis added). The question that follows is who defines the public interest. In the context of our discussion of regulatory reform the answer to this question seems obvious: as EU law increasingly interferes with traditional rights of the member states, also regulatory goals are no longer exclusively defined by national governments. We should therefore assume that all relevant political actors and private interest groups at the national and at the EU-level take part in the process of defining the public interest.

The study adopts a rather broad perspective of the term regulation, close to that of meaning II in Figure 2.1. In the light of the research questions formulated at the beginning, it does not only include activities by NRAs but also forms of direct state intervention. Thus, public ownership is regarded as one distinct mode of regulation for industries with monopolistic characteristics. Confining regulation to a specific set of authoritative rules and corresponding intervention by NRAs (meaning I) would imply that the situation in times of nationalized industries could not be termed 'regulation'. And if public ownership of network industries cannot be considered as a distinct mode of regulation, the transformation process which began in the 1980s could logically not be termed 'regulatory reform'.[39]

By focussing on the comparison of different modes of regulation, the study builds on a normative perspective of infrastructure regulation. It does *not* deal with the effectiveness

for rules that protect their industry rather than contribute to competitive efficient outcomes or normative objectives of regulation. As Stigler (1971: 3) put it: "[a]s a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit". In other words, there is a market for regulation in which state and agency officials trade beneficial regulatory provisions for resources provided by private actors. These resources can be campaign donations, electoral support, political pressure and various others. The amount of resources that these private actors are ready to invest depends on the projected advantages of the regulation offered. This trade of resources between private interests and the bureaucracy has tempted authors to speak of 'agency capture', the manipulation of regulatory agencies by specific private interests they are supposed to regulate (Bernstein 1955; Jordan 1972).

[38] Friedrich (1962: ch. 17), for instance, pointed to the fact that the public interest will vary according to time, place, and the specific values held by a society.

[39] This puzzle is reflected in the debate on the regulatory state. The question is whether we did indeed witness the emergence of a new regulatory state or whether only the form and appearance of an already existing regulatory state has changed.

of these regulatory regimes or the results of certain regulatory actions. In contrast, the idea is to analyze which regimes EU governments have established in order to replace the old system of public ownership regulation. Besides institutional constraints, the basis for regulatory reform and, thus, regime change was a change in the beliefs of central political actors about the right mode of regulation for network infrastructures in times of globalization and fiscal crisis. In course of the political decision-making process, these actors interpret and define the public interest according to their personal beliefs.

2.1.1. Network Infrastructures as Natural Monopolies

Economic regulation refers to a much narrower range of activities than social regulation and applies primarily to industries with monopolistic tendencies. As Ogus (1994: 5) states, "[t]he principal function of economic regulation is […] to provide a substitute for competition in relation to natural monopolies".[40] It is only necessary in the absence of allocative efficiency, which describes a situation in which resources are put to their most valuable uses. Market failure occurs in the absence of adequate information, competition or in case of externalities. Private law is an important component of the market system and its codification is supposed to enhance the coherence of the system.[41] However, it cannot always produce effective solutions to these failures.[42] Thus, the

[40] Kahn (1988) uses a similar notion in stating that the essence of regulation is the replacement of competition by government intervention as the major device for assuring good service.

[41] Hayek has identified the advantages of the 'common law' for the realization of economic goals implicit in the market system. Common, or customary, law is being formulated and developed primarily by judicial decisions. Codified law, on the contrary, is based on legislation. According to Hayek (1973: 66), common law enables the unplanned evolution of principles guiding human conduct in a direction that will suit the changing needs of society. In this respect, common law and the market are both spontaneous orders which enable individuals to make decisions in an environment of uncertainty.

[42] The major problem in this context is that of transaction costs. Externalities which affect a large number of people but impose only a small loss on every individual will not be corrected or internalized by private law. The costs for each right-holder to enforce his private right, including expenses, time or trouble, usually exceed the expected benefits obtained from winning a lawsuit. In addition, courts can enforce rights only on an *ex post* basis, that is, after a damage was caused.

simultaneous occurrence of market failures and deficiencies of private law justifies regulatory intervention (Ogus 1994: 27-28).[43]

A *natural monopoly* is a special type of monopoly which calls for a different treatment than ordinary monopolies. In most industries there are economies of scale. Since some part of the firm's costs is fixed, production becomes proportionally cheaper as output increases. But this is normally only true up to a certain point. After this point, the marginal costs of a firm's production begin to rise. Not so in the case of a natural monopoly. It is characterized by huge economies of scale, in other words falling long-term marginal and average cost curves of one single firm (Begg, Fischer and Dornbusch 1994: 150). Hence, the monopoly develops 'naturally' as it becomes obvious that a single company can provide the output of an industry cheaper than two or more firms.[44]

A specific market may possess additional features which make it cheaper for one firm to supply all customers. First, demand might vary according to time and season. Electricity consumption, for example, is higher during winter hours and the supplier must be able to meet demand in these peak periods. Secondly, in certain markets there is interdependence of demand: as more and more subscribers are connected to the network the number of useful connections (marginal utility) is increasing (Welfens 1999: 18). As a result, the marginal willingness of every consumer to pay increases as well. This applies especially to telecommunications in which there are economies of scale in a single network (Vickers and Yarrow 1986: 223-224). In addition, the duplication of certain infrastructure facilities, i.e. grid systems or railway tracks, would in itself constitute a waste of resources. The problem, however, is not the duplication itself but rather the inability of the suppliers to achieve economies of scale through the use of several facilities.[45]

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[43] However, this is just a *prima facie* justification for regulatory intervention since the regulatory solution to market failures may be no more successful in correcting inefficiencies than private law provisions.

[44] Such a situation usually exists if the fixed costs are high relative to demand as in the case of network infrastructures, which require an enormous investment in cables and plants before the first demand can be met.

[45] However, also in naturally monopolistic markets there can be pressure on the supplier of goods and services to improve the quality of services as well as to produce more efficiently. In the presence of 'contestable markets' regulation of natural monopolies might become unnecessary (Baumol, Panzar and Willig 1982). An essential condition for potential competition is that the incumbent firm does not possess

Despite the fact that in natural monopolies infrastructure services are more efficiently provided by a single supplier, monopolies produce market failures. These mainly refer to impairing competition. Anti-competitive behaviour in monopolistic markets is usually answered by using the instrument of competition or anti-trust law. In addition to the absence of competition in monopolistic markets, goods are usually overpriced and underproduced relative to their true social value (Welfens 1999: 45). In contrast to ordinary monopolies the standard remedy for market failures generated by natural monopolies is not competition. Instead, the monopoly is allowed to continue to exist, albeit under some form of regulation which is able to control its adverse consequences on society and consumers (Ogus 1994: 30).

2.1.2. Public Ownership Regulation

As outlined above, a principal function of economic regulation is to offer a substitute for missing competition under natural monopoly conditions. There are basically three ways of regulating market failures caused by private monopolists: first, through *public ownership* of the monopolistic company. Public ownership fulfils the same functions as classic regulatory intervention in an otherwise free market, i.e. through rules, laws or controls of private companies. As Majone (1996: 54) outlines, "in Europe nationalization has been the functional equivalent of American-style regulation, at least in the case of natural monopolies".[46] The expectation is that mechanisms of political control and accountability will lead to the pursuit of public interest goals (Swann 1988: 75-85;

asymmetric cost advantages compared with potential entrants. This is only the case if sunk costs and, hence, the costs of entering a market are relatively low. Sunk costs are represented by those specific investments or expenditures which cannot be recovered if a company goes out of business. Thus, high sunk costs will fend off new competitors and thus create the problem of uncontestable markets in infrastructures. If, in addition to high sunk costs, by-pass technologies of the same or a superior quality are not available to potential new entrants, for example mobile or satellite telephony in the telecommunications sector, a regulated monopoly is the only appropriate answer (Welfens 1999: 18).

[46] The telecommunications sector in the United States has since its existence been organized on the basis of private ownership. The dominant operator *AT&T* first began as an unregulated company but was later regulated (Schneider 2001a: 90-92).

Waterson 1989: 64-65). Regulation through public ownership is implicit rather than explicit, nevertheless it is the most direct form of intervention in the economy.[47]

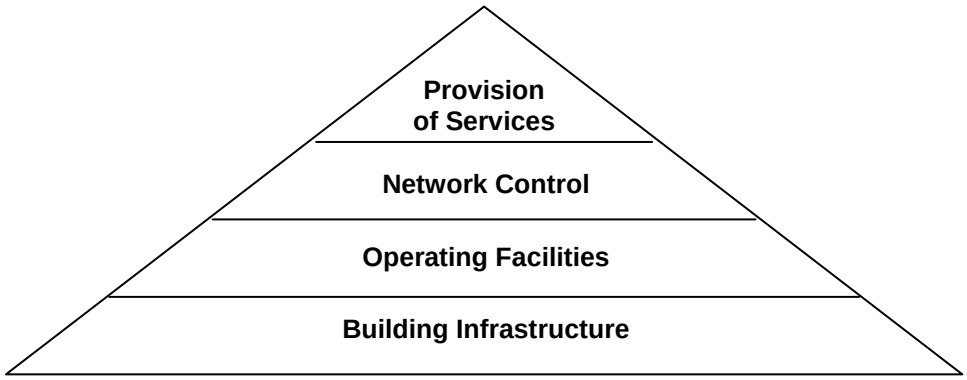
A second possibility for the regulation of natural monopolies is that the monopolist remains in, or is transferred to, *private ownership with* optional *liberalization and* parallel *regulation* of access prices and quality. Such firms can operate under private law status but are subject to control by the government or a responsible agency. A third form of regulation is *public franchise allocation*. Companies ready to compete for a monopoly right are required to accept and fulfil certain conditions of supply (Ogus 1994: 5).

The discussion of the regulation of natural monopolies points to some of the economic characteristics of network infrastructures. Basically, these infrastructures possess the same distinct layers of business. As illustrated in Figure 2.2, these layers refer to the building infrastructure, operation facilities, network control and the provision of products and services. In principle, the last three business segments can be vertically separated because they are potentially competitive, i.e. the provision of telecommunications services or the supply of electricity. Since the physical infrastructure and the maintenance of network operations are very capital intensive there is a given interest of the network owner to ensure profitability of investment. As a result, in the past all four business layers were

[47] As some authors argue, we have to distinguish between public monopolies and publicly owned enterprises in an otherwise free and competitive market. While state enterprises are subject to the rules of civil law, public monopolies replace the market system in a sector. From this, they follow that there cannot be regulation, "as regulation requires both a collectivist system (the state) and a market system (the respective sector or industry) which interact in certain ways" (Sturm and Müller 2000: 16). I believe that this argumentation is not correct for two reasons. First, a public monopoly does not, as claimed, entirely replace all characteristics of a market because there still exist private transactions on a supply and demand basis even after nationalization. Under conditions of public monopoly the fundamental logic of the market does not automatically seize to exist, although it is definitely concealed as state intervention takes its most radical and direct form. Although there is only one supplier there still remain typical market features albeit under monopoly conditions, i.e. price pressures caused by 'contestable' markets. In fact, any market is contestable up to a certain degree so that private social interaction and efficiency concerns can be stimulated (cf. Baumol, Panzar and Willig 1982). Thus, a monopoly is simply a distinct market form as is a duopolistic, oligopolistic or competitive market. Second, at the beginning of the twentieth century regulation through price and quality controls already existed in several sectors. In course of large-scale nationalization programmes after the Second World War these legal forms of intervention were eliminated and replaced by direct governmental control and political accountability. Today, we experience a trend back to some of the regulatory instruments that had already been used before the nationalization wave. Public monopolies therefore constitute a distinct form of regulation, albeit with other means, and it is thus incorrect to judge their existence as an absence of regulation.

usually vertically integrated under the roof of the same public infrastructure company (Welfens 1999: 15).

Figure 2.2 Layers of Infrastructure Business



Source: Welfens (1999)

The central argument for public ownership in network infrastructures was based on the assumption that the adverse consequences of a monopoly can most effectively be dealt with under direct state control rather than through legal controls of companies that pursue private interests (Majone 1994b: 78). Hence, national monopolies were legitimized by the need to spread the costs of expanding the physical network as much as possible, by the provision of minimum services to all citizens and by the prevention of cream-skimming in lucrative market segments. The public telecommunications network, for example, was not only a techno-economic system, but also a socio-economic system that had as one goal the redistribution of benefits between the economically strong and the weak (Hulsink 1999: 6).[48]

[48] Especially problematic as regards natural monopolies is the problem of 'cream-skimming'. In an unregulated market with free entry, suppliers which operate on a marginal cost basis would concentrate on those areas where costs of supply are lowest. It is obviously cheaper to deliver services to urban areas with a high level of demand than to weakly populated areas in the country-side. In certain infrastructures, i.e. communications or transport, this would in consequence lead to a discrimination of prices and services: consumers in the cities would have to pay less for the same service than those living in rural areas. In addition, without regulation cream-skimming might even deprive certain areas of basic services. State ownership can overcome these problems by supplying universal infrastructure services at an uniform price to the residents of all areas of a country. However, in order to deliver standard services at uniform prices, cross-

The Public Sector in the EU

The key development in the regulation of network infrastructures was the expansion of direct state intervention after the Second World War. This expansion was mainly sparked by the growing impact of Keynesian ideas on economic policy-making. At the beginning of the 1950s, most infrastructure sectors were *nationalized*, that is transferred from private to public ownership. As the equivalent to American-style regulation, public ownership was supposed to protect the public against powerful private interests. As a consequence, the regulation of privately owned companies according to specific industry rules, as it was the case in many sectors before the war, largely disappeared. Instead, governments began to replace it by direct regulatory involvement through state ownership and public accountability.

Thus, at the beginning of the 1980s public ownership was most common among the network utilities and other natural monopolies, i.e. ports and airports (Short 1984: 124-142). However, when analyzing the development of the public sector in the individual member countries we encounter several different problems (cf. Gretschmann 1991). First of all, it is difficult to identify the actual size of the public sector because definitions of public enterprises tend to vary greatly across countries. It is thus hard to assess which activity actually belongs to the state and which does not. In some instances the state only holds minority shares but *de facto* controls the company, while in others it has majority shares but does not exercise corresponding control.

A second factor that complicates analyses of public ownership is industry structure. In some countries large industrial holding companies used to control or still control the activities in the public sector. These holding companies sell off or acquire subsidiaries. In the past, this has often happened rather quietly, sometime even illegally, as in the case of the *nationalisations silencieuses* and the *privatisations silencieuses* of the Pompidou, Giscard d'Estaing and Mitterrand governments in France. In addition, direct state ownership is complemented by indirect forms. In other countries it is quite common that

subsidization becomes necessary. Regarded from a macro-economic perspective, this is allocatively inefficient. Basically, universal service provision can also be accomplished in the absence of public ownership through private industry structures linked with effective price and quality regulation.

the state holds stocks in infrastructure companies through national financial institutions (Vickers and Wright 1989: 4, 10). In Germany, for example, at the end of 2003 the *Kreditanstalt für Wiederaufbau (KfW)* held more than 16 per cent of *Deutsche Telekom*. A similar situation exists with the National Investment Bank in the Netherlands or the *Société Nationale d'Investissements* in Belgium.

Especially in Western Europe the expansion of public ownership was rooted in a variety of pressures emanating from governments, political parties, trade unions, business and financial interests or the civil society.[49] The consequence was that the public sector had to fulfil a wide range of different and often conflicting policy objectives. Since the Second World War, public infrastructure companies had in addition become important employers providing secure jobs that could be considered part of the 'informal welfare state' (Schwartz 2001). The ambiguity of goals continued to exist for many decades because "where conflicting and mutually inconsistent goals seem to exist, politicians may find it undesirable – even dangerous – to clarify the ambiguity" (Vernon 1981: 12-13).

2.2. The Reform of Regulation

Beginning in the late 1970s, in most West European countries and in the United States the public debate centred on the poor performance of national economies. Exceeding public expenditure and a high level of state intervention were identified as the main factors

[49] Theories from various ideological perspectives have tried to explain public sector growth in market economies, the so called 'Wagner's Law' from 1883. The latter postulates a positive relationship between economic growth and the expansion of state activities. Neo-classical theories, for instance, relate this growth to the increasing demand for state services by consumers. And public choice theorists regard it as a result of the utility-maximizing policies of state officials, politicians and bureaucrats. Approaches in the Marxist tradition point to the 'laws of motion' of capitalism which generate demands of capital and labour on the state to enhance their distributional situations (Pitelis and Clarke 1993: 1). Authors such as Abramovitz (1986), Baumol (1986) and Durlauf (1996) have discussed the influence of domestic economic developments on the activities of the state. In his causal model, Cameron (1978) notes that states with greater economic openness produce a larger industrial sector. This would strengthen employer organizations, which in turn leads to an expansion of state activities. Wildavsky (1975: 232-237) advocates the opposite view and substantiates his thesis using empirical findings for the Japanese and French economies. He agrees that a relationship between economic growth and state activity does indeed exist, but in a different direction. He concludes that in countries with comparatively low economic growth state activity is greater than in countries with relatively high economic growth. In other words, in countries with high economic growth rates we should be able to observe an increased withdrawal of the state (Brune and Garrett 2000: 20).

that caused the malaise. Upcoming international competition in combination with increasing fiscal retrenchment and the diffusion of a new economic paradigm began to put pressure on governments to reform their public infrastructure industries. The rising mistrust in Keynesian ideas and the welfare state challenged the sanguine assumptions about state monopolies: policy debates no longer dealt with market failures but began to focus on the failures of public monopolies that were originally set up to correct them. The latter came "under fire for their poor performance in productive efficiency, consumer friendliness, and service innovation" (Héritier and Schmidt 2000: 554-555).

In addition, policy-makers began to question that network industries should automatically be regarded as natural monopolies. They pointed to the possibilities of technological innovations or alternative energy sources to create a competitive environment. This change in perspective, which was mainly sparked by events in the United States, influenced the course of reform especially in the United Kingdom and led to the creation of new regulatory regimes in the aftermath of the privatization of some large public enterprises (Francis 1993: 82). The reform process began to gradually transform the existing infrastructure regimes sector by sector and country by country. In aviation, for example, the political-economic focus on the national market gave way to new ideas promoting the advantages of borderless competition in a world market.[50]

In sum, attempts to reform large state-owned industries in the 1970s and 1980s reflected the shift towards a more economically functional conception of state activity. At that time, governments began to judge the public sector by efficiency and performance criteria. Hence, by depriving the public sector of traditional political and social goals, private ownership of infrastructures became viable. The transformation of policy objectives that justified state activity in times prior to reform became especially visible in the privatization programmes in France and the United Kingdom (Vickers and Wright 1989: 14). Thus, the major goals of the reform programmes were rather pragmatic: the reduction of public sector borrowing requirements and a higher competitiveness of the

[50] In fact, beside the institutional landslide of the *AT&T* divestiture, US airline *deregulation* of the 1970s can be regarded as one of the earliest attempts to reduce the influence of the state in infrastructure sectors.

infrastructure companies. The former was politically easier to attain through the sale of public assets than through cutting public expenditure.

However, distinguishing between the state and the market is not just a question of public versus private ownership. It also reflects different forms of control: hierarchical political intervention versus self-control of the market. Thus, the transformation of ownership can be regarded as a complementary process to liberalization initiatives and the introduction of new regulatory mechanisms. Or, as Newbery (1999: 386) has put it, "competition is difficult to achieve within the public sector, so there is a natural complementary between liberalization and privatization". As outlined above, nationalization rather than control through independent agencies was the common form of infrastructure regulation in the EU member states after the Second World War. During times of public ownership, infrastructure companies did not only regulate prices or the quality of services, but also pursued such conflicting goals as income redistribution, technical innovation, employment or economic development. The new regulatory approach of controlling privatized infrastructure businesses, in contrast, had a mere normative justification of correcting specific forms of market failures (Majone 1994b: 79).

The EU is frequently propagated as the role model for reform in infrastructures. Although the EU has developed as a state-like entity over time, it never had the chance of replicating similar features as the national welfare states of the 1960s and 1970s. In times in which the member states are unable to maintain their historic levels of social benefits, it is unlikely that they will endow the EU with resources for this purpose. Due to tight national budgets, the EU had to find alternative ways of increasing its competencies and discretionary powers. At the time, this could only be accomplished through new forms and mechanisms of regulation. By expanding the range of EU law through, for example, Directives, guidelines, or the jurisdiction of the ECJ, the European Union became able to control an ever increasing area of economic and social policies (cf. Majone 1996: 9-46).

In this study, *regulatory reform* is defined as a process which replaces the old regulatory regime of public ownership by new regime forms, which are characterized by privatized enterprises, liberalized markets and new regulatory institutions that shall ensure

fair competition. Although these three reform dimensions are closely intertwined, they constitute individual policies with a logic of their own. Differences in the definition of the concept reflect the variety of meanings of the term 'regulation'. As we saw above, regulation can possess a narrower or a wider meaning, which depends to a large extent on the national regulatory tradition. The same applies to the reform concept. Eisner (2000: 170), for instance, defines regulatory reform closely oriented at the US-American notion of regulation as "attempts to enhance the internal management of the regulatory agencies by comparing the economic costs and benefits of policy alternatives". The reform concept in this study, in contrast, is oriented at the second meaning of regulation in Figure 2.1 and therefore somewhat broader.[51]

2.2.1. Regulation as a Form of Governance

The transformation of infrastructure regulation has widely been associated with the emergence of the 'regulatory state'. As discussed in the introduction, this notion has produced rather ambiguous reactions as the literature has produced different interpretations of the term regulation and the process of regulatory reform. Nevertheless, following a prominent position regulation has become an important element of governance of capitalist economies (Loughlin and Scott 1997; Majone 1994b; Majone 1997; McGowan and Wallace 1996). However, the authors point to the fact that with the new regulatory approach also new problems emerged. Table 2.1 examines the correspondence between failures of the old system of public monopoly and problems associated with the new regulatory framework in which independent agencies play a prominent role.

That regulation can be regarded as an alternative form of governance for complex societies and economies was exemplified by Schneider (2002: 252-262). He emphasizes the role of institutional structures that govern and coordinate transactions and production

[51] Today, as all governments are in the process of reforming their infrastructure sectors, new concepts emerge on the agenda of policy-makers. Thereby, the classic regulatory reform approach seems to be replaced by the concept of 'regulatory quality management'. The latter differs from the reform concept in that the process of reform is regarded as dynamic in nature rather than episodic. Regulation and its reform are thus both perceived as an integral role of government that has to be pursued on a permanent basis in order to ensure effective and efficient governance (OECD 2002: 16).

activities: distinct governance structures ensure the functioning of these sectors, and thus their economic viability, through the control of their internal and external processes. For his analysis of the transformation of governance structures in the information and communications sector, Schneider uses a framework that differentiates between coordination based on markets or hierarchies and on control based on private or public ownership. As an example he uses the evolution of the telecommunications sector from public monopolies (Europe) and regulated private monopolies (United States) to a regulated liberalized market with private ownership.

Table 2.1 Regulatory Failure

Type of Failure	**Public Ownership**	**New Regulatory Approach**
Competition	Public monopoly	Anti-competitive regulation
Efficiency	Overstaffing of public enterprises	Overcapitalization of industry (Averch-Johnson effect)
Coordination	Poor coordination among public enterprises	Poor coordination among NRAs
Regulatory objectives	Often ambiguous and inconsistent goals given to public managers	Vague objectives (regulate in the 'public interest')
Regulatory capture	Capture of public managers by politicians and trade unions	Capture of NRAs by regulated firms
Control and accountability	No effective control over public enterprises by Parliament, the courts, or the minister	Insufficient political accountability of NRAs

Source: adapted from Majone (1997)

An alternative to the interpretation above was given by Braithwaite (2000). For him the regulatory situation of the nineteenth century is characterized by the fact that 'steering' as well as 'rowing' were taken care of by the civil society (Table 2.2).[52] This changed after

[52] The concepts of 'steering' and 'rowing' are borrowed from Osborne and Gabler (1992). The former refers to such activities as leading, thinking, directing and guiding, while 'rowing' refers to enterprise and service provision.

World War II, when the state took over responsibility for both activities: the state became entrepreneur *and* regulator at the same time. A new division of responsibilities was introduced in the 1980s: while the state became responsible for steering, civil society took care of enterprise and service provision. However, steering in the regulatory state is not confined to pure economic goals. With the new regulatory approach of rule-making and standard-setting, the state may choose to pursue a variety of economic *and* social goals. This opens the possibility that the government makes sector-specific choices and flexibly acts either as "market enforcer, social planner, night watchman or any combination of the three" (Jordana and Levi-Faur 2004a: 11).

Table 2.2 Transformation of Governance

	The Night Watchman state (19^{th} century)	**The postwar state** (1945-1970s)	**The regulatory state** (1980s -?)
Steering	Civil society	State	State
Rowing	Civil society	State	Civil Society

Source: adapted from Braithwaite (2000: 223-227)

Nevertheless, the applicability of the term 'regulatory state' is subject to certain constraints. First and foremost, it is likely that there exist several different types or varieties of the regulatory state. This is mainly due to the impact of specific traditions and institutions which vary from country to country (Hall and Soskice 2001; Lodge 2002: 177). Second, in some sectors regulatory reform has advanced quicker than in others (cf. Bartle 2002). While reform has progressed very rapidly in telecommunications, it has been much slower in, for example, water supply. In addition, the governance of capitalist economies does not imply just one form of control. Rather, in heavily regulated sectors several different forms of control often coexist (Pagoulatos 1999). A final concern in this context is the level-of-analysis problem. For some authors, the regulatory state is a global

phenomenon (Vogel 1996), while for others it is merely an aspect of regional integration (Majone 1994b; Majone 1996) or a matter at the national level (Müller 2002).

Based on the influence of neo-liberal ideas, at the outset regulatory reform was predicted to result in significant deregulation, state retreat and the triumph of markets over state intervention. We could question, however, that this development has indeed taken place. First, regulation has always existed in the past, albeit in different forms. What we have actually witnessed is the formulation of new rules and regulations supposed to ensure competition and efficiency in liberalized markets (Ayres and Braithwaite 1992: 7-12). This development is inherent in the term 'reregulation'. Second, even if we assume the emergence of some kind of regulatory state, we are still left with the problem of cross-country diversity. The regulatory state hypothesis and several other contributions posit the similarity of national reform outcomes. Although we can assume a fundamental redefinition of state functions in all major economies of the Western hemisphere, this does not necessarily imply convergence or similarity. Instead, it seems to be more appropriate to speak of *new forms* of the regulatory state, made visible, for instance, through new regulatory regimes.

2.2.2. Three Dimensions of Regulatory Reform

At this point, the three dimensions of regulatory reform, privatization, liberalization and reregulation, will be sketched just briefly as they are discussed in much detail in the next chapter. Basically, all three constitute individual reform policies with a logic of their own. However, as constituting elements of the reform process they are also closely intertwined. For instance, the transfer of network industries from public to private ownership called for competition in the respective sectors. In the same vein, liberalization necessitated the legislation of new rules in order to safeguard this competition. In sum, the success of regulatory reform depends on the effectiveness of the new regulatory regimes that replace the old structures of public ownership and administrative regulation (Armstrong, Cowan and Vickers 1994: 8).

Quite frequently there is semantic confusion about the terminology used for the analysis of regulatory reform. Most problematic in this context seems to be the use of the term 'deregulation'. In the literature, the latter has been defined as the removal of restrictions on competition. According to this view, less regulation is directly related to more competition in a market (Welfens 1999: 15-16). This perception, however, is problematic. The creation of competition can best be captured by the term 'liberalization'. The latter stands for the abolishment of barriers to market entry and the introduction of more effective competition within these markets, while *deregulation* can best be perceived as "the reduction or elimination of government regulations" (Vogel 1996: 3). In other words, deregulation is the removal of regulation.[53] Nevertheless, many authors refer to both phenomena, the removal of barriers to competition and the elimination of regulation, unreflectively as deregulation.

Apart from all terminology discussion, deregulation is not the predominant policy we have been able to observe over the past two decades, although this is frequently stated (cf. Derthick and Quirk 1985). Deregulation would only apply to situations in which freer markets are associated with fewer rules; the reform of the aviation sector in the United States constitutes a good example. In most other instances, however, liberalization went hand in hand with *reregulation,* that is "the reformulation of old rules and the creation of new ones" (Vogel 1996: 3). As Héritier and Schmidt (2000: 555) have put it, "while there is no trend toward re-establishing public monopolies, deregulation is generally being followed by re-regulation". Nevertheless, programmes of regulatory reform also involve aspects of deregulation, mostly as a step that accompanies liberalization and precedes the

[53] The policy of deregulation played a significant role especially in the United States in the 1980s. Sparked by the New Deal-principle that federal programmes are an appropriate response to social and economic problems, American politics during the second part of the twentieth century led to a significant growth of government. This expanding role of the executive has been accompanied by a shift from a predominantly negative and restrictive public philosophy to a positive and expansive one. The result was the emergence of an expanding federal regulatory apparatus. The developments finally culminated in the so-called 'new social regulation'. This term refers to the numerous federal initiatives in public health, consumer affairs, equal opportunity or environmental policy that were implemented in the late 1960s and 1970s. President Reagan was convinced that the central government had become far too intrusive in American society. At his inauguration in 1981 he declared that "Government is not the solution to our problems, government is the problem". Under the term 'regulatory relief' his administration strove to curtail or eliminate many of these federal programs, thus *deregulated* many spheres of the society and the economy (Harris and Milkis 1996: 5-20).

establishment of new rules and institutions (Jordana and Levi-Faur 2004a: 7). In addition, reregulation refers to the achievement of regulatory objectives by other than the old command-and-control measures. This reflects the fact that regulation through administrative control has in many instances been replaced by forms of (independent) agency control, i.e. through the introduction of incentive-oriented mechanisms.

Although the isolated effects of privatization are limited, thus far the latter has received much attention in the public and academic debate, probably due to the significant role attributed to it by politicians and the media. In the past, privatization programmes have quite often been prestige projects for governments with significant media attention. It would be wrong to infer from this, however, that privatization does indeed constitute the central policy of regulatory reform. The reform initiatives of the governments of New Zealand and Norway are only two examples where the main goal was to improve the efficiency of network industries through liberalization *without* parallel or previous efforts of privatization. Their assumption was that only liberalization will lead to the desired effects of reform: higher industrial efficiency, more transparency and lower costs for consumers. Nevertheless, in order to create an atmosphere of trust and to ensure functioning competition in the long-run, the liberalization of markets has to be accompanied by efforts of reregulation. Hence, governments will be able to pursue their goals of regulatory reform only in combination with new regulatory mechanisms.

2.3. Regulatory Regimes

In order to capture the process of infrastructure reform in its entirety, the study employs the concept of regulatory regimes. The latter can bring us a good way in understanding the shift that has occurred through the transformation from a monopoly situation with public ownership to competitive markets with private enterprises and new regulatory institutions. The usefulness of the regime approach for the study of regulatory reform stems from two major advantages. First, as *dependent* variable it can be used to analyze whether the reform process has resulted in cross-country convergence or not. Each regulatory regime reflects a distinct combination of outcomes of the three reform policies.

The structure of ownership, the competition situation and the constellation of regulatory institutions are all features that make up a distinct regulatory regime.

Second, the regime concept offers a theoretical underpinning for an analysis of the factors behind potential diversity across countries and sectors. The theoretical framework that is used in the explanatory chapter of the study mainly refers to institutions and ideas as *independent* variables. These two are also inherent in the regime concept. The characteristics of a regulatory regime are, among others, heavily influenced by policy ideas or the location of rule-making power between the state and private actors. For instance, different beliefs about the adequate level of government intervention into the economy can result in different privatization intensities. An analysis of these and other variables should further our understanding of regime formation, and, thus, shed light on the factors causing similar or diverse policy outcomes in the reform processes in the CEECs.

2.3.1. The Nature of Regulatory Regimes

In political science, the 'regime' term developed prominently in the context of governance issues in international relations (cf. Keohane 1982; Krasner 1983). However, over time it became increasingly attractive also to students of regulatory policy-making. Today, we observe the existence of a variety of different regime definitions. One regime definition is given by Francis. According to him, a regulatory regime is a "reasonably enduring purposive arrangement […], embracing both formal and informal organizations, incorporating the relationship between private interests and public bodies that make governing decisions" (Francis 1993: 43). Francis argues that the nature of regulatory regimes is determined by two characteristics. First, by the location of regulatory authority. Whether regulation is exerted in an unitary or a federal system can have major consequences for the nature of a regulatory regime. In an unitary state, the formal regulatory authority rests with the national government, while in federal systems the subnational units retain regulatory powers. In addition, European states have to share regulatory competencies with EU institutions, i.e. the Commission or the European

Parliament. In course of Europeanization much of the original regulatory authority of nation states has been transferred to the EU-level.

The second regime characteristic according to Francis is the division of regulatory responsibility between the state and private actors. We could imagine a continuum along which the extent of regulatory responsibility is placed. At one end, all regulatory power is delegated to private organizations and at the other, regulatory responsibility rests entirely with the government. Usually, the situation will lie somewhat in the middle of these two extremes. The interesting question is whether the relationship between the state and the regulatees is adversarial or collaborative in nature. This depends to a large degree on the role of private-sector groups in the formulation of regulatory structures and standards.[54] In some regimes producer groups will play a more prominent role, while in others consumers and those that generally have a tougher stand articulating their interests, i.e. environmentalists, can possess considerable influence (Francis 1993: 49-64).

Similar to Francis' regime definition, several studies on regulatory reform use a rather narrow interpretation of the term and focus almost exclusively on regulatory institutions and the relationship between the various actors involved. In these studies, regime analysis is usually based on the division of regulatory power among state entities, the influence of public opinion and interest groups or the organization and policy objectives of regulatory agencies (cf. Hood, Rothstein and Baldwin 2001). In the same vein, some authors perceive the emergence of NRAs and the growing relevance of courts and parliamentary committees as the distinct characteristic of the new regulatory state (cf. Majone 1997). Especially the extensive treatment of regulatory authorities in recent publications on the topic reflects this institutional focus. The latter usually discuss the delegation of regulatory competencies and rule-making power from the state to (independent) regulatory authorities (cf. Gilardi 2002; Thatcher 2002b).

But let me point to some alternative definitions of regulatory regimes that are somewhat broader than the above discussed as they include the role of ideas and regulatory

[54] According to corporatist theory, there are sustained relationships between the state and specific private-sector groups, i.e. peak organizations. Pluralism, on the other side, posits that the relationships between organized groups in a society are not fixed and often even competitive in nature (cf. Wilson 1990).

policies. Eisner (2000: 1), for instance, defines regulatory regimes as "a historically specific configuration of policies and institutions which structures the relationship between social interests, the state, and economic actors in multiple sectors of the economy". In contrast to Francis, whose regime definition is based more on the international relations tradition, he takes on a more general regime perspective with less room for sector-specific variation.[55] Although Eisner's definition includes the individual role of 'policies', it still rests with an emphasis on the institutional linkages between regulatory authorities and private actors.

This emphasis is more or less transcended in other definitions of the regulation literature. Harris and Milkis (1996: 23), for instance, posit rather generally that a regime refers "to the system of ideas, institutions, and policies that determine how a society is governed". They go on and define it more precisely as "a constellation of (1) new ideas justifying governmental control over business activity, (2) new institutions that structure regulatory politics, and (3) a new set of policies impinging on business" (ibid.: 25). And Vogel (1996: 20) refers to regimes even more generally as "specific constellations of ideas and institutions". Both of these two perspectives share the emphasis of the role of ideas for the shaping of a regulatory regime.[56]

Ideas and Institutions

What exactly is the impact of ideas and institutions and how do these variables interact? Basically, ideas relate to regime *orientation*, while institutions embody aspects of regime *organization*. Taking into account the factors that sparked regulatory reform, it does certainly make sense to integrate the role of ideas in the regime definition. If we analyze the reform process, we notice that one of the reasons for regime transformation

[55] I am grateful to Frank Janning for this comment.

[56] A similar framework is adopted by Lehmbruch (1992: 31), who distinguishes between two dimensions of economic policy: the ideological interpretation of the state-economy relationship (ideas), and the linkages between state actors and the economy (institutions).

was a change in beliefs about the role of the state.[57] In the context of regulation, ideas are linked to the regulators' beliefs about the proper scope, goals and methods of state intervention in the economy. The assumption is that in designing policies, actors adhere to specific doctrines. Prominent examples of such doctrines are Marxism or neo-liberalism, the latter of which has become the ideological underpinning for many reform programmes of recent years. What is more, state actors possess beliefs about functional tasks and commitments to policy mechanisms (Vogel 1996: 20-21).

Ideas influence the decisions and policy choices of state actors especially in situations in which stimuli from the market or signals by certain actors are unclear (Goldstein 1993; Goldstein and Keohane 1993). Thus, actors' beliefs can tell us in which direction a policy is likely to go. Regulatory ideas are "conceptions developed by some intellectual enterprise, which express how and why the government ought to control business" (Harris and Milkis 1996: 26).[58] The question that follows is, first, how ideas inherent in a specific regulatory regime manifest themselves in concrete policy choices and, second, how these policies can be observed. Privatization and liberalization are policies that have strongly been influenced by ideas. The diffusion of neo-liberalism as a political-economic idea, for instance, has led to the promotion of competition throughout the EU and the IMF members (cf. Simmons and Elkins 2004). In addition, the beliefs and ideologies of the governing parties played an important role for the timing and scope of infrastructure privatization, at least in the 1980s (Schneider, Fink and Tenbücken 2005).

[57] According to Vogel (1996: 22), ideas cannot explain *why* reforms occurred, only *how* these reforms have evolved over time in different countries. This view can be challenged. First, the Christian-Democratic and Conservative governments that came to power at the end of the 1970s and early 1980s and their predecessors, mostly Social Democrats, showed important differences in political-economic ideas. Many programmes of deregulation (in the United States) or regulatory reform (in the United Kingdom or Germany) originate in the beliefs and convictions of party leaders at that time. Second, ideas *alone* do certainly not explain why programmes of regulatory reform were set up. Obviously, governments are more receptive to certain reform ideas under specific environmental conditions, i.e. economic crises. However, even in times of economic downturn, after the coming to power of the Socialists in 1981, the French government under Mitterrand initiated several programmes of renationalization, while their Christian-Democratic and Conservative counterparts started programmes of regulatory reform. This shows that political-economic ideas can indeed alter the course of action as they result in different reactions to similar forces for change, i.e. technological pressure and financial crisis.

[58] This conceptualization is based on Guralnik's definition of ideas as "conceptions existing in the mind as a result of mental understanding, awareness or activity" (cited in Harris and Milkis 1996: 26).

The second defining regime component focuses on the organization of regulatory actors and their relationship to the regulatees. In this context, *institutions* may be defined as "established and structured patterns of relationships among various organizations involved in regulatory policy" (Harris and Milkis 1996: 27). Institutions shape state capabilities, because they define the relationship between the state and the economy and determine how regulatory policies are formulated and implemented. Second, institutions mediate the influence and pressure exerted by interest groups on regulatory actors (Vogel 1996: 22). And finally, institutions can even shape the preferences of state officials or the industry (Thelen and Steinmo 1992).[59] New regimes might involve new legislative and administrative powers and procedures as well as new channels of participation for private actors. This, in turn, impinges on the two regime aspects according to Francis' definition: the location of regulatory rule-making power and the distribution of responsibility between the state and private actors.

Both regime aspects, organization and orientation, influence policy choices. Ideas constrain choices in that they define acceptable behaviour, for example as regards the reactions of state actors to external pressures. Thereby, they influence how actors interpret market trends, apply lessons from abroad or put in place new regulatory mechanisms. In the same vein, ideas shape actors' reactions to external stimuli and their receptiveness to new ideas. Institutions constrain policy choices by shaping state-society relations, structuring the role played by interest groups, and defining state capabilities. Thus, policies are directly shaped and influenced by distinct ideas about how to organize the economy and by the relationship between the state and the private sector. However, they are also shaped indirectly via institutional change. NRAs or interest groups, for example, transport new regulatory ideas and thus help to translate them into political reality. Often, institutional changes result in policy changes (Harris and Milkis 1996: 28). Institutions and policies thus both embody ideas, the latter of which are of a certain permanence.

[59] It can be assumed, for instance, that politicians judge the viability of reform programmes according to their potential impact on established institutions.

Categorizing Regulatory Regimes

Although the basic components of regulatory regimes can be exemplified, the level of abstraction still creates problems for systematic comparison. It is, for example, rather difficult to measure political or economic ideas, the location of rule-making power between governmental entities or relationships between regulatory actors and private interests. We therefore need to investigate how these components materialize in form of measurable variables. A suitable operationalization provides the grounds for a systematic regime categorization. Based on such a categorization, we can in a second step conduct cross-national and cross-sectoral comparisons that constitute the basis for empirical analysis and case selection.

Table 2.3 Regime Types

		Regime Features		
		Ownership Structure	*Market Liberalization*	*Regulatory Institutions*
Regime Type	*Public ownership regime*	Public	Monopoly	Government, departmental administration
	Semi-liberalized public service regime	Public	Limited	Governmental regulation to maintain public service; some regulation to ensure 'fair and effective competition'; weak or no NRAs
	Protected competition regime	Public or private	Formally liberalized (no effective competition)	Governmental reregulation for industrial policy purposes or public service maintenance
	Mixed economy competition regime	Partially public and private	Liberalized	NRAs ensuring 'fair and effective competition'
	Private competition regime	Private	Liberalized	Strong and effective NRAs (ex ante, sector-specific regulation) or NCAs (ex post, general competition law)

The elements that serve to define the process of regulatory reform can also help us to categorize a specific infrastructure regime. The variables that constitute such a regulatory regime are (1) *ownership structure*, (2) *market liberalization* and (3) *regulatory institutions*. They reflect the material outcomes of the three policy dimensions that constitute the process of regulatory reform: a distinct ownership structure is the result of privatization programmes, a certain level of market opening is the outcome of liberalization efforts and a certain degree of agency independence is caused by a strategy of reregulation. Depending on the specific configuration of these variables we are able to put forward five 'ideal' regime types (Table 2.3), which can be found across several different issues areas and sectors.

A sector-specific approach has repeatedly been propagated as the most appropriate level of analysis by studies on policy networks and policy communities.[60] It has, for example, been applied in studies on industrial policy (Wilks and Wright 1991), corporatism (Gorges 1996), organized interests (Greenwood and Ronit 1994) or economic governance (Hollingsworth, Schmitter and Streeck 1994). Similarly, a regulatory regime is not simply a copy of the larger political system but possesses distinct institutional characteristics.[61] Therefore, the study uses an approach that allows for cross-sectoral variation. The regime approach is a suitable framework also for the discussion of state retreat, since the state might be in retreat in some sectors while it is expanding in others. In specific, network infrastructures seem to have produced quite different regimes in course of regulatory reform, as the developments in the telecommunications and water sector, for instance, indicate.

2.3.2. Regime Change

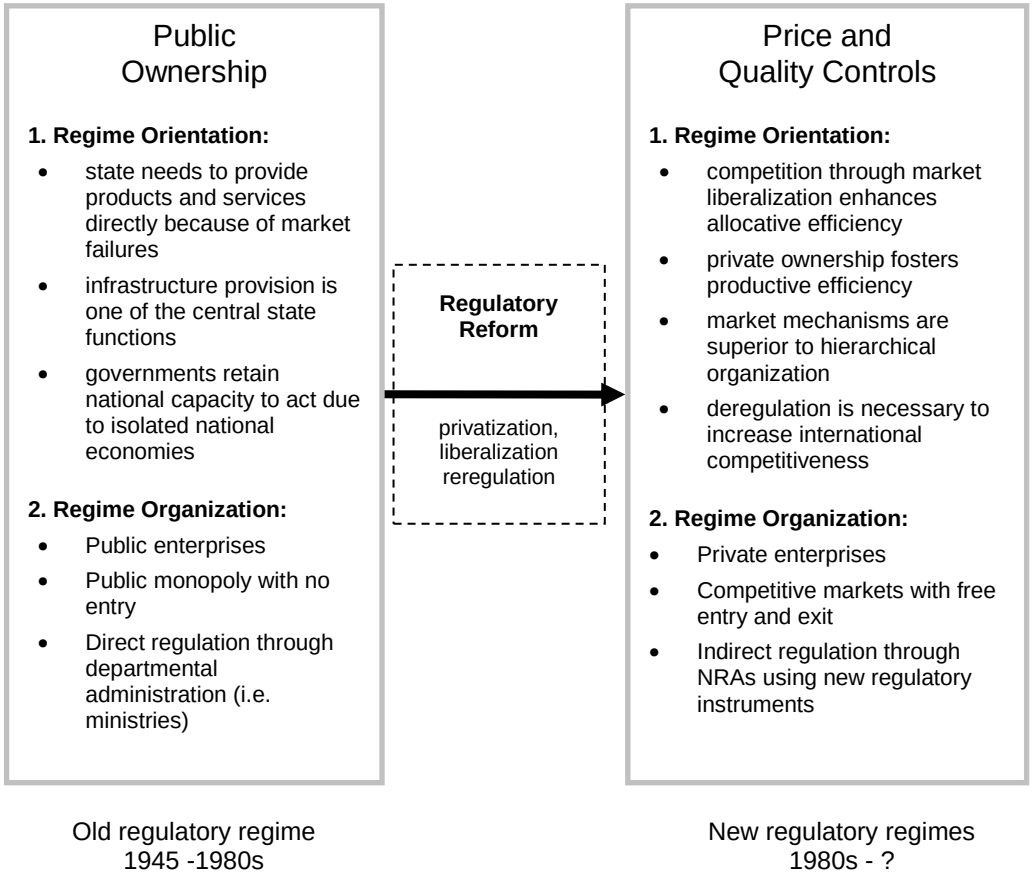
The reform process has resulted in a fundamental change in regulatory regimes: the old regimes of regulation through *public ownership* have been transformed into new regimes that focus on regulation of privatized companies in competitive markets through

[60] For a review on the literature, see Atkinson and Coleman (1992).

[61] This is one reason why the author favours Francis' regime definition over that of Eisner.

price and quality controls. The regime change in network infrastructures is depicted in Figure 2.3. The most visible aspect of this regime change is the introduction of competition in formerly closed markets. In the telecommunications sector, for instance, today the consumer can choose freely among a multitude of different service providers, i.e. for long-distance and international calls. And even the local loop has been unbundled. Before liberalization, in most European countries private and often also industrial users were dependent on the exclusive supply by the national PTO. Similar reform outcomes can be observed in the electricity and the aviation sector. Reform in the latter, for instance, has resulted in a sharp decline in air transportation fares.[62]

Figure 2.3 Regime Change in Network Infrastructures



[62] Original fears of opponents of airline deregulation in the United States claimed that competition among carriers would result in the lowering of safety standards due to anticipated cost cuts. However, these fears seem to not have materialized so far (Francis 1993: 104-106).

What now constitutes the relationship between the process of regulatory reform and the status of a regulatory regime? As outlined above, 'regulatory reform' is the *process* of transforming an existing regime into a new one. By including the three reform policies into the analysis we are able to compare the policy outcomes of the transformation process and, thus, the resulting regulatory regimes across countries and sectors. A new regulatory regime is then characterized by a distinct combination of the *outcomes* of these reform policies, i.e. the levels of state ownership, competition and NRA-independence. Generally, a variety of different combinations is possible, i.e. a low level of state ownership in combination with a high level of competition and a highly independent NRA. This reflects the potential variety in regime types (see Table 2.3 above). It is important to note, however, that here is usually a time lag between the formulation of a new policy and the final outcome. Liberalization, for example, was not instantly accomplished after the formulation of respective policy goals by the responsible politicians.

The process of regime change further reflects how ideas and institutions interact (Vogel 1996: 21). For example, without a change in ownership in many infrastructure sectors new regulatory instruments and institutions, i.e. NRAs, would almost certainly not have emerged. Francis (1993: 65) points to this fact by stating that "new regulatory initiatives have also resulted from the decline of the state as a direct owner and manager of industry and services". The same applies to liberalization policies which made new regulatory instruments necessary in order to safeguard competition. Institutions are thus special in that they can either be dependent or independent variables. For the purpose of regime comparison, institutions are regarded as dependent variables. For the analysis of the factors behind regime diversity, however, they are considered as independent variables.

Why do regimes change in the first place? Vogel provides an answer by pointing to the relative inertia of regulatory regimes. Regimes reflect a nation's history of industrialization in that they integrate both its philosophy and institutional mechanisms. These sets of ideas and institutions have in most instances evolved only gradually over time. In case a gap between state goals (ideas) and government capabilities (institutions) exists, regimes are likely to change. And a larger gap should result in a greater change. Since ideas and institutions, as shown above, are closely intertwined, goals and capabilities

tend to converge in the long run. If a government does not possess the required institutional tools to pursue its policy goals, it is likely to develop them (Vogel 1996: 23-24). However, although in most cases regimes evolve gradually sometimes they can also change abruptly.

2.3.3. The Environment of Regulatory Change

Two questions are especially interesting in the context of regime change in network infrastructures. First, what were the major factors that caused regime change and, second, why is regulatory reform so pervasive? To answer these questions, it seems to be instructive to filter out those environmental factors that have sparked infrastructure reform during the past two decades. The impact of domestic factors that mediate these exogenous pressures, i.e. the characteristics of the political system or the role of actors, will be treated in more detail in the last section of this chapter. Early debates on state withdrawal focussed on the argument that policy-makers merely reacted to the economic downturn which began in the 1970s. However, this factor alone is definitely insufficient to explain the reform developments. A thorough analysis of regime change demands the consideration of four interrelated factors that have jointly sparked the reform process.

A first factor for regime change was *ideological* in nature and came about with the shift from Keynesianism and 'dirigisme' to neo-liberalism and monetarism. This ideological shift evoked a more general questioning of the role of the state (Hall 1992). It advocated an economic policy that was rooted in market-driven competition, private initiative and individual choice rather than universalistic solutions. It is important to note, however, that the shift to the new economic paradigm happened at a different pace, extent and degree of commitment in the EU countries. The spread of deregulation was mainly sparked by developments in the United States. Especially the antitrust suit against *AT&T* in 1974 and a series of Congress hearings on airline deregulation in 1975 gave the impulse for reform in other sectors of the American economy. The combination of fundamental criticism of regulatory politics raised by academic scholars and pressure exerted by political entrepreneurs produced an environment in which new policies could emerge (Derthick and Quirk 1985).

The developments in the United States stimulated similar reforms in other countries in three different ways. First, the reform initiatives created a certain dynamic and a competitive threat to other governments. In order to compete successfully on international markets, foreign governments began to consider similar reform steps as the United States. Second, other countries imitated reform initiatives even without feeling any competitive threat from the American economy. New policy ideas have, for instance, been transmitted by experts organized in 'epistemic communities' and spread by international organizations, i.e. the WTO (Haas 1992). The transmission of ideas via expert circles may lead to policy learning and emulation (Radaelli 2000). Third, direct pressures had been exerted by the US government in order to support the export of national goods and services. These demands often provided a stimulus that broke the deadlock of domestic reform debates and spurred governments to pursue liberalization policies more actively.[63]

The second factor of regime transformation is *market change*. Technological innovation has created new markets and is largely responsible that sectors formerly organized as natural monopolies are today subject to competition. The infrastructure sectors are good examples in this context. In telecommunications, for instance, satellite communications has enabled users and providers to bypass existing networks and, hence, existing regulations.[64] Markets have further become more international. Today, states have increasing difficulties in controlling information flows across borders, making it more difficult for national authorities to regulate private sector activity. In addition, technology has played a crucial role in the liberalization of financial markets which has in turn catalyzed the internationalization process (Vogel 1996). Hence, technological developments may create the need for governments to reduce uncertainty and to prove their 'credible commitment' in order to make markets more attractive for investors (Levy and Spiller 1996).[65]

[63] Besides its function as a stimulus, US pressure was often instrumentalized by domestic actors for their own strategic purposes in the national policy-making game.

[64] Technical innovation and the creation of new markets has further blurred the distinction between the four different layers of business (see Figure 2.2). One example would be the convergence of communications, broadcasting and the internet.

[65] The revolution in the financial services sector started in the United States and spread to Japan, the United Kingdom and than to the continent. These "seismic" changes were a result of combined ambitions of

Finally, all of the above factors would not have been effective, if the macro-economic development in the mid 1970s and early 1980s had not been as dramatic as it was. The *economic downturn* in the aftermath of the two oil crises made programmes of deregulation especially attractive. At that time, the growth in demand for service provided by the state began to outpace the growth in resources available for meeting this demand.[66] As a solution to this problem, governments welcomed ideas of deregulation for several reasons: first, public expenses could be reduced by cutting administrative costs, incurred i.e. through public ownership. Second, politicians could use regulatory reform programmes as a rhetoric for abolishing inefficient resource allocation, turning them into a popular cause. Finally, new regulatory regimes promised to enhance economic performance without further government spending. In particular, privatization was appealing to policy-makers as it produces revenues at no direct cost to the citizen.

At the national level, economic stagnation of the 1970s resulted in new political constellations and changes in the public perception of state monopolies. Support among individuals, political parties and interest groups coming from the industrial and financial sphere grew for the suggestion that less rather than more state activity was the solution to the problems. In many European countries with a large public sector concerns were raised that "state ownership has fostered centres of patronage and subsidy instead of encouraging growth, meeting consumer preferences, or helping to realize the state's economic and political autonomy" (Francis 1993: 98). This programmatic turnaround in politics was facilitated by the organizational weakness of certain "distributional coalitions" (Olson 1982: 43-47) which favoured the old paradigm of fiscal expansion and state intervention.

Examples for the regulatory turnaround are the coming to power of the Thatcher government in the United Kingdom in 1979, the Reagan Administration in the United

corporate actors and national governments (Moran 1994). One consequence of the diffusion of the US financial sector model was the erosion of national control over multinational companies. In markets with mobile suppliers, countries compete to offer the most attractive regulatory environment for multinational companies. This may lead to a 'race to the bottom' with a lowering of regulatory standards (Vogel 1995).

[66] Brittan (1977) on the right and O'Connor (1973) on the left agonized that the democratic capitalist state had lost the power to tax its citizens to an extent necessary for paying the services that those citizens demanded.

States in 1981 and the CDU/CSU-FDP coalition in Germany in 1982. These developments were furthered by a changing public perception of the role of the state. The economic crises of the 1970s and early 1980s sensitized the public in a way that reforms were necessary to retain and to regain wealth. Many citizens became less inclined to receiving state aids and were more concerned about the costs these services levied on the public budget. Public monopolies were increasingly regarded as inhibiting efficiency and insulating privileged firms from competition (Francis 1993: 97). As a consequence, citizens were more readily accepting state retreat from costly functions and services.

A fourth and last factor that has sparked the trend towards regulatory reform in the EU countries were processes of *Europeanization* and *internationalization*. Since the mid 1980s, the EU, driven by the goal of establishing the single market, has tried to transfer regulatory powers from the national to the European level. EU law and new supranational authorities have begun to replace national regimes, which were mainly organized on the basis of public monopolies and protectionism. While the new regulatory regimes at the EU-level are relatively well structured, global regimes are far more diffuse. Nevertheless, international regimes are increasingly replacing national regulation, i.e. in nuclear power or food formulas.

All of the factors discussed above have produced a gap between state goals and state capabilities and have thus contributed to regime change. Although they constitute environmental forces they are not purely exogenous as each variable interacts with domestic political processes and institutions. Market change through technological innovation and the diffusion of ideas both help to explain the common rhetoric behind reform initiatives and the diffusion of deregulation from the United States to infrastructure sectors in Japan and Europe. They cannot, however, explain why the reform movement took hold in the first place. As governments need to see some political benefit in reform programmes, these two factors had to meet some real needs of the time. This explains why first efforts of deregulation and regulatory reform were launched in the United States, Japan and Europe in times of severe economic downswing.

2.4. Regime Diversity

Several publications claim that the global spread of reform policies has resulted in the convergence of national regulatory structures (Coen 2002: 142). For instance, Majone (1997: 142-143) states that "by now all European governments, including those of the former centrally planned economies, seem to be adopting roughly the same new model of governance". Critics argue that although the regulatory state hypothesis might be useful for pointing to broad directions of change, the emergence of similar regulatory regimes across the EU seems to be limited (Thatcher 2002a: 867-868). Obviously, domestic institutions play an important role in the mediation of globalization and Europeanization pressures for convergence. As Feigenbaum, Henig and Hamnett (1998: 150) argue "convergence of language masks differences in the pace, scope, and style of privatization". According to these critics, it seems more appropriate to speak of a transitional phase towards some kind of future regulatory state or, to be more precise, towards new forms of sector-specific regulatory regimes.

The preceding section outlined the mechanisms and reasons behind change in infrastructure regimes. However, although the EU countries faced similar external challenges and pressures, the new regimes seem to be all but uniform as regards their main characteristics. Instead, depending on country and sector, they appear to differ quite substantially from each other. While the status quo ante – the public ownership regime – had been nearly identical in all countries and sectors until the beginning of the reform process, there exists initial evidence that we will find a multitude of different regimes across the EU and even within the same country. France, for instance, possesses a 'mixed economy competition regime' in telecommunications, while it shows the characteristics of a 'protected competition regime' in electricity (see chapter 6).

If the quantitative analysis does indeed reveal significant regime diversity among the CEEC-10, we need, as Thatcher (2002a: 868) claims, "explanations and additional concepts". The basic question is why reform outcomes across the CEECs can diverge in the first place despite similar pressures of Europeanization. The answer is that individual national responses to common forces are possible since in many fields policy-making relies

on the national implementation of EU law by the member states (McGowan and Wallace 1996: 573).[67] In other words, external reform pressures are mediated by national political and economic opportunity structures, resulting in country- and sector-specific processes of transformation (cf. Knill 2001; Schmidt 2002c).[68] In addition, governments might emulate policies from peer countries or learn from their experiences, making them willing to adopt alternative courses of action which were not previously considered as viable.

The goal of the explanatory chapter is to discover the mechanisms behind cross-national and cross-sectoral regime diversity. The analysis refers to international factors on the one side and the impact of domestic factors on the other. It will be asked which role domestic factors play given similar pressures on the CEEC governments in course of Eastern enlargement, for instance through the imposition of the *acquis*. Different variants of these approaches will be integrated in the analysis. This includes processes of vertical policy transference and horizontal diffusion as regards international factors and actor-centred and institutionalist approaches as regards domestic categories. By considering them in combination (see Figure 1.1 above) it should be possible to identify the main reasons for differences in the outcomes of the reform process in the CEEC-10.

2.4.1. Europeanization and Policy Diffusion

Basically, two different mechanisms of international policy transference seem to have driven regulatory reform in the CEECs: Europeanization and horizontal diffusion. Although the former should in many instances also lead to the convergence of policies and institutions across countries, we have to distinguish it from mechanisms of diffusion. As Elkins and Simmons (2005: 38) state, in processes of diffusion "the actions and choices of

[67] We have to distinguish between the convergence of policies and the convergence of institutional designs. While reform orientation might indeed converge across countries, maybe driven by some common supranational force, i.e. the competition-oriented agenda of the European Commission, the implementation of policies and the concrete institutional design leaves considerable room for national variation. The result could be 'divergent convergence' (cf. Tenbücken and Schneider 2004). It should thus not surprise us to find regimes with high liberalization levels and institutional arrangements in which the ministries or the NCAs retain more regulatory power than the sector regulator.

[68] What is more, over the decades states have developed individual styles of regulation that are quite persistent and therefore hard to change (Hayward 1995; Richardson 1982).

one country affect another, but not through any collaboration, imposition, or otherwise programmed effort on the part of any of the actors". In contrast, top-down pressure by supranational entities like the EU usually occurs in an coordinated manner. Thus, the take over of the *acquis* by the applicant countries cannot be considered a diffusion process but rather as a process of Europeanization.

Europeanization

As outlined in the introduction, two different meanings of *Europeanization* are relevant for the discussion of regulatory reform in this study: first, the emergence of distinct regulatory structures at the EU-level (cf. Cowles, Caporaso and Risse 2001) and, second, the top-down transference of regulatory policies from the EU to the national level (cf. Ladrech 1994). In the explanatory part (chapter 7), the focus is put on the second meaning and thus on the impact of the *acquis* on national processes and outcomes of regulatory reform. The task will be to analyze if top-down policy transference in course of EU enlargement can indeed be ascribed any explanatory power as regards regime diversity. The central question in this context is whether the requirement to take over the *acquis* created different pressures on the CEECs to reform their infrastructure sectors or whether these pressures were indeed similar across countries and sectors.

Top-down policy transference can again occur in two different forms: either through imposition or through persuasion (cf. Brooks 2005). *Imposition* implies the complete removal of agency from all parties. Although EU law is binding for the member states, one could argue that it does not constitute imposition for two reasons: first, member states play an active role in formulating EU law in the Council, and, second, they retain some leeway when transposing EU legislation, i.e. Directives, into national law. However, we can reject both arguments for the analysis in this study: although the old member states had been involved in the formulation of the *acquis* prior to accession, the applicant countries were completely excluded from this process and had to accept a given set of policies. What is more, the leeway for the implementation of the *acquis* was very small and the monitoring process of the Commission rather strict. The motto was: 'accept it or leave it!'.

The second logic of vertical policy transference, *persuasion*, refers to the EU as carrier of norms and ideas. According to this reading, Europeanization does not only imply coercive top-down pressure but also more subtle mechanisms such as preference change of member state governments in course of EU decision-making processes (cf. Eising and Jabko 2001). This covers the institutional setting and the attribution of formal legislative powers that can change opportunity structures between proponents and opponents of a proposal. In addition, it considers formal and informal norms that provide a framework in which strategies become viable and that a priori rule out certain options. A more detailed discussion of the various forms of Europeanization is provided by chapter 4.1.

Policy Diffusion

In the past, diffusion studies have contributed important aspects to the discussion of the dynamics behind regime change (cf. Busch, Jörgens and Tews 2004; Levi-Faur 2005; Meseguer 2005). Most commonly, *policy diffusion* is perceived as a process in which "prior adoption of a trait or practice in a population alters the probability of adoption for remaining non-adopters" (Strang 1991: 325). It is important to note that diffusion is just one causal factor for the convergence or similarity of policy outcomes. Privatization outcomes might also converge in the absence of interdependent decision-making, for instance, if countries react independently and without coordination to a common exogenous shock. In addition, privatization might simply reflect the preference of the ruling parties; such preferences alone may then lead governments to react similarly.

Generally, we can distinguish two different mechanisms of policy diffusion: emulation and learning. Emulation or copying "entails adoption of policy ideas without such understanding" (May 1992: 333). In the case of *competitive emulation* states copy or imitate the reform policies of those countries with whom they stand in close and competitive economic relationship. Governments adopt the policies of their competitors due to the fear that non-adoption may lead to disadvantages.[69] The consequence is

[69] This form of emulation could also be considered as a special type of coercion. In this case, it is the market that furthers emulation through sanctions for non-adoption in the form of competitive disadvantages for the respective country.

competitive pressure to implement major infrastructure reforms when competitors have done so.[70] What is more, the adoption of a particular policy may undermine the efficacy of this policy in another country, thereby creating incentives to converge. This convergence, however, is not universal and should mainly occur in case of competition. For instance, according to Simmons and Elkins (2004) competitive emulation pushed countries that compete for international capital to liberalize their capital accounts.[71]

Social emulation, on the other hand, is based on the constructivist assumption that for relatively long time periods the behaviour of state actors is conditioned by their beliefs in the consequences of a certain policy (cf. Goldstein and Keohane 1993; Risse-Kappen 1994). Such causal beliefs, in turn, might diffuse among countries which possess common social traits. In their search for reform models, policy-makers are hypothesized to look to the experiences of those societies with whom they share specifically close social ties.[72] These ties could be linguistic, religious or historical (Meyer et al. 1997). It is thus possible that societies adopt institutions for symbolic or ceremonial reasons, independent of any efficiency criteria (Powell and DiMaggio 1991). Also, governments may emulate policies of high status countries. For instance, the debates over industrial policy in the 1980s reflect efforts to emulate Japanese success (Ikenberry 1990: 102).

However, emulation is just one mechanism of diffusion. An alternative view posits that policies diffuse based on processes of *learning*. Governments observe the outcomes of reform policies in other countries and inform themselves about the costs and benefits of

[70] The assumption here is that convergence is not universal; rather, convergence is assumed *among competitors* (Simmons and Elkins 2004: 173). However, the consequence of economic competition among states does not necessarily have to be convergence. In some instances it might be more appropriate for a government to choose a diverging policy. What is more, competition could also result in clusters of policy outcomes, i.e. different wage levels or import tariffs.

[71] As Bartolini and Drazen (1997) have demonstrated, capital and trade respond positively to liberalization policies.

[72] Such a behaviour may be a cognitive short cut for an individual or a focal point to limit long and difficult decision-making processes. Hence, perceived cultural affinity assists in sorting out the relevant models or 'reference groups' that influence policy development. In the same vein, Rosenau (1990: 213) argues that decision-makers have a strong cultural sense of whom their nation should look like.

these policies.[73] With this information, it is assumed, governments update their own beliefs about reform policies and, thus, realign their goal and preference structure.[74] They undertake similar reform steps if the benefits outweigh the costs of a measure (Manzetti 1999: 299). These benefits do not necessarily need to be concrete policy outcomes, i.e. inflows to the budget or an improved industry performance. Politicians update their information on a much broader basis, including the effects of reform policies on public opinion or election results, or any other issue they might care about.

In contrast to learning, emulation can be based on common cultural or historical ties between countries. The recourse of CEECs on policies in West European countries was in many instances justified with common historical ties between them. This is illustrated by the fact that most CEEC-10 saw their application as a 'return to Europe'. Their governments claimed to always have been part of West European traditions (Schimmelfennig 2001: 68). This collective identity was in many instances a constructed one, which served to legitimize their entitlement for membership and to catalyze the accession process itself. According to Schimmelfennig (2003: 171-172), the emphasis of common norms and values between the old members and the applicant countries was merely strategic argumentation. Nevertheless, it backs the thesis that social emulation of peer countries' policies constituted a substantial element of reform in the CEECs. However, some countries did indeed share a common history with old member states: for instance, Hungary borrowed social-economic ideas from Austria, a country with which it formed a common empire in the 19th and 20th century.

2.4.2. Actor-Centered Approaches

Actor-centered approaches focus on the preferences and resources of actors in the political decision-making process. They assume that governments continue to possess

[73] In the case of privatization, there is a status quo bias in favour of maintaining state ownership because politicians do not know what the consequence of selling state assets will be (Fernandez and Rodrick 1991). However, some governments decide to privatize for whatever reason. Other countries, in turn, can learn from the outcomes of these decisions.

[74] This learning process is also called 'Bayesian updating'.

sufficient leeway to pursue independent political and economic strategies despite narrowing constraints, i.e. globalization (Garrett 1998). Those approaches doubt that all countries are pushed onto a unitary development path due to the existence of inescapable pressures for international conformity. Political actors thus possess a certain room to manoeuvre within an institutional framework in order to pursue their individual strategies and thus evoke different national patterns of reaction to external pressures (Scharpf 1997).

An important variant of the actor-centered approach is the *party difference theory*, according to which parties and party coalitions are the most important actors in the political system (cf. Hibbs 1992). The core assumption of the party difference thesis is that the extent and direction of governmental activity depends on the type and range of parties forming the government of a country, in other words 'partisan politics'. Basically, it is assumed that left parties pursue policies of state intervention in the economy and an expansion of the public sector (Hibbs 1978: 165). Therefore, privatizations are less likely to occur under left governments than under centre-right governments. Thus far, the effect of partisan politics on the scope and direction of state activity has been confirmed by several contributions to the literature (cf. Cusack 1997; Hicks and Swank 1992).

And indeed, the hypothesis seems to hold some explanatory power for processes of regulatory reform. For example, it serves to explain the variance between the liberalization and privatization developments in France and the United Kingdom. While the British utilities were reformed relatively early and gradually by the conservative Thatcher government, the French state under Mitterrand basically opposed any reform steps in those sectors during the 1980s (Thatcher 1999). One of the major differences between the governments was the perception of the neo-liberal paradigm that began to spread globally at that time. The impact of this paradigm on the programs of the ruling parties seems to explain the major differences in the drive towards liberalization and privatization in Western industrial nations since the beginning of the 1980s (Hall 1992).

2.4.3. Institutional Theories

A second group of theories focuses on the *institutional limitations* of political actors, i.e. governments, parties or interest groups, and their impact on the state's capacity to implement radical policy changes. Institutionalist approaches emphasize that each actor possesses a certain degree of discretion to realize his or her policy preferences; this discretion in turn depends on the institutional environment of the actor.[75] For example, if a government is granted sufficient room to manoeuvre due to minor institutional limitations, the implementation of radical reform policies, i.e. full liberalization and privatization, is more easily realizable than in the presence of strong environmental constraints. Thus, in contrast to actor-centered approaches it is not the individual's or group's preference that is in the focus here, but the institutions that enable or constrain those actors' actions.[76]

One important variant of institutionalist theories is the *veto player theory* which combines concepts of partisan politics with institutional restrictions. Tsebelis (1995: 301) defines a veto player as an "individual or collective actor whose agreement […] is required for a change in policy." The theory postulates that the probability of a significant policy change depends on the number of veto players in a given political system and the similarity of their preferences. The greater the number of veto players and the more distant the preferences are from each other, the less likely it is that the status quo of a system will be changed (Tsebelis 2002). This idea may also be applied to the reform of infrastructures: the change from public ownership regimes to new regime types is comparable to a profound restructuring of the institutional status quo.

A similar combination of actor-centered and institutional analysis can be found in the application of the party difference model with *political regime types* such as majoritarian or consensus democracies. The basic assumption of juxtaposing different types of

[75] According to new institutionalism, exogenous forces have to be interpreted in different institutional settings (Thelen and Steinmo 1992). Policy ideas, for instance, are selected and adapted according to the various institutionalist environments. This view has, however, been subject to strong criticism. Several authors posit that exogenous factors are often added to theory on an *ad hoc* basis when institutionalist variables loose their explanatory power (cf. Gorges 2001). New institutionalist features, it is argued, can include policy ideas but their source is often external to institutions.

[76] On 'actor-centered institutionalism', see for instance Scharpf (1997).

democracy is that institutional structures of political systems limit the legislative and executive branches' room for action in the exercise of their majoritarian power (Lijphart 1999). Within this context the party difference theory only applies conditionally: the more a political system is penetrated by consensus democratic rules and the more numerous institutional barriers against the parliamentary majorities are, the less it will explain (Schmidt 2002a).

A third variant of institutionalist approaches sheds light on the impact of *corporatist arrangements* in a political system. The basic assumption is that strongly organized and powerful societal groups strengthen or weaken the ability of state actors to implement policies that intend to change the status quo. Some authors advocate the view that corporatism enhances the state's governance capacity through the mediation of conflicting social interests (Ingebritsen 1998; Schmitter 1981). In contrast, others argue that political systems with pronounced corporatist elements lead instead to "institutional sclerosis" and "social rigidities" (Olson 1982) by which the capacity of the state to alter policies and to reform institutions is severely restrained (Kunkel and Pontusson 1998).

The *varieties of capitalism* literature integrates these different institutionalist variables and postulates that globalization does not lead to cross-national convergence. Instead, states maintain their individual room to maneuver for the most part (Berger and Dore 1996; Swank 2002). In particular, national institutions such as the structure and rules of the political system as well as ideas and belief systems continue to influence the reaction of the nation state to the developments of globalization (Garrett and Lange 1995). As an example, scholars like to refer to deregulation policies which are implemented to a much greater extent in pluralist and liberal market economies, i.e. Australia, Canada, the United Kingdom or the United States, than in coordinated economies, i.e. Germany or the Scandinavian states (Hall and Soskice 2001).

The combined analysis of differences in actor characteristics and domestic institutions as well as the role of vertical policy transference and policy diffusion should be able to explain cross-country diversity in the reform processes and in the configurations of regulatory regimes. The task is to assess whether countries that reveal an obvious diversity

of regulatory regimes in the quantitative analysis also show significant differences along domestic categories. If we find that same actor beliefs, similar institutional configurations and a comparable impact of policy diffusion have brought about strikingly different regulatory regimes, some other rationale must have been at work. To accomplish this, the analysis does not have to be in-depth, meaning that it integrates all details and characteristics of the specific national situation. Rather, it should suffice to single out those aspects of the domestic categories that have impacted on the processes of regulatory reform in the respective country.

3. The Spectrum of Reform Policies

It has been outlined in the preceding chapter that the concepts of regulatory reform and regulatory regimes are based on the combination of three distinct policies: privatization, liberalization and reregulation. Despite the fact that the latter cover different aspects of infrastructure reform they are nevertheless closely intertwined. While programmes of privatization can manage to transfer ownership from the public to private investors, they are basically not able to create competition and, thus, more efficiency in a market. Liberalization in turn demands parallel safeguarding through the formulation of new competition rules and the creation of corresponding regulatory authorities. Therefore, any discussion of the outcomes and the background of infrastructure reform that does not fully reflect on the combination and interaction of the three policy dimensions will remain incomplete.

In the following, the reform policies are discussed in some detail for two reasons. First, as outlined in the preceding chapter regulatory regimes are defined by the outcomes of the reform process. Any regime comparison should therefore include a detailed analysis of the three policy dimensions. Second, the analysis of the factors behind regime diversity calls for a more detailed treatment of the individual reform policies. For a thorough investigation of these factors we need to understand how the three dimensions are intertwined. In sum, it should become clear that the analysis of the characteristics of each policy can further our understanding of the complex processes of regulatory reform and regime change. It will expose where the three dimensions overlap and how they interact.

3.1. Privatization

Privatization constitutes the spearhead of regulatory reform programmes in infrastructures. Following a relatively broad definition, it refers to “the shifting of a function, either in whole or in part, from the public sector to the private sector” (Butler 1991: 17). In other words, privatization covers the wide range of policies designed to limit the functions, reduce the scope, and thus weaken the influence of the public sector. As

Vickers and Wright (1989: 3) have shown, there are various dimensions of privatization ranging from the contracting out of public policy responsibilities to encouraging private finance to build and operate public services.[77] The focus in this study, however, is on *industrial* privatization.

Industrial privatization has taken mainly four different forms: first, privatization can be realized through the sale of *subsidiaries* while the core part of the nationalized companies either remains public or is privatized subsequently. By rationalizing their portfolios, state-owned companies are able to get rid of unwanted and loss-making activities. Second, state-owned companies can be *recapitalized*. Private investors are allowed to participate in publicly owned companies, thus reducing the level of state ownership. In the third form of privatization, and at the same time the most common one, the government sells a portion of the *shares* in firms which the state owns or in which it has a holding. These do not necessarily need to be majority holdings. Finally, industrial privatization can refer to the *complete sale* of public firms to private investors. These four forms generally apply to all kinds of public companies, not only to network infrastructures.

3.1.1. Public versus Private Ownership in Infrastructures

There are several objective differences between public and private companies. First of all, while public infrastructure companies are owned *and* controlled by the same principal, the state, ownership and control of private enterprises is separated. Regulation by the state or a NRA limits the actions of private enterprises but cannot specify completely all of these actions.[78] They have managerial power due to the fact that they are subject to just periodic reviews and that they normally operate within a well-specified regulatory framework. In contrast, publicly owned enterprises have to accept direct state intervention

[77] Such a broad definition served both analytical and political functions. First, when the term emerged in the late 1970s, 'privatization' offered a terminological roof for an array of largely scattered activities which aim at introducing market mechanisms into the traditional public realm. Second, the political function of a broad definition was the creation of the appearance of a broader, more fully established model for changing the governmental apparatus and its responsibilities (Feigenbaum, Henig and Hamnett 1998: 5).

[78] One plausible assumption in this context is that regulatory activities of NRAs serve the same interests that also drive the government in its monitoring of the infrastructures.

although day-to-day management decisions are made by a board of directors that has considerable autonomy (Newbery 1999: 95). According to Sappington and Stiglitz,

> "the main difference between them (public and private companies, *the author*) involves transaction costs the government faces when attempting to intervene in delegated production activities. Government intervention is generally less costly under public ownership, but a promise no to intervene is more credible under private production, and it can also have beneficial incentive effects" (1987: 568).

Another difference is the entrepreneurial objectives of private and public firms. While the former strive to maximize profits within the constraints laid down by regulation, state owned companies are usually instructed to pursue the 'public interest'. This assumption, however, could be criticized because the managers that take operational decisions are not the owners and may possess objectives other than the public interest. As the public choice school argues, state officials in publicly owned companies and departmental administrations might try to expand their own power, status and control (cf. Buchanan and Tullock 1962; Niskanen 1971).

A further difference is that private firms can reward their managers with stock options, thus providing greater incentives to maximize profits. Publicly owned companies, in contrast, cannot go bankrupt since they are financed by the national budget.[79] One consequence of these differences is that in the public sector there may be less pressure to set the prices of infrastructure provision right, especially to keep them from going to low (Newbery 1999: 96-98). Since public companies can rely on government subsidies, pricing may therefore be less efficient. In addition, the pressure to reduce costs may be significantly weaker in public than in private companies.

An important difference between public and private ownership is also reflected in the effects of corporate monopolies. As we saw, monopolies are under little pressure to be efficient or responsive to consumer demands. The consumer who is not satisfied with the products or services of a private monopoly has the alternative to boycott this firm. In contrast, a citizen who is unhappy with a public monopoly is forced by law to continue

[79] Recently, also managers of public utility companies have been given performance bonuses. This form of incentive is especially common in the United Kingdom.

paying, i.e. through taxes. What is more, the costs of products and services provided by private monopolies are transparent for the consumer. He is billed for what he receives. This is not the case for public monopolies because the citizen cannot trace the links between taxes and particular services provided by the state. As one consequence, public monopolies can more easily mask their inefficiency (Feigenbaum, Henig and Hamnett 1998: 23).

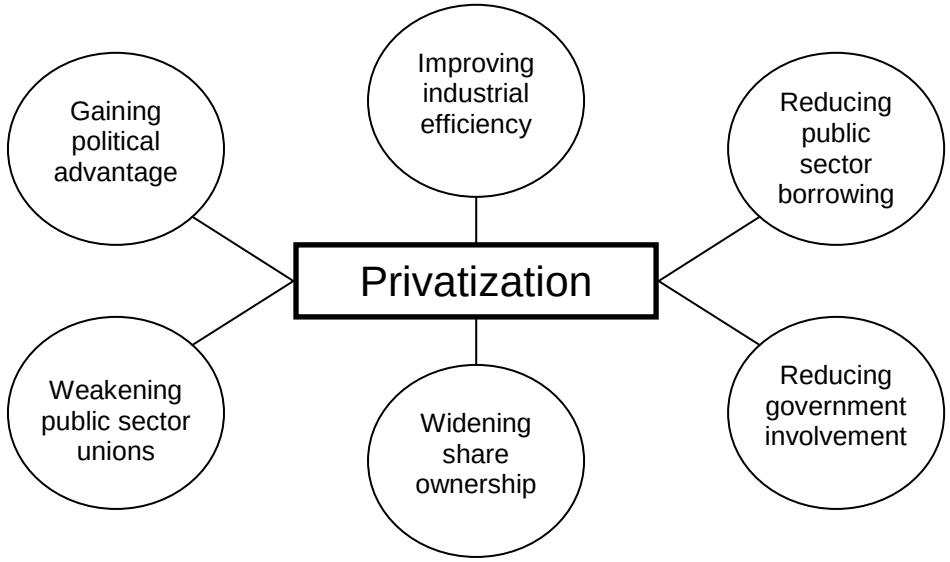
Although it is hard to assess the performance of infrastructure companies, there are data that allow us to make a broad comparison between the public and the private sector. First, there is evidence that public enterprises have a higher capital intensity than firms in the private sector. This can partially be explained by the concentration of public ownership in the capital-intensive infrastructure industries. However, another possible factor is the tendency of publicly owned companies to underprice their output (Newbery 1999: 86). Second, performance of public enterprises was often unimpressive and investment in these enterprises earned a rather low net rate of return in comparison to private corporations. Thus, many state-owned companies required net transfers rather than generating net contributions to the government (ibid: 87, 94). This contributed to the fiscal problems of capitalist economies which set in after the first oil shock in the 1970s and strengthened those voices that called for a fundamental reform of network infrastructures.

3.1.2. Objectives of Infrastructure Privatization

According to Vickers and Yarrow's (1988: 157) classification, we can identify six major objectives of privatization. These are illustrated in Figure 3.1. As Suleiman and Waterbury (1990: 5) argue, "[i]n the advanced industrial countries, the policy of privatization has been guided much more by social and political considerations and has been legitimized by economic considerations". Usually, more than one of these considerations stand behind each privatization objective. Consider, for instance, the goal of 'improving industrial efficiency'. At first glance, it relates to pure economic considerations such as strengthening the infrastructure company against foreign competitors on an internationalized market. However, this privatization objective could also be related to political considerations: by improving the efficiency of a company, fewer state subsidies

will become necessary. This has a direct effect on the budget and thus on the performance of the government as perceived by the voters.

Figure 3.1 Reasons for Privatization



Source: adapted from Vickers and Yarrow (1988)

Among the various goals for privatization the reduction of the public sector borrowing requirement and the improvement of industrial efficiency have thus far probably been the most prominent ones. In official statements governments usually give primacy to the latter objective. Nevertheless, it is much harder to achieve. *Efficiency considerations* are based on the assumption that ownership possesses an effect on a firm's economic performance.[80] The idea inherent in many privatization programmes was that under private ownership, efficiency, innovation and customer responsiveness are stimulated much better than under public ownership. Long-term efficiency and productivity gains in network

[80] The idea is the following: public ownership creates ill-defined property rights which in turn weaken mechanisms of agent-control (the officials) by the principals (the public). In addition, complete contracts cannot be signed due to asymmetric information. As a consequence, public ownership should lead to shirking and the pursuing of private ends by the officials, which in general do not coincide with those of the public. Private ownership, on the contrary, guarantees direct claims to profits and, thus, an incentive to maximize efficiency.

infrastructures, in turn, are associated with indirect productivity effects in other economic sectors which rely on a functioning infrastructure. In this sense, efficient infrastructure services contribute to higher real income and tax revenues (Welfens 1999: 22).

However, the debate about the efficiency effects of ownership is often conducted in a highly dogmatic way and is thus misleading. What is often overlooked is the fact that public enterprises, i.e. in Austria, France, South Korea or Taiwan, have shown a remarkable performance (Rowthorn and Chang 1993). As several authors argue, the central issue as regards the efficient allocation of resources is not ownership *per se* but rather the political economy of state intervention and the competitive environment in which firms operate (Hodge 2000; Parker 1998; Ramamurti 1999). This argument plays an important role for the explanation of reform developments in the CEECs later in this study. As Rowthorn and Chang (1993: 63) conclude,

> "in many ex-Communist countries the scope for rapid privatization, at least of large enterprises, is very limited. Where this is the case, there is simply no alternative, in the medium term, than to concentrate energies on improving the state sector".

This statement points to the fact that the issue of regulatory reform is not so much about privatization but rather about functioning competition and improving regulatory policies. The absence of competition is not necessarily a reason for privatization since a private monopoly is as insulated from competitive forces as a public monopoly. This does not mean that ownership structure does not matter. However, it seems to be common sense that successful privatization needs to be accompanied by liberalization and reregulation initiatives in order to make the reform process complete. Only the combination of privatization with the latter two reform policies can ensure the emergence of a sustainable competitive environment.

The objective of improving the efficiency of public infrastructure companies mainly stems from pressures of international product and service markets. Efficiency reasons were not only rhetoric placebo from governments for voters but over time increasingly reflected the reality of a globalizing world economy. Today, economies of scale in the telecommunications sector, for instance, can no longer be achieved in narrow home

markets. In addition, large infrastructure providers feel the pressure to be present on foreign markets which offer new revenue possibilities. Finally, efficiency can be achieved through sharing rapidly mounting research and development costs (Pitelis and Clarke 1993: 6-7). The consequence of these challenges are cross-border mergers and acquisitions such as the takeovers of German *Mannesmann* by British *Vodafone* in 2000, British *Orange* by French *France Télécom* that same year, or American *Voice Stream* by German *Deutsche Telekom* in 2001, to name only the most prominent examples in the sector of telecommunications of recent years.

Privatization offers governments a possibility for fast and uncomplicated cash to consolidate their national budgets. Politically, the sale of public assets is a much easier way for *reducing the public sector borrowing requirement* than increasing taxes or cutting public expenditure. A good example for such a pragmatic approach is Germany whose privatization initiatives were at the beginning largely driven by fiscal considerations. The CDU/CSU/FDP government began privatization in the 1980s but never pushed it too ambitiously. Esser (1988: 69) concludes that privatization in Germany was merely symbolic according to the motto "we are privatizers too". Surprisingly, data reveal that privatization is promoted by good rather than bad economic conditions. In Belgium and Ireland, for instance, the average budget deficit between 1980 and 1986 was 11 per cent and 12 per cent of GDP, respectively. Still, very few privatizations had been accomplished in this period (Meseguer 2003: 5-6).[81]

Reducing government involvement in the economy is clearly an ideological goal of privatization. While left-wing governments are said to accept active state intervention in the economy as a viable political strategy, their Conservative and Christian-Democratic counterparts usually take a more cautious position. According to the party difference model, privatizations are prone to occur less frequently and less intensely under left governments than under centre-right governments (Garrett 1998; Hibbs 1992). As for the privatization of public infrastructures, this hypothesis does indeed seem to hold some explanatory power. For example, the variance between the liberalization and privatization

[81] As Brune and Garrett (2000) show, low inflation rates, low levels of short-term debt and high per capita income spur privatization.

practices in Great Britain and France can be conceptualized by applying the party difference thesis.

A further objective of privatization is *widening share ownership* to foster 'popular capitalism'. It involves both shareholdings by the general public and employee share ownership. This is usually done through the sale of state shareholdings on the stock market or to the employees of the company. By transforming the ordinary citizen into a shareholder, privatizing governments aim at 'coalition building' and the creation of long-term party loyalty. In addition, privatization through share flotation at the stock exchange makes a renationalization of the industry inconceivable. That widening share ownership has in the past indeed been a reason for privatization can be seen in the cases of reforms in the United Kingdom and in France. As former Prime Minister Jacques Chirac stated: "privatization is the veritable nationalization of the economy" (as quoted in Suleiman 1990: 127).

From the original goal of widening share ownership stems another political consideration which has driven governments to pursue the goal of popular capitalism. The privatization processes fostered the belief especially among right governments that the rise of trade unions in the 1960s and 1970s was responsible for diminishing international competitiveness. The idea inherent in privatization was that the transformation of union members into shareholders leads to a *decline of union power*. Hence, by actively promoting privatization Conservative and Christian-Democratic politicians could weaken union power and deprive the left of one of its fundamental constituencies. Whereas in Japan privatization was made possible because of the declining power of the unions, in the United Kingdom and France the idea was that privatization leads to a decline of union influence (Suleiman and Waterbury 1990: 13).

3.1.3. The Outcomes of Privatization

Predictions on privatization are not as easy to make as for other reform policies in infrastructures, i.e. liberalization. While international and European forces seem to have catalyzed the liberalization of markets, the same logic cannot automatically be applied to

the privatization of state-owned companies (Coen and Thatcher 2001: 4). In addition, privatization is not directly linked to liberalization and competition in that is it a necessary or even a sufficient condition for the latter to be effectively realized. The relationship could even be perceived the other way round: the privatization of infrastructures becomes necessary as a result of liberalization. The reason is that when markets are opened for new providers public infrastructure companies could suffer from their relatively low competitiveness.

Privatization in the CEECs occurred under different premises than in West European countries. In the post-communist reform process, privatization was regarded as a necessary element of economic restructuring, although heavily influenced by extra-economic goals and forces due to, for example, rent-seeking or coalition building (Rosenbaum, Bönker and Wagener 2000: 3). In Western Europe the transfer of property rights was regarded as part of the shift from the interventionist towards the regulatory state for which competition and macro-economic efficiency are regarded as constituting elements. And in contrast to the CEECs, the old member states disposed of a functioning market economy already before the beginning of the regulatory reform processes.

As outlined above, privatization does not only constitute one distinct dimension of regulatory reform; it also serves as a conceptual framework for the discussion on state retreat. However, any debate on the redimensionalization of the state is inevitably linked to an analysis of historical privatization data. The empirical analysis of privatization thus focuses on the current level of privatization as well as on the privatization development over time. Privatization is perceived in the material sense as a transformation of property rights from the public to the private sector, expressed, for instance, by the sale of company shares. According to predictions of the regulation literature we should find a large number of former monopolists whose majority of the shares is no longer held by the state. Such a result would be consistent with the assumption that only privatized companies can be successful competitors in liberalized world markets (‘efficiency hypothesis’).

In this context, ‘majority’ means that more than 50 per cent of the company’s shares have been sold to private investors. In other words, it reflects a situation in which the state

does not possess full control over the company any more and has to form coalitions with other shareholders in order to make strategic company decisions.[82] This figure marks an important threshold because state ownership of more than 50 per cent would not reduce the effective dominance of the government over the company's management in any way. Whether the government owns 95 per cent or 52 per cent of the company's shares is largely irrelevant for matters of strategic control and supervision.[83]

However, it should not be expected that the member countries of the EU show the same levels of privatization. While similar outcomes are relatively likely as regards liberalization due to globalization and Europeanization pressures, countries are not necessarily facing comparable pressures as regards the privatization of public infrastructure companies. In contrast to competition policy, the Europeanization of regulatory policies has not resulted in Secondary legislation that demands the privatization of publicly owned companies. The expectation should therefore be that most EU governments have significantly reduced state ownership – namely below 50 per cent – based on international efficiency considerations and domestic budget constraints. The exact extent of privatization, however, can hardly be predicted since it is a complex set of factors that impacts on the decision of a government to divest.[84]

3.2. Liberalization

Basically, liberalization refers to the removal of legal restrictions on market access. In network infrastructures, the major goal of liberalization is to encourage new competitors to enter the market (Hulsink 1999: 4). A powerful example is the market opening of the

[82] This, however, only applies to instances in which the state does not retain 'golden shares' or similar advantages vis-à-vis the other shareholders.

[83] Another important threshold for company ownership is the margin that constitutes a blocking minority. By keeping 20 per cent or 25 per cent of the shares under governmental control, depending on the country, the state can refuse to accept certain decisions of the other shareholders ('blocking minority').

[84] In this context, we can assume that certain imperatives urge governments to sell majority shares in public enterprises. At the same time, however, they are relatively free to decide whether they want to reduce state ownership even further, i.e. to zero, or to leave it just sharply below 50 per cent with the opportunity to easily regain a majority.

computer sector in the 1980s which started to erode the dominant position of IBM. However, while we could think of several advantages stemming from liberalization, state-owned monopolies may in some circumstances be preferable. Even when competition is both feasible and desirable, politically the outcomes of the reform process and the new arrangements may not be acceptable (Helm and Jenkinson 1998: 2). In other words, in cases where competition is inefficient "[it] ought to be prevented and the adverse consequences of the privatized monopoly should be controlled entirely by regulation " (Ogus 1994: 290).

Important liberalization steps have been undertaken in the telecommunications and electricity sector. The need for fundamental reform sparked the liberalization of apparatus, network operation and service provision in the former and the break-up of monopolies in electricity generation, distribution and supply to the consumer in the latter (Armstrong, Cowan and Vickers 1994: 99). In electricity, for instance, the EU adopted a gradual liberalization approach. It foresees, first, vertical separation of the activities in accounting terms and, second, the introduction of competition for initially 22,5 per cent of the market. This figure was later extended to 32 per cent. Early liberalization measures exclusively applied to large users, i.e. industrial corporations. In course of the events, however, markets have consecutively been opened to private consumers as well. This market opening was largely driven by EU law, but the details of implementation were left to the member states.

The decision to liberalize markets is linked to three questions. The first refers to legal barriers of entry for new competitors. Governments have to decide whether these barriers should be removed completely (*laissez-faire*) or if it would be more appropriate to open the market incrementally (cf. Littlechild 1978). Second, any strategy to liberalize infrastructure sectors has to answer whether the operations of the former monopolist should be broken into separate units or whether its vertical integration should be left intact. While regulatory reform in the EU left the vertically integrated structures of PTOs largely intact, most electricity companies were either vertically or horizontally separated. The third question refers to the need for regulation: how should regulation be designed in relation to

competition? This is an especially important point if we consider that there is not only market failure but also regulatory failure.

3.2.1. Competition in Network Infrastructures

The major goal of liberalization is to enhance competition in formerly monopolistic markets. The appropriateness of competition as an alternative to monopolistic structures is depicted in Table 3.1. The decision to liberalize can be broken down into a normative question of whether competition is desirable and a positive question of whether it is also feasible. Generally, competition is beneficial and also viable in most sectors of the economy as long as corresponding laws are being enforced (case I). The opposite extreme is reflected under conditions of a natural monopoly (case IV). In this case, competition is inefficient and thus not desirable for the reasons identified above. In addition, it is also unlikely that effective competition would actually emerge.

A third variant reflects a situation in which competition would be desirable for efficiency reasons but potential new entrants are deterred by anti-competitive practices of the incumbent enterprise (case III). In this case, competition does not automatically emerge and there is need for proactive, competition-enforcing regulation. In the last scenario competition is feasible but not desirable due to the danger that liberalization will lead to too much competition (case II). One adverse consequence of competition in a naturally monopolistic market would be ‘cream-skimming’, a situation in which new entrants concentrate on only the most profitable businesses in the sector. The consequence could be a shortage of supply or a lessening of quality in certain regions of a country so that regulation again becomes inevitable (Armstrong, Cowan and Vickers 1994: 100).

Table 3.1 Desirability and Feasibility of Competition

		Is competition desirable?	
		Yes	No
Is competition feasible?	Yes	I Usual case	II "Cream-skimming", etc.
	No	III Entry deterrence	IV Natural monopoly
Source: Armstrong, Cowan and Vickers (1994: 100)			

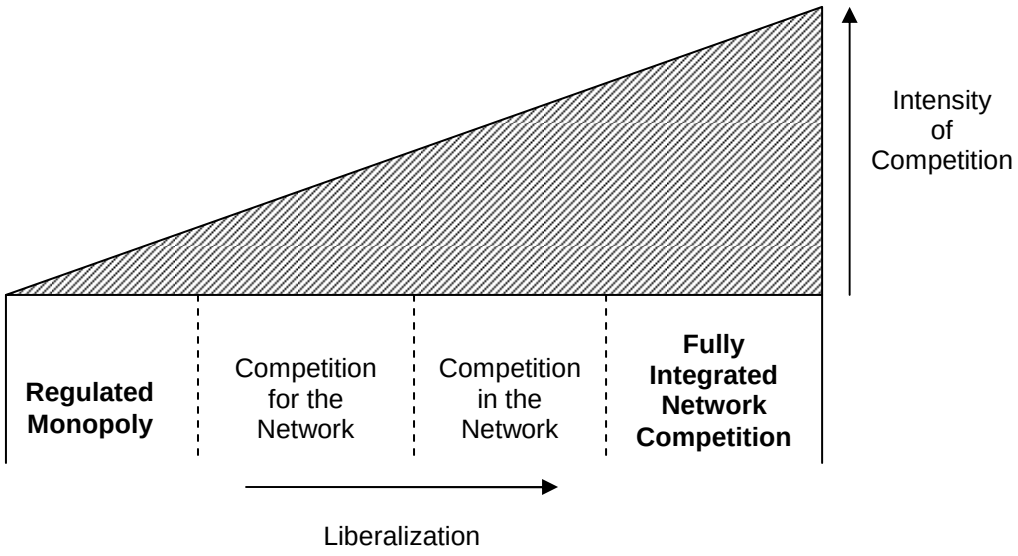
Chapter 2 already discussed differences between policies of liberalization and deregulation. Although there are indeed instances in which more competition was linked to less regulation, i.e. airline deregulation in the 1970s in the United States, in most cases liberalization was linked to reregulation. Hence, freer markets and more competition have often been based on the reformulation of established and the creation of new regulatory provisions.[85] At the outset, regulatory reform was commonly associated with reducing the need for regulation. Potentially competitive activities were supposed to be separated from networks and exposed to competition. The idea was that product and service market liberalization would lead to a more effective regulation of the remaining natural monopolies (Helm and Jenkinson 1998: xi).

Competition in infrastructures can take various forms. Figure 3.2 shows the range from a regulated (natural) monopoly to full competition of integrated networks. In between lies a situation characterized by competition for the entire network, i.e. through licences or franchises, and competition in the network, i.e. through the separation of competitive services from the naturally monopolistic business. Competition might be symmetric,

[85] The same point was made by Polanyi about the evolution of free markets. He stated that "the introduction of free markets, far from doing away with the need for control, regulation, and intervention, enormously increased their range" (Polanyi 1944: 140).

meaning that all firms invest in the maintenance and innovation of the network infrastructure. Or it may be asymmetric in the sense that competition is limited to upstream or downstream activities among producers and service providers, respectively. The latter would then rely exclusively on the infrastructure provided by the network operator (Coen and Doyle 2000: 19).

Figure 3.2 Competition in Network Infrastructures



Source: adapted from Welfens (1999)

Introducing competition in network infrastructures should lead to lower costs for services while network operation remains a natural monopoly business. Examples for the network are the cable system in the telecommunications, the power grid in the electricity or the pipeline system in the gas sector. The central question that follows from liberalization is how the relationship between the network operator and the service providers can most efficiently be organized (Newbery 1999: 172). This is easiest within a vertically integrated monopolist. The vertical integration allows network operation and service provision to be coordinated, and the monopoly situation makes demand predictable and provides a market to finance costly investments into the network. In addition, competition can be furthered

through privatization if at the same time the activities of the former monopolist are vertically separated. In this case contestable markets are created. How closely liberalization policies are linked to the privatization of public enterprises can be seen from developments in the electricity industry.[86]

3.2.2. Sector Restructuring

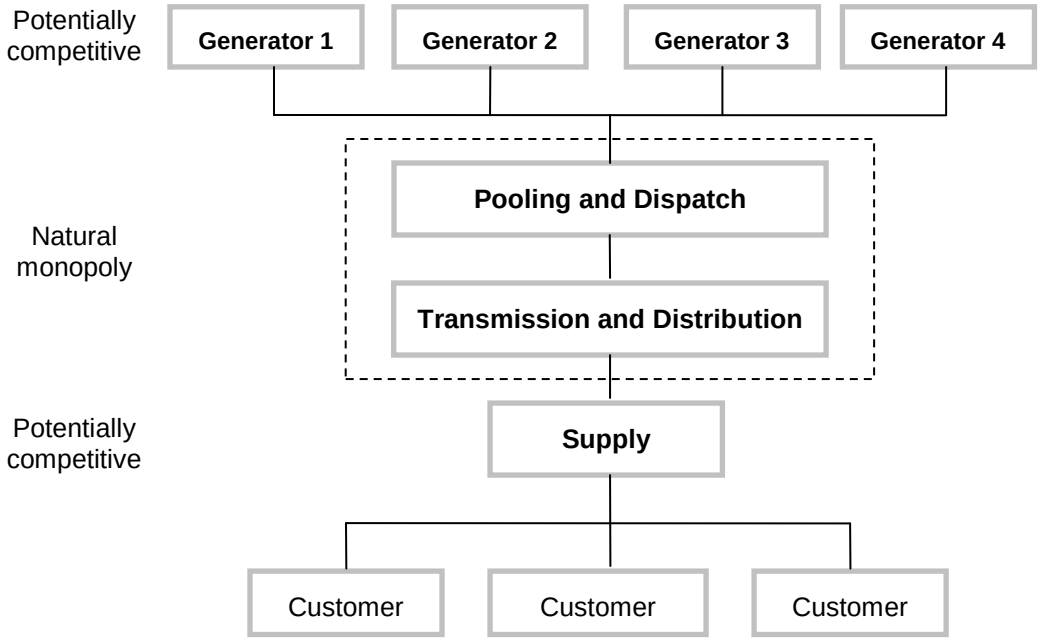
In course of regulatory reform new organizational structures have been created. Basically, the restructuring process can take place before or after liberalization (Eberlein 2001: 39). The post-reform structure of the sector has significant effects on both the costs and benefits of liberalization. Where infrastructures are already privately owned, liberalization might accelerate restructuring. Then, the fundamental question is whether privatization is a necessary condition for liberalization to unfold its full benefits, or whether the incumbent can as well remain state-owned (Newbery 1999: 176). Based on these alternatives, we can further ask the question if competition is compatible with public ownership at all. Obviously, governments can privatize without liberalizing as in the case of British Telecom. But they can also liberalize without privatizing as in the case of AT&T (Starr 1990: 29).

Nonetheless, public ownership emerged as the dominant form of regulation in network infrastructures after the Second World War Directly connected to public ownership was the organizational structure of a vertically integrated monopoly. Highly capital intensive infrastructure activities which justify monopolistic organization, i.e. network operation, as well as potentially competitive activities, i.e. network control or service provision, were an integral part of the business portfolio of public infrastructure companies. One example for the diversity of these activities is the electricity sector whose supply chain consists of mainly five elements: generation (1), pooling and dispatch (2),

[86] While electricity transmission and distribution are largely naturally monopolistic activities, competition can be introduced through the privatization of existing power generators, the removal of regional supply franchises and the admission of domestic and foreign competitors to the market.

high-voltage transmission (3), low-voltage distribution (4) and supply (5).[87] The naturally monopolistic activities of pooling and electricity transmission are joined by potentially competitive upstream and downstream activities, such as generation or supply, respectively (Figure 3.3).

Figure 3.3 Industry Structure Electricity Sector



Source: adapted from Klein (1998)

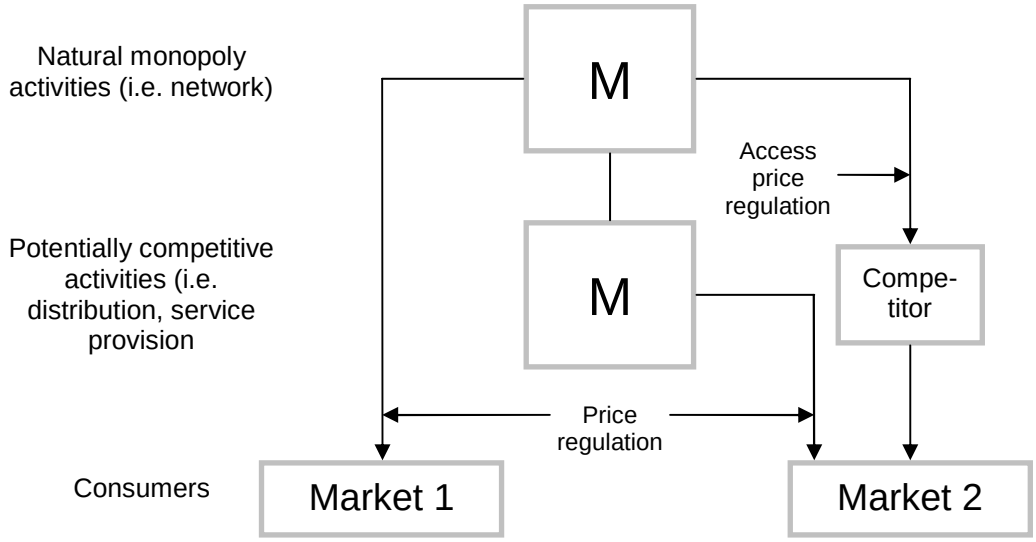
In the process of regulatory reform this traditional structure was broken up. For example, supply refers to trading electricity, and there is no logical reason why the supplier should also be in charge of generation or distribution. If open access to the network is ensured the supplier can purchase electricity from any of the producers, rent capacities from the transmission and distribution companies, and finally sell the electricity to the consumer at the negotiated price. As a consequence of the diverse nature of these activities

[87] 'Pooling' and 'dispatch' are considered natural monopolies. However, some experts believe that they are potentially competitive activities because of the possibility of decentralized contract trading. I am grateful to Roland Sturm who pointed to this fact.

most governments came to the conclusion that an integrated monopoly was hard to justify and that competition should be promoted instead.

As governments started to introduce competition in network infrastructures, it became obvious that potential new entrants were at a competitive disadvantage to the vertically integrated incumbent. The latter possesses the possibility to cross-subsidize his competitive businesses with profits from the naturally monopolistic activities. Another danger of maintaining vertical integration is the possibility that the incumbent favours his associated businesses which operate in competitive markets through prices or the service quality (Helm and Jenkinson 1998: 6). Hence, encouraging market entry of new providers is an important motive for the separation of monopolistic and potentially competitive activities.

Figure 3.4 Vertical Integration with Liberalization



Source: Armstrong, Cowan and Vickers (1994)

In the case depicted in Figure 3.4, all operations of the ex-monopolist remain *vertically integrated*, but some of them are opened to competition. Generally, the liberalization of market entry while maintaining a vertically integrated structure, whether publicly or privately owned, is the least disruptive way of regulatory reform. However, as

there remains an asymmetry between the former monopolist and potential competitors also after liberalization, the prices set by the former need to be regulated. The efficiency and the effectiveness of competition in these newly liberalized businesses largely depend on the terms and conditions for the access of new entrants to the network.

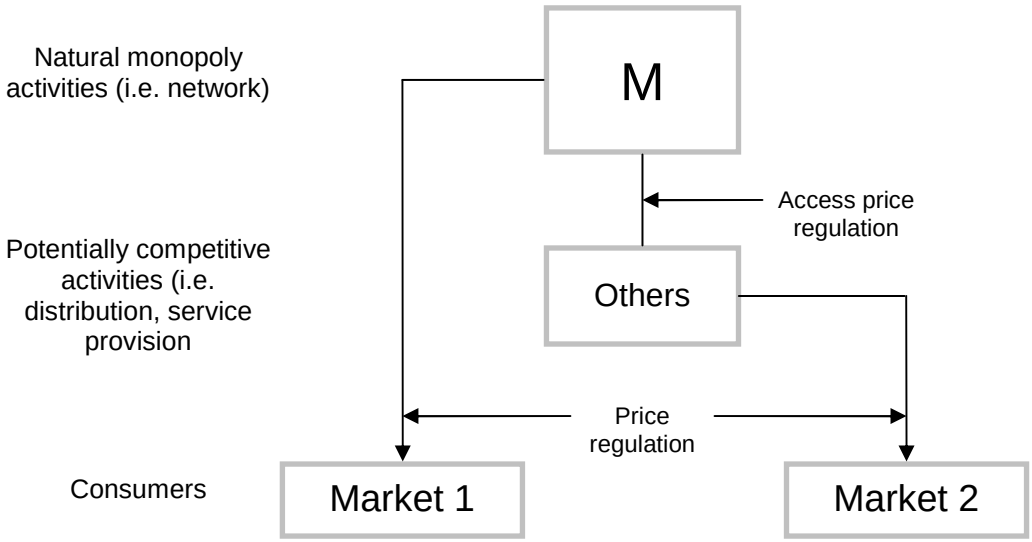
A typical example for *liberalization cum integration* is the reform process in the telecommunications sector. The organizational structure of most PTOs was left intact while several product and service markets were liberalized in course of regulatory reform. In the electricity sector, in contrast, the common pattern is *liberalization cum separation*. In most cases, the organizational structure of the former monopolist was reorganized after the various business layers had been vertically separated. While the potentially competitive activities generation and supply, i.e. contracting, metering, and billing, were liberalized, the natural monopoly of the wire business, i.e. high-voltage transmission and low-voltage distribution, remained in the hands of the former monopolist. In most EU countries, the new regulatory model foresaw third-party access to the network for new private electricity generators and suppliers.

One problem with *liberalization cum integration* is that the incumbent is not exclusively concerned with satisfying customers at least cost. Instead, it desires to retain monopoly profits if privately owned or to enjoy monopoly profits in the form of excessive costs if state-owned. In addition, since vertically integrated incumbents do not only operate the network but also own upstream or downstream businesses they can cross-subsidize the latter and conceal the true costs of their contestable services. Proactive regulation by the state or a regulatory authority is therefore necessary in order to prevent anti-competitive behaviour of the incumbent.[88]

[88] If in a liberalized market the vertically integrated incumbent indeed continues to be owned by the state, another problem arises. Besides the potential discrimination of new entrants in the face of vertical integration, public and private companies face different capital costs. While the latter are exposed to the threat of going bankrupt, the incentives of public firms to avoid bankruptcy are relatively low. In addition, public companies are under less pressure to minimize investment costs. This might lead to overinvestment and an expansion of the incumbent on the expense of other firms in the sector. It therefore seems difficult to maintain state ownership in a competitive market for infrastructure services. The only exception is the core network in which competition is simply not feasible and which has to be regulated, most commonly through direct state ownership (Newbery 1999: 179-180).

Figure 3.5 shows the second case of *vertical separation*. The competitors are on an equal level since none of them is linked to the ex-monopolist, i.e. by ownership. Vertical separation demands access price regulation. This means that terms have to be set according to which new competitors can obtain access to the network which is controlled by the incumbent company. Access could, for instance, be priced at marginal cost or through a contribution to the fixed costs of network provision. Perhaps, it is advantageous to set the price below marginal cost due to imperfect competition or choose other forms because the former monopolist's marginal cost is not relevant for the competitive activity (Armstrong, Cowan and Vickers 1994: 5).

Figure 3.5 Vertical Separation with Liberalization



Source: Armstrong, Cowan and Vickers (1994)

Structural separation is a more encompassing reform step than allowing third-party access within a vertically integrated system. It separates ownership of the network from that of services. The goal is to ensure that all service providers have fair access conditions to the network. Vertical separation thus avoids certain regulatory problems that arise in the context of vertical integration. However, it creates other difficulties such as designing access pricing to retain coordination benefits (Newbery 1999: 188). Thus, when the natural

monopoly is separated from the competitive upstream and downstream activities, contracts are necessary to define the legal relationship between companies at different vertical positions in the chain. This raises transaction costs.[89]

3.2.3. The Level of Competition in the Market

Active liberalization policies are obviously the key towards more efficiency and competition in network infrastructures. The next chapter will outline in much detail how the European Commission seeks to develop markets, break up monopolies and create fair and efficient competition among incumbents and new entrants. Although the governments of the member states possess a certain leeway as regards the implementation of Community law, EU-wide liberalization initiatives should have been dominant enough over the past decade to result in similarly high levels of competition across the member states. However, we should at the same time expect to observe significant differences across sectors.

As argued in the literature, the Europeanization of regulatory policy has led to harmonization and thus relatively similar levels of liberalization in infrastructure sectors across the EU member countries. The Commission, for instance, has thus far tried to promote competition and market-opening through Secondary legislation, i.e. Regulations or Directives. While this seems especially true for the telecommunications and electricity sector (cf. Eberlein 2001; Thatcher 1999), the transfer of regulatory competencies in other sectors, i.e. aviation, has been much weaker (cf. Button 1996). The expectation therefore is that in the former two sectors liberalization at the national level has significantly advanced over the last decade while developments in the aviation sector have been significantly slower.

[89] In some sectors, it is difficult to draw the line between naturally monopolistic and potentially competitive activities. In the telecommunications sector separation is problematic as there does not seem to exist a clearly defined boundary for the natural monopoly. It must rather be drawn pragmatically so that the efficiency gains of competition outweigh the benefits of vertical integration

3.3. Reregulation

The goals of regulatory reform, such as improved efficiency and productivity, greater consumer choice, lower prices, and better quality of service, can only be attained if competition is effective and sustainable. However, the reform process has brought up several new issues, i.e. preventing the abuse of a dominant position, creating a licensing regime that ensures fair competition, protecting universal service provision or promoting appropriate quality information (Coen and Thatcher 2001: 1). The introduction of competition in sectors that used to be islands sheltered from market forces raised the need to alter regulatory structures at the national and at the supranational level.

Although at first glance the term 'reregulation' seems to be counterintuitive to the developments of the past two decades, the term implies that regulatory reform is characterized not so much by deregulation but by new forms of regulation.[90] This logic is based on the assumption that the privatization and divestiture of former monopolists in combination with the liberalization of markets does not suffice to create a satisfactory level of competition. In order to ensure an effective liberalization of the market, the dominance of the ex-monopolist has to be contained through legal constraints, i.e. price and quality controls. Competition law alone is definitely insufficient to control the abuse of significant market power (SMP). In order to obtain full competition, public authorities need to actively promote liberalization. In addition, the privatization of infrastructures leads to an increase in government regulation (Starr 1990: 29).

3.3.1. Sector-Specific Regulation vs. General Competition Law

A fundamental problem of reregulation concerns the appropriate level of external intervention. If we assume that governments set up programmes of privatization in order to effectively consolidate their national budgets, it is not completely unlikely that they try to maximize the revenues from privatization sales. The latter goal is largely incompatible

[90] This development is largely due to the fact that not only the notion of regulation but also the relation between regulation and competition has changed over the past decades. While until the 1970s regulation was perceived as inhibiting competition, today new regulatory approaches are used to promote competition (OECD 2002: 23).

with strong reregulation because stricter regulatory rules make investment of third parties in the privatized company less attractive. In addition, new technology provides new opportunities for competition as in the cases of mobile telecommunications or decentralized solar power generation. As a consequence, regulation has evolved rather flexibly and incrementally over time (Welfens 1999: 25).

Basically, there are two alternative strategies for the regulation of markets under conditions of liberalization and privatization: sector-specific regulation and the application of general competition law. The term 'reregulation' leaves open which of the two modes are actually being employed for intervention. Thus, we need to introduce terms that are more precise, i.e. 'regulation-of-competition' and 'regulation-for-competition' (Jordana and Levi-Faur 2004a: 6).[91] Based on their underlying principles, these two concepts differ in the scope of external intervention and in the possibilities to monitor and enforce competition. Nevertheless, both posit a positive relation between regulation and competition, stating that more and effective competition can be achieved through new regulatory provisions. This corresponds to the position that regulatory reform leads to reregulation instead of deregulation (cf. Vogel 1996).

Without intervention from a third party, the incumbent continues to be in a dominant position even after liberalization. This might lead to undesirable social and political outcomes (Héritier 2001b: 3). In addition, some infrastructures possess characteristics that allow exploitation by the network owner unless there are institutional provisions to curb abuse, i.e. predatory pricing or 'cream-skimming'. Unless regulated, potential competitors will face insurmountable barriers to market entry because the ex-monopolist can freely determine the terms of access to his network. This provides the case for regulation-*for*-competition which employs proactive *ex ante* regulation. The latter means that prices, quality of service standards and conditions of access to the network are regulated before new providers enter the market. The criterion for intervention on an *ex ante* basis is usually

[91] It is important to note at this point that competition policy is a distinct instrument or mechanism of regulation and thus only *one* alternative for regulating market transactions. It is therefore incorrect to compare 'regulation' with 'competition policy' because they are not located at the same analytical level.

the presence of SMP. In order to prevent unjustified intervention, the SMP-criterion has to be defined rather precisely.

The *ex ante* application of sector-specific rules by NRAs is closely connected to the question whether to employ symmetric or asymmetric regulation. Symmetric regulation means similar privileges and obligations for incumbents and new entrants alike. In most infrastructure sectors, however, asymmetric regulation was adopted as the dominant regulatory approach after liberalization (Knieps 1999: 133). The reason again is that newly liberalized markets are characterized by a continuing dominance of the former monopolist. Asymmetric regulation, which puts stricter rules and provisions on the incumbent operator than on new entrants, is thus considered as a necessary means of enforcing competition. The long-term goal, however, is a situation of symmetric regulatory conditions in which neither the network monopolist nor new service providers face advantages or disadvantages.

In the case of regulation-*of*-competition, intervention occurs reactively, thus on an *ex post* basis. The most well-know form of reactive regulation is general competition policy, codified in anti-trust law. Anti-trust law is defined by Pindyck and Rubinfeld (2001: 360) as " a set of rules and regulations designed to promote a competitive economy by prohibiting actions that restrain, or are likely to restrain, competition, and by restricting the forms of market structure that are allowable". Competition law works in markets which are already competitive because it usually lacks the capabilities and powers to actively create competition in former monopolistic markets. In contrast to sector-specific regulation its regulatory scope reaches beyond specific industries, so we could also categorize it as horizontal regulation.[92]

However, competition policy is not restricted to antitrust measures but covers all market processes, including, for instance, pricing policies. According to most national competition laws, NCAs are allowed to intervene against dominant companies only if these

[92] However, most national competition policies foresee 'escape clauses' which respect sector characteristics, thus allowing for industrial policy considerations (Müller 2002: 17).

companies actually abuse their market position.[93] In other words, the authority can become active only in case competition is de facto inhibited through anti-competitive behaviour. It is therefore that the *ex post* application of competition law is considered to be less interventionist in nature than the application of sector-sepcific *ex ante* regulation through NRAs. In addition, whereas NRAs possess clearly defined competencies within the boundaries of a certain sector, NCAs monitor regulatory compliance across all sectors of the economy.[94] Due to their broader focus, NCAs are usually unable to exert comparable influence on companies in the individual infrastructure sectors as their sectoral counterparts (Jordana and Levi-Faur 2004a: 6).

The basic question that NRAs and NCAs have to answer is to which extent there should be external interference in a sector of the economy. Is it better not to intervene and let it develop the most efficient arrangement without any external regulatory intervention? There are two contrasting views. The first one posits that regulation is not just temporarily necessary but rather a permanent feature of a functioning market system. As markets do not arise spontaneously but are the conscious act of governmental intervention, their establishment needs to be supported by a sophisticated system of rules and institutions (Prosser 1999). A different perspective is more critical of regulatory intervention of the government. According to this perspective, any form of regulatory intervention will become excessive and in the end stifle the possibility of market solutions (Robinson 1999).

It seems to be broad consensus that preventing the abuse of an incumbent's dominant position after liberalization through sector-specific regulation is only a medium-term solution. In the long run, market structures should evolve in a way that competitive forces automatically discipline companies and resources are allocated efficiently. Thus, the 'ultimate' regulatory goal would be to influence the conduct of market participants in a

[93] Examples for this provision are § 22, Section 4 of the German *'Gesetz gegen Wettbewerbsbeschränkungen (GWB)'* or Article L. 420-2 of the French *'Code de Commerce'*. Many competition laws, however, underwent significant transformation over the last years, i.e. the US or EU competition law.

[94] Francois Souty, a member of the OECD Committee of Competition Law and Policy, identifies four characteristics regarding the relationship between NRAs and NCAs. First, there are specific regulatory regimes in many sectors of the OECD countries. Second, there is no unique model of relationship between NRAs and NCAs, neither across countries nor always within a country. Third, in countries which have started to reform regulation earlier than others, a rather pragmatic approach has been used. And finally, there is variation in the regulatory vocabulary used (Souty 2001: 12).

way so that sector-specific regulation can one day be replaced by general competition law. This logic has recently driven multinational telecommunications companies to call for the end of sector-specific ex ante regulation. Their main argument is that a considerable level of competition has already been attained and that asymmetric regulation is no longer needed. However, as Burton (1997: 184) points out at least for the United Kingdom, there is evidence that sector regulation "will ossify into a perpetual system of ordered competition, in which regulation remains a permanent, […], feature of the industry landscape for the utilities."

The Concept of Significant Market Power

The shift from sector-specific regulation to the application of general competition law is indeed taking place. The EU's new common regulatory framework (CRF) for telecommunications constitutes a perfect example for this transformation. One of the major changes inherent in the new framework relates to the concept of SMP. While the old CRF uses a sector-specific approach, attributing SMP in case a company possessed 25 per cent market share, the new CRF ceases to employ any market-specific quantitative measure. It moves away from sector-specific regulation to a competition law approach and introduces a new SMP definition based on the concept of 'dominance' as in general EU competition law.

According to Article 14 II of the Framework Directive (FD),

"an undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers" (European Parliament 2002b).

This is exactly the same definition that is used by the ECJ in its clarification of the term 'dominant position' employed in Article 82 ECT.[95] Thus, NRAs will have to make sure that their decisions are in line with the practice of the Commission and the

[95] Case 27/76 *United Brands vs. Commission* (European Court of Justice 1978).

jurisprudence of the ECJ. In contrast to the provisions of the old regulatory framework, the new concept of SMP allows for a flexible interpretation by the NRAs, especially in combination with Article 16 FD.

However, there are several problems inherent in this new concept of SMP. One problem is the growing complexity of market analyses. The Commission Guidelines to the CRF suggest that market share can be measured using volume or value sales (European Commission 2002a). There is, however, a range of other measures for determining a company's power in a market. If these different methodologies have to be applied in combination with such concepts as 'leverage of market power' and 'joint dominance', the complexity of market analysis will increase significantly.

Another problem is the determination of a 'relevant market'. NRAs have to carry out market analysis on the basis of clearly defined standards set by the new CRF and a corresponding Recommendation issued by the Commission. In practice, however, it may be difficult for NRAs to determine whether the imposition of *ex ante* regulation is appropriate or not, and it will be interesting to observe whether different NRAs will be able to apply the provisions of the Recommendation in a consistent way across the EU. In addition, the *ex ante* assessment of SMP calls for certain methodological adjustments to be made. The reason is that the assumptions and expectations for assessing SMP *ex ante* are different from those applied *ex post* by competition authorities on the basis of Article 82 ECT.

Last but not least, there is the question of applying the SMP concept to emerging markets, i.e. broadband television or internet. In this context, there is a special risk as regards new services. The Guidelines recognize this in paragraph 32 by noting that emerging markets

> "should not be subject to inappropriate *ex-ante* regulation. This is because premature imposition of *ex-ante* regulation may unduly influence the competitive conditions taking shape within a new and emerging market. At the same time, foreclosure of such emerging markets by the leading undertaking should be prevented" (European Commission 2002a: 10).

The background to this provision is the following: the provider of a new service in an emerging market might initially possess a large market share because he has the advantages of the first mover. If this were to be interpreted as SMP, there is a risk that the regulatory provisions impede technological progress and entry into existing markets instead of fostering it.

3.3.2. National Regulatory Authorities (NRAs)

We could think of various institutional answers to the question of who supervises compliance with competition rules in liberalized markets and executes sanctions in case of non-compliance. The EU member countries largely opted for the US model and mandated NRAs with tasks reflecting regulation-for-competition. A common characteristic of NRAs, distinguishing them from NCAs, is their sector-specific responsibility.[96] The main argument for not establishing cross-sectoral NRAs or delegating powers to NCAs is that each infrastructure sector possesses very special characteristics, i.e. market structure or technology, and thus individual regulatory challenges. Hence, NRA officials should be experts familiar with sector peculiarities and prepared for coping with corresponding problems, i.e. in case of a dispute between the incumbent and a market entrant.

NRAs possess own powers and responsibilities given under public law, are organizationally separated from ministries and neither elected nor managed by elected officials (Thatcher 2002c: 956). According to conventional wisdom of the regulation literature, they are not exposed to the direct influence of politicians or government officials and constitute independently acting bodies instead (Doern and Wilks 1996; Gilardi 2002; Levy and Spiller 1996; Majone 1997; Thatcher 2002b; Thatcher 2002c, among others).

[96] In the regulation literature, NCAs, NRAs and financial regulators are sometimes subsumed under the term 'independent regulatory agencies'. We should avoid the latter term for two reasons and use 'national regulatory agencies' instead. First, the level of independence of these agencies can vary considerably across countries and sectors and range from pure formal or rhetoric independence to full material independence. The prefix 'national' is much more neutral and, hence, more adequate. Second, we should reserve the term 'regulatory agency' or 'regulatory authority' for bodies that enforce competition on a sector-specific basis. As outlined above, general competition authorities and NRAs posses a fundamentally different logic of regulatory intervention, although in some cases NRAs are also responsible for enforcing competition policy *ex post*, i.e. in the electricity sector.

Almost all NRAs in infrastructures are newly created entities and not just transformed successors of already existing agencies. They are usually equipped with their own expert staff which grants them some independence from the know-how of ministry officials. In addition, NRAs can use their individual sources of finance which range from fees for licence and spectrum allocation, over contributions from operators to government appropriations. Many sector regulators are headed by a board of directors that makes decisions according to the rules of a collegial body.

NRAs primarily function as a referee to secure the politically and economically desired level of competition in a market. In order to make appropriate use of their competencies, NRAs are equipped with various executive, judiciary and in some cases even legislative powers. At the basic level, they monitor market transactions and function as a consultative body by providing information, collecting data and investigating cases of irregular market behaviour. NRAs are usually entitled to settle disputes between market participants, mainly in the field of network access. A further intervention power of NRA's is their competency to take binding decisions, i.e. to issue sanctions against the violation of sector rules. These decisions range from penalties for price discrimination or interconnection restrictions to the revoking of licences for insufficient service quality or unlawful business practices. Finally, some authorities even posses quasi-legislative powers, i.e. the adoption of a code of conduct that imposes certain regulatory rules on the industry. In addition, NRAs deal with consumer complaints.[97]

Information, experience, flexibility and responsiveness are factors considered to be elementary for efficient and effective infrastructure regulation. While the first two factors refer to sector specific knowledge, the latter two describe the ability of the regulator to rapidly adjust rules and instruments to the challenges of the environment, i.e. technological change or economic developments. In both cases, NRAs are said to be better prepared than ministries in terms of resources, experience and knowledge. The role of the ministries remains important, however. They continue to function as recourse authority, final decision-maker or legislator. Indeed, supposedly powerful and influential NRAs are often

[97] *OFCOM*, the British communications NRA, for instance, deals with around 80.000 consumer complaints every year.

more materially dependent on executive bodies and politicians than we would assume (Tenbücken and Schneider 2004).[98]

The decision to create NRAs can be regarded as an institutional prerequisite for market opening and effective competition. Regulation-for-competition might function like a self-stimulating process: the entry of new companies improves the information available to NRAs, which implies that the latter are no longer dependent on information provided by the monopolist. This offers the possibility of 'yardstick regulation'. The result is greater independence based on a better mixture of incentives and risk sharing (cf. Shleifer 1985). This in turn could stimulate more effective and competition-oriented regulation. However, it could also be that NRAs try to curb competitive developments at a certain point. Leading NRA officials could to try to expand their own powers as far as possible, because they are aware of the fact that an end of *ex ante* sector regulation would automatically mean a responsibility transfer to the NCA, which would at the same time constitute the end of the sector regulator itself.

Another important aspect as regards the delegation of regulatory powers from the state to NRAs is the creation of confidence on the side of the public and trust on the side of the regulatees. Governments might want to demonstrate 'credible commitment' to objective and fair regulatory intervention and are therefore willing to delegate important powers to independent experts (Majone 1997: 152-155).[99] A credible regulatory model might support the attraction of foreign direct investment. This however requires transparent legislation and rule-making as well as substantive restraints on the regulator's power, formal or informal restraints for changes of the regulatory system, and institutions which can enforce these restraints (Levy and Spiller 1996: 1).[100] Governments unwilling or

[98] British *OFCOM* or Dutch *OPTA*, for instance, both possess a medium level of independence although they are often praised as the prime examples of powerful NRAs in the telecommunications sector.

[99] NRAs can obtain a certain "legitimacy through more transparent and pluralistic policy-making and greater accountability than offered by state ownership and regulation by government" (Thatcher 2002c: 954). This argument originates from the financial sector in which the independence of central banks plays an important role for credibility and trust, and thus monetary stability (cf. Bernhard 1998; McNamera 2002).

[100] According to Levy and Spiller (1996), these conditions are necessary in order to enforce the regulatory contract. The latter is an informal agreement between the government and regulatory authorities on the one side and the management of the regulated firms on the other. Under the contract, the regulators commit

unable to give up powers might opt for *formal* delegation to NRAs. This might further the credibility of future reform steps *without* having to derange the established power distribution between those institutions which have been responsible for regulation in the past.

The creation of NRAs is the most visible institutional result of regulatory reform in the telecommunications sector. Thus far, over 100 countries have delegated responsibilities for the regulation of the telecommunications sector to NRAs (Levi-Faur 2004: 15). In the EU, harmonization was brought on the way by the Commission which pushed for a new regulatory framework that grants NRAs a central role in the regulation of national telecommunications markets. A similar diffusion of NRAs can be observed in the electricity sector. By now, almost all West European countries have established a NRA with the power to regulate *ex ante* access to the grid and prices charged by network operators. Except for Germany, Sweden and the United Kingdom, all electricity regulators have been created in a short time period between 1999 and 2000, pushed by the requirements of EU Directive 96/92/EC.[101]

3.3.3. The Independence of NRAs

Reregulation involves different regulatory institutions as well as a tableau of instruments which are at disposition to these institutions. As regards organizational design, the establishment of NRAs is only one option. Other possible arrangements are that ministries retain regulatory influence or that NCAs take over responsibility for governing competition, including the application of sector-specific rules. Thus, the decision to opt for the NRA model is far from being trivial, especially in countries that have just recently begun to reform their infrastructure sectors, i.e. the CEEC-10. The latter had the possibility

themselves to provide an adequate return on investment, if those investments are efficiently chosen and managed, and to protect consumers through the control of prices and quality. In order to be effective, the contract has to be enforceable, invulnerable to post-contractual opportunism, and, thus, relatively explicit.

[101] Until recently, in Germany transmission rules and prices were not set by a NRA, but were the result of bilateral negotiations between grid owners, generators and suppliers, that is negotiated third party access. Only in July 2005 a special department inside *RegTP* – the NRA responsible for the regulation of the telecommunications and postal sector – was established and charged with the task of electricity regulation.

to observe how reregulation functions in other countries and could thus evaluate the advantages and disadvantages of the various institutional settings. Based on their experiences they might have emulated or copied successful configurations.

As has been shown for the telecommunications sector of the OECD countries (Tenbücken and Schneider 2004), it is not trivial to assume that governments have adopted roughly the same institutional model.[102] In fact, the telecommunications NRAs differ quite substantially as regards material independence. Thus, there is evidence that the same might be true for the national telecommunications and electricity sectors in the EU. The reform process might have resulted in a significant level of dissimilarity as regards organizational designs and functional competencies of the regulatory institutions involved. One indication for this is that Directives have to be transposed into national law and that the implementation leaves considerable room for specific national solutions (McGowan and Wallace 1996: 568ff.). In case the results of the OECD telecommunications sample are confirmed also for the EU-25, including the electricity sector, there would be strong indication that a central prediction of the regulatory state hypothesis does not hold true.

[102] According to the regulatory state hypothesis, however, the NRA model should turn out as the dominant institutional solution for the governance of market transactions among former state-owned companies and market entrants.

4. The European Dimension

In the past, European integration had a significant impact on the competencies of national governments and the harmonization of policies across the member states. Beginning with the new industrial policy of the Commission in the 1980s, infrastructure regulation seized to be an exclusive national domain and increasingly became a matter of interest for EU policy-makers. With the transfer of policy-making power from the national capitals to Brussels many regulatory functions and competencies have also been shifted to the EU-level (Coen and Thatcher 2001; McGowan and Wallace 1996; Young and Wallace 2000). Especially the Commission gained regulatory powers in several infrastructure sectors and began to push for market liberalization and the harmonization of national regulatory frameworks.

However, compliance by the member states with EU law cannot be taken for granted. As the history of European integration, especially in the fields of agricultural and industrial policy, has demonstrated, member state governments are prone to disobey Directives and Regulations, especially when they contain costly political or economic provisions. The consequence was numerous cases before the ECJ, often leading to fines against the recalcitrant member state. A similar potential for 'disobedience' was inherent in the enlargement process. Considering the experience with the transposition of EU Secondary law into national law in the EU-15, it is not completely unlikely that the accession requirements set by the EU resulted in rather formal and superficial reforms in the candidate countries and that in the end things changed much less materially than originally demanded.[103]

[103] A similar argument was formulated in regard to the general transition process in the CEECs. As Przeworski (1991: 183) claimed, a mere copying of structures does not automatically guarantee the successful implementation of democracy and market-economy in the CEECs. Instead, the strategies of international organizations, i.e. the World Bank or the IMF, should take into consideration country-specific aspects, i.e. cultural or political traditions.

Almost a decade before their accession to the European Union, three CEECs became full members of the OECD, with a fourth country to follow in the year 2000.[104] Under OECD membership these four countries made their first experience with international harmonization pressures and their direct impact on national legislation.[105] In addition, their accession demonstrated the will of the countries to organize the restructuring process according to Western principles. However, the preparation for EU membership seems to have influenced the domestic reform agendas even more directly. The Europe Agreements at the outset and the accession negotiations towards the end of the enlargement process both contained provisions which demanded from the candidate countries the complete takeover of the *acquis communautaire* based on the Copenhagen Criteria formulated in 1993.

In order to assess the impact of the *acquis communautaire* on the process of infrastructure reform in the CEECs we need to know which provisions the accession candidates were required to transpose into national law. We first need to be clear about the regulatory provisions of Community law that applied to the sectors under analysis at the time of accession before we can proceed and discuss their effect on the domestic reform process. It is therefore necessary to draw a picture of the regulatory status quo as regards the telecommunications and electricity sector at the time eight CEECs acceded the Union in May 2004. In a second step, we can then discuss the impact of the corresponding provisions of the *acquis* on the national reform agendas.

[104] The Czech Republic joined the OECD on 21 December 1995, Hungary on 7 May 1996, Poland on 22 November 1996, and the Slovak Republic on 14 December 2000.

[105] A similar influence can be ascertained for the World Bank, the IMF or the EBRD, which, according to their policy statutes, link the financing of projects or the granting of loans to the liberalization of certain sectors of the economy.

4.1. The Europeanization of Regulation

As pointed out briefly in the introduction, the study focuses on two distinct meanings of the term 'Europeanization'.[106] The first regards processes at the EU-level and defines Europeanization as "the emergence and development at the European level of distinct structures of governance" (Cowles, Caporaso and Risse 2001: 3). The second meaning takes into account the member state level in the sense "that EC political and economic dynamics become part of the organizational logic of national politics and policy-making" (Ladrech 1994: 69). Analogous, the Europeanization of regulation refers to the emergence of distinct regulatory structures at the supranational level, which impact on the regulatory rules and strategies in the member states. The result at the member state level would then be what Lodge (2000: 89) called isomorphism: "a processes of increasing convergence of national policies towards the EU 'model' […] as they face the same set of environmental conditions.[107]

It seems to be consensus among Europeanists that so far EU institutions have furthered mainly an economic form of integration and have been rather reluctant to construct a centralized system of interest representation and decision making in many policy fields.[108] According to this perspective there is no considerable difference between

[106] Olsen (2002) identifies five different meanings of the term: First, as changes in external territorial boundaries; second, as the development of institutions of governance at the European level; third, as the central penetration of national and sub-national systems of governance; fourth, as exporting forms of political organisation and governance that are typical and distinct for Europe beyond the European territory; and finally, as a political project aiming at a unified and politically stronger Europe.

[107] Isomorphism describes a process in which one unit becomes increasingly similar to other units that face the same environment (DiMaggio and Powell 1991). The liberalization and harmonization pressures exerted by the Commission and the ECJ are thereby understood as aspects of *coercive* pressures that cause isomorphism among the member states' regulatory policies. This becomes possible since the latter are dependent on the supranational level. A second mechanism, *mimetic* pressures, concern search processes by actors in states of uncertainty. This mechanism closely resembles processes often described as 'policy transfer' or 'rational learning' and usually occurs on a horizontal level between states organized in common institutional bodies, i.e. expert networks. Finally, isomorphism can occur due to *normative* pressures based on the establishment of rules, conventions or common assumptions. Examples for this mechanism would be the emergence of a network of European regulatory authorities, existing for instance more formally in telecommunications or transnational consumer movements (Young and Wallace 2000: 87-99).

[108] Theoretically, there exist two scenarios for the process of European integration. First, a concentration on economic integration resulting in a Single Market with only minor elements of a political union, and second, a political union with all aspects of a state-like entity and centralized policies. According to Scharpf (1996) and Streeck and Schmitter (1991), the creation of the Single Market is the result of negative integration, a

Europeanization and the effects caused by globalization, i.e. labour market flexibility, privatization, financial deregulation or low voter turnout, since all of these phenomena can also be observed in non-EU member countries. The EU is thus seen as a mere agent of globalization with the Commission taking the responsibility for an outcome over which it has only limited control. Majone (1996: 330) has called this development the "depoliticization of the Common Market". In other words, Europeanization is regarded as almost synonymous with deregulation or, in accordance with the terminology used in this study, with market-conforming reregulation.

However, as Verdier and Breen (2001) show, it is important not to confuse mechanisms of Europeanization with global deregulation pressures.[109] While both factors have admittedly influenced reform developments at the domestic level, it is important to distinguish thoroughly between the two. There are instances, where Europeanization has extended into areas in which global market forces did not emerge as the central pressures for change: while in the telecommunications sector global market developments and technological innovation were driving forces, the EU became a key factor of reform in the electricity sector (Jabko 2004: 205).

In the same vein, several authors have emphasized the independent role of the Commission and the centrality of policy processes at the EU-level. Sandholtz (1998: 135), for instance, has stated that

"[t]he evidence is clear: the EU has created a supranational policy domain in telecommunications, and the initiative came primarily from the Commission, armed with legal precedents from the European Court of Justice and acting in alliance with societal groups that had a stake in efficient pan-European telecommunications".

process in which the priority is put on abolishing national regulation without an adequate replacement by supranational provisions.

[109] It could be argued that European integration is based on two components: market efficiency *and* political voluntarism. While the market component has indeed decentralizing effects, thus making Europeanization synonymous to globalization, the latter possesses more centralizing effects, thus distinguishing Europeanization from globalization. In their empirical analysis Verdier and Breen find no significant impact of political voluntarism on the integration of factor markets, i.e. labour and capital markets. The overall impact on interest representation in the factor markets is negative for both, globalization and Europeanization developments. However, their analysis identifies a significant impact of political voluntarism on the party system and on subnational governments, thus confirming the individual effect of Europeanization versus globalization in these areas.

In contrast to the first view, the latter perspective thus sees Europeanization as more than just one element or specific expression of the globalization process. It is regarded as an individual and, hence, additional integration mechanism which significantly influences the policy agendas and responsibilities of the governments in the member states (McGowan and Wallace 1996).

4.1.1. European Regulatory Frameworks

Until the mid-1980s, regulation was highly national and EU institutions played almost no role in regulating network infrastructures although they already possessed a legal basis for doing so under the ECT. The reason was that the member states placed high emphasis on their national autonomy, and the Commission was restricted to formulating studies and forecasts (Matláry 1997). However, the EU gained more competencies with the extension of the liberalization rationale inherent in the '1992 goal' of the SEA, especially in sectors previously exempted from competition, i.e. telecommunications, transport and electricity (Eising 2002: 92). The creation of regulatory structures at the EU-level thus reflects one of the two major goals inherent in the Treaty of Rome: the creation of a common market and the removal of internal borders (Francis 1993: 111-112).[110]

There are several reasons why the EU began to play a prominent role in infrastructure reform. First, if we assume that Europeanization is a regional instance of globalization, the EU can be regarded as a catalyser of the effects of the internationalization process. As such, Europeanization has caused an even deeper and faster process of market integration, and EU member countries should therefore experience a stronger case of globalization than other states (Verdier and Breen 2001: 233). The Single Market, whose creation was largely inspired by the upcoming industrial competition with the United States and Japan in the 1980s, fosters institutional competition between member states. Borders have been removed and governments need to offer competitive industries and attractive investment conditions. This required from these governments the breaking-up of national monopolies and the improvement of public sector efficiency.

[110] The other goal was the realization of a common external tariff applicable to all imports of the community.

Second, the law of the EU and its application by the ECJ are both selectively promoting demonopolization and competition in the member states. Several cases before the ECJ demonstrate that the enforcement of competition is among the key priorities of economic integration (van Waarden and Drahos 2002: 923-927). The ECJ's constitutional resource is the power to veto existing or proposed legislation. Other actors try to make use of this power in order to improve their bargaining position.[111] However, recently the ECJ has reconsidered its role as a power source for other actors. It argues that questions concerning the balance between public interest goals, i.e. aspects of welfare, culture, health, or free trade values are of a political nature and should therefore not be decided by the Court, but by the responsible institutions instead (Edward and Hoskins 1995: 169).

The third and presumably most important factor for the Europeanization of regulatory policy-making is the European Commission. As a relatively independent actor it is the driver behind market opening and competition. In course of economic integration, the Commission has demonstrated a clear preference for market liberalization. This is reflected by the strict application of anti-trust and competition law through DG IV in the past. Especially in sectors in which regulatory reform was highly controversial, i.e. infrastructures, the Commission promoted open markets and thus gained the reputation of a "powerful arbiter and watchdog of liberalization" (Jabko 2004: 211). Besides its fundamental right to propose legislation, it has the right under Article 86 (3) ECT to decide how to implement the provisions of Article 86 (2) ECT (Schmidt 1998).[112] The latter refers to special undertakings and asks the Commission to find a balance between the role of infrastructure companies and the competition rationale of the Treaty.[113]

[111] The Commission, for instance, used infringement procedures in the telecommunications sector to make member countries call for EU liberalization policies.

[112] Besides their active promotion of market liberalization based on Articles 81-89 ECT, neither the Commission nor the ECJ lead a crusade against public ownership: no Directive or court decision contains provisions concerning the privatization of state owned enterprises. Instead, there exists an indirect provision for ownership regulation through rules on state aids (Art. 87-89 ECT).

[113] Any exception to the competition rules can be defined by the Commission and the ECJ without having to refer to the Council or the EP. Exceptions have frequently been made in relation to general-interest services. The EP has in the past favoured policies which strengthen these general-interest services, especially as regards sectoral legislation for network industries.

While regulation through competition law has historically been a strong component of supranational intervention, sector regulation is still weakly developed at the EU-level. The latter is largely limited to the formulation of general rules, the definition of instruments that member states can choose from, and the legal recourse against an improper implementation of EU rules by the member states. Most sector regulation still happens at the national level where decision-makers establish specific regulatory rules in the context of the EU's legal frameworks. It is within these frameworks that member state governments undertake reregulatory action in accordance with the competition provision of the Treaty (Jabko 2004: 211). Hence, although the Commission is the key player of market integration it exerts no direct powers in sector regulation and acts mainly as a recourse authority (Genoud and Finger 2002: 14).

This becomes obvious if we look at the supranational provisions for the regulation of network infrastructures. The regulatory frameworks for the telecommunications, electricity or aviation sector are all characterized by a dominance of general competition rules. This is mainly due to the fact that competition rules are the only regulatory provisions that are clearly defined, officially legitimized and institutionally organized at the EU-level. Sector regulation, in contrast, has so far only weakly been institutionalized. Thus, in the past anti-trust and competition rules have been used as an indirect mean to achieve liberalization goals. This has caused a blurring of *ex ante* sector regulation and *ex post* competition regulation (Pelkmans 2001: 447).[114]

In the new CRF in telecommunications, for instance, competition policy is explicitly granted a regulatory role. However, the SMP concept is employed in an *ex ante* and not an *ex post* fashion by demanding the existence of dominance but not of an *abuse* of that dominance. In EU electricity regulation, in contrast, competition policy has been less actively promoted thus far.[115] Aviation, finally, is the most prominent example of 'waning'

[114] Merger control, for instance, became a quasi-regulatory function affecting national regulatory frameworks and policies.

[115] Nevertheless, since Directive 96/92/EC entered into force the Commission has frequently used the argument of promoting competition to set the conditions, i.e. divestiture, transmission and interconnection, under which a merger or an acquisition in the sector would be acceptable. Examples are the *VEBA/VIAG* or *RWE/VEW* mergers in Germany or the various take-overs of *EdF* in Italy and Spain.

sector regulation, in which the recourse on general competition policy has been especially strong. In course of liberalization, policy-makers relied on the SEA's definition of the Single Market in combination with a block exemption based on Article 81(3) ECT. Except for slot-allocation, there does not exist a typical *ex ante* regulatory provision for scheduled air transportation (Pelkmans 2001: 447-448).[116]

In addition, in recent years there has been a growing emphasis of aspects of social cohesion at the EU-level. This is, for instance, expressed in the tendency to maintain universal services (Scott 1995). The legal basis for the promotion of general interest services in infrastructures is Article 86 (2) ECT which allows national governments to grant special rights and obligations to particular undertakings. And, Article 86 (3) ECT empowers the Commission with the implementation of the corresponding competition rules. The objective of universal service provision is to ensure a balance between the requirements of the Single Market and free competition on the one side and general-interest objectives on the other.[117] This has consequences also for the general competition policy of the EU. According to the provisions of Articles 86 (2) and (3) ECT and corresponding rulings of the ECJ, fiscal advantages given to public network companies are not regarded as illegal state aid, in case they do not exceed the financial burden which results from the company's particular public service mission (Héritier 2001b: 4-5).

Beside the three factors discussed above, transnational activity played an important role in the Europeanization of regulatory policy. Besides formal European institutions, non-state actors, i.e. groups representing business or consumer interests, have made a

[116] The justification for this extreme form of 'regulatory competition policy' is the great vulnerability of new entrants in the airline business.

[117] In its Communication of 1996, the Commission defines 'services of general interest' as "market and non-market services which the public authorities class as being of general interest and subject to specific public service obligations". The 'services of general *economic* interest', according to Article 86 (3) ECT, are defined more narrowly as "market services which the member states subject to specific public service obligations, such as transport networks, energy and communications" (European Commission 1996a: 2). For the first time in the history of European integration, the Amsterdam Treaty of 1999 explicitly mentions goals of general economic interests as European values. This contrasts sharply with the provisions of the SEA of 1987 or the Maastricht Treaty of 1993 in which general interest services were considered as inhibiting economic integration.

substantial contribution to the emergence of regulatory structures at the EU-level.[118] O'Reilly and Stone Sweet (1998: 451), for instance, are convinced that

> "as transnational activity increases within a given sector governed by national authorities, those societal actors most adversely affected by state-centric control will press for European rules and governance to replace national rules and governance".

Accordingly, European economic integration will provoke demands from those actors whose prosperity is mostly dependent upon further integration activity. In infrastructures, for instance, an industry whose economic well-being is heavily dependent on further market liberalization might lobby and push for respective initiatives. These and similar transnational demands will thus create the decision-making context in which supranational institutions operate and in which intergovernmental bargaining takes place. Telecommunications and aviation both provide good examples for sectors in which this logic of Europeanization becomes visible.

Today, network infrastructures make up at least 5 per cent of European GDP (Coen and Doyle 2000: 21). Two of them, telecommunications and electricity, have experienced high degrees of Europeanization over the past two decades. The transformation in these two sectors is obviously more remarkable than in any other infrastructure. The case looks different for the transportation or postal sector, in which reform initiatives at the supranational level have been comparatively weaker so far (Conant 2003). The following section provides a brief overview of the reform developments at the EU-level in the two sectors under study. This overview shall not only demonstrate the emergence of regulatory competencies at the supranational level, it shall also mirror the status quo of the Community *acquis* at the time the eight CEECs acceded the Union.

[118] According to Stone Sweet and Sandholtz (1998: 4-6) transnational activity has been a major catalyst of European integration. They argue that as transnational exchange rises, also the costs for national governments of maintaining individual national regulation rise. Member state governments should attempt to adjust their national policy positions in a way that favours the emergence of supranational governance. New sector-specific European rules are then expected to catalyze the gradual deepening of integration in adjacent sectors (cf. Deutsch 1953; Haas 1958). Hence the assumption that intergovernmental bargaining and supranational decision-making are embedded in processes are provoked and sustained by transnational activity. In the long term, supranational governance will undermine the capacity of member states to control outcomes.

4.1.2. The *Acquis* in the Telecommunications Sector

The reform of the telecommunications sector at the European level started in the early 1980s. The key player in the reform process has been the European Commission. In contrast to classic intergovernmental bargaining, which was common in the 1980s, the EU operated as a relatively autonomous actor in the policy process (Stone Sweet and Sandholtz 1998). Via the field of competition policy, the Commission succeeded in presenting itself as the legitimate actor in the telecommunications sector and was supported in its endeavour by the ECJ (Héritier 2001b: 16). Based on Article 86 (3) ECT, the Commission was able to issue Directives without formal approval by the Council.[119] Starting out in 1979 with a report on the importance of networks infrastructures for economic competitiveness and proceeding with various programmes aimed at developing a pan-European telecommunications infrastructure, the Commission gradually expanded its regulatory competencies in this sector.[120]

In 1987, the Commission issued its first Green Paper on telecommunications in which it promoted similar reform steps as in the United States, the United Kingdom and Japan and thus the creation of a common market in the European information and communication sector. The British government was very supportive of the developments because it wanted to prevent other member states from maintaining their monopolies (Thatcher 2001: 16-17). The first major legislative initiative in this context ended with the adoption of the Terminals Directive in 1988, liberalizing the markets for terminal equipment (European Commission 1988a). While the latter still earned harsh criticism from the governments of several member countries, the new strategy of the Commission unleashed a reform dynamic over time. This development culminated in a series of legislative acts in the early and mid-1990s, leading to the full liberalization of telecommunications services and even networks and infrastructures by the year 1998

[119] Many of these Directives have been challenged before the ECJ, mainly because national governments objected to the by-passing of the Council and not because they were in general against the substance of the Directive. The ECJ, in turn, clarified that under the provisions of Article 86 (3) ECT the Commission had the right to issue Secondary law in order to specify the obligations of the member states (Scott 1995: 209).

[120] In 1983, the Commission's task force for information technology and telecommunications was established and became part of DG XIII, which was later turned into the DG for Telecommunications, Information Industries and Innovation.

(European Commission 1990; European Commission 1996b; European Commission 1996c; European Council 1995; European Parliament 1997a; European Parliament 1997b).

Efforts of telecommunications liberalization were accompanied by attempts to reregulate the sector. The latter included the setting of procedures and the provision of guidelines in order to harmonize the work of the regulatory bodies across the member states. The following section mainly discusses the provisions of the telecommunications regulatory framework. For three reasons this is done in some detail: first, the provisions of the CRF are central for our understanding of the relationship between EU institutions and regulatory authorities at the national level, i.e. concerning reforms in the CEECs. Second, the new CRF has significantly altered the scope for sectoral regulatory intervention. And finally, the revision of the old CRF fell exactly into the decisive phase of the accession negotiations with the eight new member countries from Central and Eastern Europe. It thus constitutes a good example of how the *acquis* has evolved in course of the accession process and the way the applicant countries have reacted to this evolution.

The new CRF in telecommunications was set up to manage the transition from a monopoly situation to full competition in national markets. Due to rapid technological changes and the upcoming convergence between telecommunications, broadcasting and internet-based services, the new CRF was designed to reinforce competition in new, dynamic and often unpredictable markets while at the same time protecting basic consumer rights. It is the outcome of extensive public consultation, including the 1999 Communications Review (European Commission 1999a) as well as the corresponding Communication from the Commission to the other EU institutions (European Commission 2000) that followed shortly thereafter.

The new CRF comprises six basic documents, five Directives and one Regulation, and had to be transposed into national law by 24 July 2003. Thus, it fell directly into the decisive period of the accession negotiations and the last monitoring round. The central document as regards the role of the NRAs is the ‘Directive on a common regulatory framework for electronic communication networks and services’ or simply ‘Framework

Directive' (FD).[121] It contains all relevant provisions of the new CRF, among others the functions, competencies and duties of the NRAs in the member states. The FD responds to the convergence developments described above by covering various different networks and services. It further sets out general principles and objectives for NRAs and establishes horizontal provisions of the new regulatory package. The most important changes of the new compared to the old CRF concern market analysis, the concept of SMP and the responsibilities of the NRAs in the member states.

One major provision of the new CRF is the definition and subsequent analysis of relevant markets concerning undertakings with SMP. In order to define and analyze markets correctly, NRAs need to collect information from market participants, NCAs, the NRAs in other member states and from the Commission. The basic idea behind these requests for information is that the NRAs do not put an over-proportionate burden on the regulated companies. In addition, the Commission wants the NRAs to make this information publicly available, except for cases in which confidentiality is required. This asks NRAs to facilitate the horizontal exchange of information and, thus, to provide a clearly defined point of access for demands or information provided by the industry.[122]

A central goal of the new CRF is to create certainty and consistency for the industry concerning the actions taken by the NRAs in the member states. Therefore, the Commission has issued 'soft law' which aims at harmonizing the actions of the latter. First, the 'Commission Recommendation on relevant product and service markets' (European Commission 2003a) lists 18 markets for which analyses should be conducted by the NRAs and which should be subject to *ex ante* regulation in case one or more operators in the markets are found to possess SMP. In case no operator possesses SMP, regulation has to be rolled back by the NRAs. On the basis of this Recommendation, which is to be reviewed regularly by the Commission, the NRAs shall become active.[123]

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[121] Directive 2002/21/EC (European Parliament 2002b).

[122] The rights and obligations of NRAs concerning the industry information are listed in Article 5 FD.

[123] In July 2004, the Commission decided to postpone the update of the list of electronic communications markets contained in the Recommendation from June 2004 to the end of 2005. This should provide a period of stability and legal certainty for market players and lead to a more meaningful assessment of relevant

Secondly, the 'Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services', or short 'Guidelines', play an important role in providing standards to ensure the consistent application of the new CRF (European Commission 2002a). The goal of these Guidelines is to ensure equivalent market definitions across member states. They contain the parameters necessary for the definition of markets and the analysis of effective competition according to the principles of the new CRF. In sum, NRAs should become active in those markets defined as relevant according to the principles set out in the Recommendation and should take careful account of the Guidelines while analyzing these relevant markets and assessing SMP.

The new CRF further empowers NRAs to impose obligations on operators with SMP. The conception of SMP, however, has been fundamentally changed compared to the old framework. It does not refer to the 25 per cent market-share-threshold of sector-specific regulation any longer but is now based on the Commission's practice and the ECJ's definition of company dominance according to competition law.[124] In case the non-competitiveness of a market and the presence of SMP can both be ascertained, the NRA is entitled to impose appropriate obligations under Articles 8-13 AID.[125] The latter foresee *ex ante* regulation at the wholesale access level. In detail, Articles 9-13 AID ask for transparency (Art. 9), non-discrimination (Art. 10), accounting separation (Art. 11), access to and use of specific network facilities (Art. 12), as well as cost accounting obligations and price control (Art. 13).[126]

markets. In addition, the new date shall also allow the Commission to gain a better understanding of the situation in the new member states of the EU.

[124] As a proxy for market power, the Guidelines suggest to compute market shares, typically based on sales volume or sales value. SMP is normally viewed as being a factor only where the market share of a company exceeds 40 per cent. Where the market share exceeds 50 per cent, SMP is assumed to exist. The FD instructs the NRAs to apply competition rules in situations where there is at least one company with SMP in a market. Conversely, where competition is effective and no operator is found to have SMP, regulators are obliged to remove any obligations imposed on carriers previously deemed dominant under the respective national regulatory framework.

[125] The 'Access and Interconnection Directive' 2002/19/EC, also called the 'NRA toolkit' (European Parliament 2002a).

[126] In these cases, it is not necessary for the NRA to proof that SMP has indeed been abused as with *ex post* regulation. However, all measures have to be based on the nature of the problem identified, proportionate, and justified in relation to the policy objectives contained in the FD. Hence, the NRA has to answer the

In cases, in which the desired regulatory results could not have been achieved, Article 17 II USD[127] might be employed instead. This article aims at the retail level and foresees that in non-competitive markets, NRAs can employ retail price-cap measures on an *ex post* basis by demanding from undertakings with SMP that they orient their tariffs at costs. The goal in this case is to prevent such an undertaking from setting tariffs or conditions to the disadvantage of consumers or other market participants. All other measures by NRAs on undertakings with SMP beyond those contained in the FD are exceptional and, therefore, subject to authorization by the Commission or the Communication Committee (COCOM).

According to the new framework, the Commission retains a veto over all decisions of the NRAs concerning the definition of relevant markets and the attribution of SMP. Articles 6 FD and 7 FD demand NRAs to consult all interested parties on draft measures with a significant impact on the relevant national telecommunications market or the Single Market in the EU. One of the key provisions that significantly affects the work of the NRAs is the latter's obligation to notify certain draft decisions to the Commission and other NRAs, and to give them the opportunity to comment on them. Article 7 (4) FD even empowers the Commission, after consultation of COCOM, to call upon a NRA to cancel a draft measure that aims at defining a relevant market or attributing SMP, where such a measure would either be against trade between member states or be incompatible with the objectives of the Single Market or Community law.[128]

At the supranational level, there exists a variety of organizations in charge of telecommunications regulation. The NRAs do not want the Commission to establish an European Regulatory Authority (ERA), which would control national telecommunications markets centrally from Brussels. This is mainly due to the fact that COCOM is a widely

questions which of the measures envisaged are effective to improve competitive conditions in the market, and for how long each of these measures shall be applied in order to achieve the desired results.

[127] The 'Universal Service Directive' 2002/21/EC (European Parliament 2002c).

[128] A special form of coordination is required for the case of transnational markets. For all tasks referring to transnational markets, "[…] the national regulatory authorities concerned shall jointly conduct the market analysis taking the utmost account of the Guidelines and decide on any imposition, maintenance, amendment or withdrawal of regulatory obligations referred to in paragraph 2 of this Article in a concerted fashion" (Art. 16 (5) FD).

accepted institution for the horizontal coordination between member states and the vertical coordination between the member states and the Commission.[129] Initially, the Commission had planned to install a 'High Level Communications Group' (HLCG) with advisory status, consisting of NRA experts and a secretariat provided by the Commission. It was supposed to formally replace the currently existing 'High Level Regulators Group' (HLRG), which is consulted by the Commission on issues of legislation and technology developments.

However, the HLCG will probably not be institutionalized in the near future. Among others, NRAs were sceptical about the work of such an institution, especially when it comes to carrying out the task of horizontal coordination under the new CRF. Instead of establishing the HLCG, NRAs preferred to strengthen the already existing Independent Regulators Group (IRG) and, in addition, to maintain the European Committee for Telecommunications Regulatory Affairs of the European Conference of Posts and Telecommunications (ECPT/ECTRA). Both institutions are regarded as being capable of fulfilling the tasks originally foreseen for the HLCG. In this respect, the IRG could function as an instrument for consensus-building among NRAs and mediate between interest groups and EU institutions, i.e. the European Parliament and the Council of Ministers.

The new regulatory framework in telecommunications with its major provisions described above was adopted and became part of the *acquis communautaire* in 2002. Hence, its adoption fell right into the period of the final accession negotiations between the EU and the first-round applicant countries from Central and Eastern Europe. Together with the numerous Directives on the liberalization of telecommunications equipment, services and infrastructures, which were issued in the 1980s and 1990s, the CRF thus constituted Community law that the applicant countries had to transpose into national law before they could become full members of the EU in May 2004.

[129] It is a formal committee made up of representatives from the Commission and the member states. As such, it presents to the Commission opinions of a non-binding nature on draft regulatory measures (Art. 22 FD).

4.1.3. The *Acquis* in the Electricity Sector

The world-wide liberalization developments in the 1980s and 1990s also sparked reforms in the electricity sector. The objectives were similar to those in telecommunications: to increase efficiency and stimulate competition by separating the physical infrastructure, i.e. transmission and distribution networks, from the generation and supply of electricity. However, in electricity developments were extremely slow as regards European-wide liberalization, although the Commission set up a responsible Directorate (DG XVII) as early as 1968. This was mainly due to the fact that electricity had for a long time been considered as an exclusive national matter (Matláry 1997: 12). Thus, until reform the landscape of national electricity systems in the EU was quite heterogeneous (Eberlein 2001: 35).[130]

A common European energy policy first had to overcome the problems resulting from these different national backgrounds and policy goals. One important development for both the telecommunications and the electricity market was the strategic reorientation of DG IV, the Commission's Directorate General for Competition, in the early 1980s (McGowan and Wilks 1995: 150-153). A moderate initiative towards energy liberalization at the supranational level was the Commission's report on the 'Internal Market for Energy' (European Commission 1988b). It declared the opening of the electricity and gas sector a major goal in the creation of an internal energy market but failed to generate sufficient support. The first concrete advance was undertaken in 1990 by a Directive calling for transparency of electricity and gas prices for industrial consumers. The goal was to reveal price information in order to strengthen the bargaining power of industrial users vis-à-vis the suppliers. Also in 1990, the Transit Directive manifested the obligation of network operators to grant access to their grids. However, it only targeted electricity transport between two member countries *without* a common border (Midttun 1997: 266-270).

[130] There were mainly two system types: first, a vertically-integrated monopoly which existed, for example, in France or the United Kingdom. And second, a decentralized and fragmented system in form of regional monopolies based on a complex combination of public and private ownership on different territorial levels. The latter could for example be found in Germany (Eberlein 2001: 42-43).

These initial reform attempts already caused severe opposition from the industry as well as member state governments. The draft proposal for a Directive liberalizing the energy market in 1992 met with fierce opposition in the Council and the EP, mainly because of concerns related to issues of general interest services (European Commission 1992). This was due to the proposed 'common-carrier model' and issues regarding third-party access, which supposedly threatened existing and future investments. However, modifications of the proposal by the Commission did not get a majority in the Council, mainly because the French and the German government held opposing views on the issue. But, instead of threatening to legislate Directives based on Article 86 ECT, the Commission opted for a cooperative way and engaged in consensual decision-making (Schmidt 1998).

The agreement that was finally reached unanimously in the Council in 1996 included a complicated formula for market-opening.[131] Directive 96/92/EC brought major changes to the organization of the electricity market. Its objectives were transparency and non-discrimination of market participants and consumers. The Directive basically abolished integrated monopolies by forcing the member states to unbundle network operations from generation and supply. It further demanded from the member states the incremental and moderate opening of their electricity markets (European Parliament 1996). Since the Directive's entry into force, the Commission has constantly been monitoring the development in the national markets with the goal to identify obstacles to competition.[132]

Directive 96/92/EC foresaw three alternative models for achieving non-discriminatory access to electricity grids: regulated third-party access, negotiated third-party access and the single-buyer model. All three models required member states to ensure that their transmission systems are unbundled. Since the beginning of the liberalization process most EU member countries opted for regulated third-party access. Under the latter, a NRA sets and controls access conditions and transmission rates.

[131] The agreement was the result of a compromise between the opposing German and French positions. While the French government favoured the 'single-buyer model', the German government supported a 'negotiated third-party access model' based on associative self-regulation (Midttun 1997: 270).

[132] The Directive had to be implemented by the member states by February 1999.

Germany, however, opted for negotiated third-party, a system that quite rapidly came under heavy fire and whose failure to ensure sector competition has resulted in the establishment of a regulatory authority according to new EU law.[133]

According to the provisions of the Directive, liberalization proceeded in three consecutive steps: since February 1999 suppliers have been able to compete for large users with an annual consumption of more than 40 GWh, corresponding to approximately 26 per cent of the national electricity demand. The threshold was lowered to an annual consumption of more than 20 GWh, or 28 per cent of national demand, in February 2000 and to an annual consumption of more than 9 GWh per year in 2003, corresponding to 33 per cent of the national demand of electricity (Eberlein 2001: 36).

Actual market development, preference change by member state governments and criticism raised by the Commission in its benchmarking reports have led to a revision of this legislation. The new Directive 2003/53/EC fully opened the electricity market for all business customers by 1 July 2004 and demands the same for households by 1 July 2007 (European Parliament 2003).[134] The Directive also required legal and operational unbundling of network activities from generation and supply and the publication of network tariffs. It further strengthened public service obligations especially towards vulnerable customers. Most characteristically, however, the Directive demanded the establishment of a NRA in all member states by 1 July 2004. The major responsibility of the NRAs is to monitor the development of competition, the levels of investment and, in some cases, the level of prices in order to create more transparency and predictability in the sector.[135] The latter provision was mainly targeted at the situation in Germany, the only

[133] Directive 96/92/EC also contained a public service clause which demanded from the member states the imposition of public interest obligations on energy companies. In order to safeguard security of supply as well as affordable prices, member state governments could individually define these obligations (Eberlein 2001: 40).

[134] Directive 2003/53/EC was further accompanied by a Regulation which established common rules for the cross-border trade in electricity. A regulatory committee decides on guidelines on compensation of transit flows, harmonization of national transmission tariffs and allocation of cross-border interconnection capacity.

[135] For example, through market monitoring and the inclusion of specific conditions in the licences of suppliers, NRAs can seek to ensure that several types of contracts are available to the consumer, including long-term supply contracts. In addition, NRAs can exercise significant influence over the market for

country among the EU-15 in which a NRA had not been created by the date the Directive entered into force.[136]

The new Directive also emphasizes public service obligations for generators and suppliers by recognizing that continued availability of electricity at a reasonable price is crucial for both the economy and for society. Thus, Directive 2003/54/EC does not call for total deregulation of energy supply or a laissez-fair approach. In contrast, the new legislation requires close monitoring of the market and the possibility of introducing a number of key obligations on energy companies relating to public service. As outlined above, such provisions are especially important during the transformation from a state monopoly to a competitive market as regards prices and investment decisions. The major public service obligations in the sector refer to universal service provision, protection of vulnerable and final consumers (European Commission 2004c: 4-5).

Over all, the extent of liberalization in the electricity sector has not been as big as in telecommunications. Nevertheless, the new and amended legislation "introduces competition into the sector and thereby fundamentally alters the established sectoral regimes" (Eising 2002: 95). And indeed, first results of market opening in electricity seem to be positive. By the end of 2003 electricity prices for industrial consumers have dropped by 15 per cent in real terms compared to 1995 (European Commission 2004c: 1). By 2005, even countries that had for a long time been rather sceptical of liberalization, i.e. Belgium, Denmark, or Spain, have almost fully opened their markets. However, Community legislation provides only the framework for reform. The emergence of effective and competitive energy markets can only be realized by corresponding measures in the member states.

electricity generation due to the fact that new generators have to be authorized before they can start operation (European Commission 2004c: 4).

[136] By July 2005, the German government finally managed to establish a department for the regulation of the electricity and gas market within *RegTP*, the national regulator for the telecommunications and post sector.

4.1.4. The Impact of Community Law at the National Level

Except for anti-competitive behaviour, regulatory activities are mainly confined to the national arena and the final decisions are still made by the authorities in the member countries. Also the new CRF in telecommunications recognizes that there are significant differences as regards competencies and resources of NRAs in the member countries. Hence, the Commission does not prescribe a specific form of organization and leaves the implementation of regulatory policies to domestic authorities which possess an expertise in national markets.[137] By setting only broad regulatory standards and objectives, the Commission allows for regime diversity in the EU but at the same time hopes to create a level playing field through consistent monitoring and the possibility of legal recourse to the ECJ.[138]

If we discuss the impact of new EU policies on the member states, we have to distinguish between two different logics. The first logic refers to the influence that formal and informal institutions at the supranational level exert on the *preferences* and *options* of governments in the member states in course of negotiations at the EU-level (cf. Eising and Jabko 2001). This covers, first, the institutional setting and the attribution of formal legislative powers that can change opportunity structures between proponents and opponents of a proposal. Second, it considers informal and formal norms that provide a framework in which strategies become viable and that a priori rule out certain options (March and Olsen 1998). The first logic further reflects on the possibility of issue linkages in the Council, depending on the level of vertical differentiation, which ranges from the working-group level to meetings of the heads of states. And finally, it posits that EU decision-making is structured via standardized decision-making procedures that facilitate

[137] The Commission reviews NRA decisions to verify if they are consistent with the pricing practices of Articles 81 and 82 ECT. However, the procedures of this regulatory review seem to be time consuming and lack procedural clarity (Coen and Doyle 2000: 24).

[138] What is characteristic of European infrastructure regulation is the fact that it is effected as a *two-tier regulation* (McGowan and Wallace 1996). While legislation predominantly concerns the EU-level, implementation and execution of regulatory provisions fall under the responsibility of the member states. This is further catalyzed by the multilevel character of the legislative process itself. Thus, despite the separation between legislative and executive competencies among the EU- and the national level, there are various interactions between the two.

consensus finding and allow policy learning of national governments by spreading information about policy consequences (Eising 2002: 87).

All of these mechanisms can induce a change of policy preferences in the member states. They are based on the assumption that EU politics takes place in "a community environment established by a common ethos and high interaction density" (Schimmelfennig 2003: 180). Such a conceptualization of the EU as a community environment emphasizes the informal, cultural side of EU institutions and the softer mechanisms of institutional effect and rule enforcement. Hence, more indirect forms of Europeanization refer to top-down mechanisms based on community values and norms that increase the legitimacy of a country's preferences and its bargaining power. According to this logic, the CEECs should have imitated policies of the EU and thus of those countries with whom they thought to share common norms and historical ties.

Such a view of preference formation is contested by other theories of EU policy-making. Intergovernmentalism, for instance, assumes that member states define their interests mainly on the basis of their domestic situations and defend them vigorously in the negotiations at the EU-level.[139] It posits that national actors form their preferences in EU-level deliberations in response to their domestic economic situations or pressures exerted by influential national interest groups. In other words, preference formation is assumed to occur almost independently from interactions at the EU-level. Hence, concrete policy decisions are the outcome of agreements between the member states at the EU-level on the basis of relative power positions and mutual concessions (cf. Moravcsik 1998).

A second and somewhat different logic of Europeanization considers how Secondary legislation or court decisions at the EU-level impact on policies and institutions in the member states themselves. Holzinger and Knill (2004), for instance, argue that under certain conditions the interaction of regulatory competition and cooperation at the EU-level leads to national policy convergence. Basically, we can differentiate between various forms of policy convergence, i.e. the convergence of content, goals, styles, institutions or

[139] According to this perspective, the legislative outcome of electricity liberalization in the EU could be viewed as the smallest common denominator between France, Germany and Britain, which all favoured a different mode of network access (Eising 2002: 85).

outcomes (cf. Bennett 1991; Héritier 2001a). The focus in this study is on the convergence of national regulatory regimes. While the levels of state ownership and competition reflect policy outcomes, namely those of privatization and liberalization, respectively, the level of NRA independence reflects the institutional structure of reregulation in a sector.

According to the second logic, Europeanization possesses an impact on at least two of the three characteristics that constitute a regulatory regime in network infrastructures. First, liberalization is an element of European Secondary law with the goal of attaining full competition in national and cross-national markets. And second, the establishment of NRAs is explicitly demanded by Secondary law in telecommunications and electricity. However, the third regime characteristic, privatization, is exempted from the competencies of EU institutions. Europeanization might nevertheless exert indirect pressure on the member states to privatize state-owned infrastructure companies through rules on state aids and merger control.

As a consequence, different levels of liberalization and reregulation in the infrastructure sectors of the member states can be interpreted as cross-national differences in the implementation of common EU legislation. However, despite the obvious effects of European regulatory cooperation on national reform policies, the mechanisms of this influence are not yet fully understood (Knill and Lehmkuhl 1999; Radaelli 2003). Although Europeanization might promote convergence, obviously there is disagreement among political scientists on the concrete mechanisms of this process.[140] While some authors claim that convergence stems from the EU membership obligation to implement Directives or Regulations at the national level (cf. Cowles, Caporaso and Risse 2001; Knill 2001), others have linked policy convergence to pressures based on domestic factors (cf. Radaelli 2003) or processes of horizontal policy diffusion (Schneider 2001b).

The different logics of Europeanization are also reflected in sectoral studies of infrastructure reform. In their analysis of the European electricity sector, Eising and Jabko (2001: 743) find that "[…] the formal and informal institutional dynamics of EU

[140] Knill (2001: 221-225), for instance, argues that domestic institutional structures can explain much of the variation between Europeanization and domestic policies, irrespective of adaptational pressures.

negotiations induced preference changes and political realignments at the domestic level". Similarly, Schmidt (1997: 265) stresses the centrality of the Commission as the major promoter of liberalization in the domestic processes of regulatory reform, especially in the telecommunications and electricity sector. Other authors, however, are more sceptical about the role of the EU as regards regulatory reform. They argue that the impact of Europeanization is overemphasized and that national processes of infrastructure reform can better be explained by global deregulation pressures (Eliassen, Mason and Sjovaag 1999: 27; Schneider 2001b: 61).

Chapter 7 assesses the factors that might have caused differences in regulatory regimes across the CEEC-10, mainly the role of Europeanization, horizontal policy diffusion, and domestic variables. Since European top-down pressures, that is the requirement to transpose the *acquis communautaire* into national law, have been similar on each applicant country prior to accession, any difference in the level of liberalization or reregulation should be explainable either by preference change, policy transference from third countries, divergent actor interests or the mediating effects of national institutions. As studies on the implementation of EU environmental policy have demonstrated, varying domestic adaptation patterns can for instance be explained by the institutional (in)compatibility of European requirements and domestic structures (Knill 1998).

4.2. EU Enlargement and Its Impact on the CEECs

One of the key issues that surrounded the first wave of Eastern enlargement regarded the question whether the companies in the new member states will be able to survive the fierce competition in the European markets for products and services. As in the past the European integration process has mainly been an economic one, competition policies and liberalization provisions were an integral part of the *acquis communautaire* that the CEECs had to transpose into national law. As McGowan and Wilks (1995: 141) point out, "competition policy is the central means towards the fundamental goals laid down in the Rome Treaty". As such it also applies to network infrastructures, although the latter are treated separately under Article 90 ECT.

In addition, any analysis of the enlargement process and its impact on national legislation has to consider that EU law, like any other law, evolves over time. Thus, the *acquis* constitutes a 'moving target'. This can be seen by recent developments in EU anti-trust and competition law, which both currently undergo a process of modernization. There has, for instance, been a heavy discussion about granting the NCAs more rights and a more important role in EU competition policy. One example is the abolishment of the exemption right of the Commission in this field. According to the Commission's White Paper, NCAs should in the future not be obliged to submit cases of supranational interest to the Commission (European Commission 1999b: 32-34). The question was whether this modernization process would have any negative effects on the accession negotiations. In fact, even the opposite seems to be the case: the decentralization process in EU anti-trust law has become a paradigm for other decentralization activities (Monti 2001).

The final negotiations of the accession treaties considered these problems explicitly. With the eight first wave countries from Central and Eastern Europe the negotiations were concluded by December 2002 at the European Council in Copenhagen. The Treaties of Accession between the EU and the ten new member countries of the first wave – the eight CEECs plus Cyprus and Malta – were finally signed in April 2003. At that time, Bulgaria and Romania were still negotiating with the Commission in a number of chapters, i.e. competition policy. However, even after the completion of the first enlargement round, there are still fears among Western politicians and business managers who believe that firms in the CEECs could benefit from undue competitive advantages, i.e. lax merger control or state aid (Hölscher and Stephan 2004: 322).

It was expected from the beginning that the transition process from a CPE to a market economy would generate problems of implementation. The process required significantly stronger efforts from the CEEC governments than a mere adoption of the *acquis*. In the light of political transition, the implementation of EU Secondary law demanded institution building and the creation of a functioning legal framework. Thus, in order for the *acquis* to be implemented properly, the specific circumstances in the applicant countries had to be taken into account during the negotiation process. The latter was

achieved through the application of the 'differentiation principle', which means that each candidate country is assessed according to its specific domestic situation.

Basically, the adoption of the *acquis* did not urge the applicant countries to privatize their infrastructure companies since the EU institutions, from the Commission to the ECJ, have no authority over the ownership structure in the various industries. According to Article 295 ECT, privatization is outside the jurisdiction of the Treaty and shall therefore not be subject to supranational regulation. It states that "this Treaty shall in no way prejudice the rules in Member States governing the system of property ownership". Hence, the scope of action as regards the privatization dimension of regulatory reform is extremely narrow. Rather, the emphasis was put on the liberalization of markets and, thus, on fostering competition by curbing monopoly power and removing barriers to entry.

Somewhat similar to privatization, in several sectors the establishment of NRAs is also outside of EU jurisdiction. However, the difference to the ownership dimension is that the Treaty does not explicitly prevent the EU institutions to establish such authorities. The Electricity Directive of 1996, for instance, did not contain any provisions in this direction. But in Article 23 the new Electricity Directive 2003/54/EC declares that "Member States shall designate one or more competent bodies with the function of regulatory authorities. These authorities shall be wholly independent from the interests of the electricity industry" (European Parliament 2003). For the telecommunications sector a similar provision has been in use since 1998. The general difficulty concerning reregulation at the EU-level is that member states strive to preserve their institutional autonomy over implementation issues and want to perform the duties of EU membership according to their own constitutional rules.

4.2.1. Accession Negotiations

For a successful completion of the accession process every candidate country was required to fully meet the Copenhagen Criteria which were formulated by the European Council in 1993. The political criterion demanded the "stability of institutions guaranteeing democracy, the rule of law, human rights and the respect and protection of minorities". The

two economic criteria asked for "the existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the Union". The latter meant that national competition law had to be adapted to the central provisions of the EU-level, i.e. abuse of a dominant position, merger control or subsidies.

The export of EU competition law to the accession countries did on the one hand influence the political-economic thinking of national reform elites; on the other it shaped the concrete implementation of competition law provisions according to EU standards.[141] In addition, the European Council demanded from the candidate countries the "ability to take on the obligations of membership, including adherence to the aims of political, economic and monetary union" (European Commission 1994). The latter criterion refers to the capacity of the CEECs to implement the *acquis communautaire* and to ensure its effective application through appropriate administrative and judicial structures.

The first stage of the accession negotiations commenced with the ratification of the Europe Agreements, also called 'Second Generation Agreements'.[142] Primary goal of the Europe Agreements was the creation of a bilateral free-trade area, mainly based on the mutual abolishment of restrictions for market entry. In this first phase of the enlargement process the EU offered the CEECs the prospect of membership by establishing the same structures as the former in course of institution-building. The Agreements were designed to assist the new partners to devise adequate, well balanced and appropriate legal instruments to enhance their mutual integration (Horovitz 1991: 55). As Estrin and Holmes (1998: 7) point out, the Europe Agreements can be interpreted as creating "a *de facto* rather than a *de jure* obligation for the CEECs to make internal competition law correspond to EU rules". The idea behind this form of 'institution-copying' was that the CEECs could take over an already existing institutional system, that of the EU, for which considerable

[141] With regard to competition policy, the EU subdivided the economic criteria into three further criteria that have to be met before negotiations could be closed. These are, first, the necessary legislative framework, second, an adequate administrative capacity, i.e. a functioning NCA, and, finally, a credible enforcement record of the *acquis* (Hölscher and Stephan 2004: 323).

[142] The Europe Agreements replaced the 'First Generation Agreements', a series of individual trade and cooperation agreements between the EC and some CEECs which were intended to create a new environment of trade and co-operation.

implementation expertise existed. The Europe Agreements were ratified between February 1994 (Hungary and Poland) and February 1999 (Slovenia).

There were nevertheless two problems with regard to the implementation of EU legal provisions. First, many EU rules were designed to prevent unfair competition from foreign countries and not to promote economic efficiency *per se*. The latter, however, was urgently needed in the transition countries. Second, EU policies, and in particular matters of competition, possess a strong sector-specific or industry orientation with the goal of EU-wide harmonization. In the CEECs, in contrast, the initial task was to abolish the old structures from the era of economic planning with its distinct industrial biases, i.e. the inefficient allocation of resources. The sector-specific focus of EU competition policy, i.e. in network infrastructures, might have even deterred an accession candidate "from promoting investment in areas where it had a genuine comparative advantage but where this might replace capacity existing elsewhere in Europe" (Estrin and Holmes 1998: 9).

The second phase of the enlargement process started when concrete negotiations about accession began. The first group of CEECs which was offered the possibility to start concrete negotiations with the EU in March 1998 included the Czech Republic, Estonia, Hungary, Poland and Slovenia ('Luxembourg Group'). Negotiations with the remaining five CEECs, Bulgaria, Latvia, Lithuania, Romania and the Slovak Republic, started February 2000 ('Helsinki Group'). Until these two dates, there was no *de jure* requirement for the applicant countries to take over the EU's competition policy. With the beginning of the concrete accession negotiations, however, the CEECs are required to fully implement the *acquis* within a defined time period.

To this end, the *acquis* was divided into 31 chapters which cover all relevant policy fields, ranging from the four freedoms in the Single Market over external relations, education to culture policy and consumer protection. The corresponding negotiations between the EU and the applicant states were organized along these chapters. By fall of 1998 the first chapters were opened and by the end of 2002 negotiations on all chapters had provisionally been closed, except with Bulgaria and Romania which needed significantly more time to complete negotiations. On 13 December 2002, the European Council in

Copenhagen decided about the accession of ten new EU members, including eight CEECs plus Cyprus and Malta. The signing of the Treaties of Accession took place in Athens on 16 April 2003, and the date for the beginning of full EU-membership was set to 1 May 2004.

4.2.2. The Adoption of the *Acquis Communautaire* as the Basis for Accession

Full adoption of the *acquis* was the prerequisite for an applicant's successful accession to the EU (Schimmelfennig 2001: 59). Before any of the CEEC-10 could effectively complete the accession negotiations each of 31 chapters had to be officially closed by the responsible Commission's 'Directorate-General Enlargement'. Depending on the individual progress of transition, the dates of the opening of the chapters significantly differed across countries. Advanced countries, i.e. Hungary or Estonia, were granted much earlier opening dates than the laggards, i.e. the Slovak Republic. Of the 31 chapters, four explicitly refer to progress in infrastructure reform: competition, transport, energy and telecom and IT (Table 4.1).[143]

In order to identify the main elements of the *acquis* that had to be adopted by the CEECs in the field of network infrastructures, it is helpful to take a closer look at the individual chapters. Chapter 6 covered 'Competition Policy' which unfolds cross-sectoral effects. The competition *acquis* is based on Article 31 (state monopolies of a commercial character), Articles 81-85 (rules applicable to undertakings), Article 86 (public undertakings and undertakings with special or exclusive rights) and Articles 87-89 (rules applicable to state aid) of the Treaty, as well as Articles 65 and 66 of the ECSC Treaty.[144] The control of mergers is executed on the basis of the Merger Regulation 4064/89

[143] The overview reveals a relatively large variation across countries and sectors as regards the time that has elapsed between the opening and the closure of a chapter. Negotiations concerning the competition chapter turned out as a rather difficult and lengthy process. While the transport chapter caused the lengthiest process, the chapter on telecommunications was closed within one year or even less after its opening.

[144] The treaty establishing the 'European Coal and Steel Community'. It expired in 2002.

(European Council 1989). Parts of the *acquis* in the field of state aid are addressed under other chapters, namely Agriculture, Fisheries and Transport Policy.[145]

Table 4.1: Opening and Closure of the Accession Chapters

Country	**Chapter 6 Competition**	**Chapter 9 Transport**	**Chapter 14 Energy**	**Chapter 19 Telecom and IT**
Bulgaria	03/01 – 11/03	06/01 – 06/03	11/01 – 11/02	10/00 – 10/01
Czech Republic	05/99 – 10/02	11/99 – 12/02	11/99 – 11/01	10/98 – 04/99
Estonia	05/99 – 11/01	11/99 – 03/02	11/99 – 07/02	10/98 – 04/99
Hungary	05/99 – 12/02	11/99 – 12/01	11/99 – 11/00	10/98 – 05/00
Latvia	05/00 – 11/01	11/00 – 12/01	05/01 – 11/01	03/01 – 04/02
Lithuania	05/00 – 11/01	11/00 – 12/01	05/01 – 05/02	10/00 – 03/01
Poland	05/99 – 12/02	11/99 – 06/02	11/99 – 11/01	10/98 – 05/99
Romania	11/00 – 11/04	06/01 – 12/03	05/02 – 11/04	11/00 – 11/02
Slovak Republic	05/00 – 10/02	11/00 – 04/02	05/01 – 11/01	11/00 – 04/01
Slovenia	05/99 – 12/02	11/99 – 12/01	11/99 – 05/01	10/98 – 06/99

Notes: Situation as of December 2004. Dates refer to opening and provisional closure of chapters. With the eight new EU members from Central and Eastern Europe the chapters were officially closed in December 2002.

Source: European Commission (2004a); own research.

Chapter 9 covered the area of 'Transport Policy'. In the transport sector the candidate countries face the challenge of transposing and implementing a substantial body of law, which represents about 10 per cent of the entire *acquis communautaire*. The *acquis* of chapter 9 is based on Articles 70-80 ECT. The transport *acquis* consists mainly of Secondary legislation, i.e. several hundred Regulations, Directives and Decisions. Implementing the latter does therefore require an adequate level of administrative capacity. In aviation, the major issues have been market access, safety and infrastructure

[145] In assessing if the candidate countries can comply with the competition *acquis* and withstand the pressures of the internal market resulting from the full application of this *acquis*, the Commission examined whether undertakings operating in the candidate countries are accustomed to operating in an environment such as that of the Community.

organization. Across all sectors there is an economic need to promote, develop and upgrade the transport infrastructure in the candidate countries, with financial assistance from the EU. Today after enlargement, the transport infrastructures of the CEECs form part of a larger Trans-European network.

Reform developments in 'Energy' are treated in chapter 14. As the largest importer and as the second largest consumer in the world, the EU is a key actor on the international energy market.[146] It was assumed that Eastern enlargement will reinforce this trend, despite the fact that some candidate countries own significant energy resources, i.e. Polish coal and Romanian oil and gas. The energy *acquis* represents the body of all energy related EU law, regulations and policies. According to the *acquis*, the candidate countries were required to prepare for the internal energy market by implementing the gas and electricity Directives and to improve energy networks in order to create a functioning European market. As in other sectors, the *acquis* also demanded the existence of institutions that safeguard market reform, i.e. NRAs as required in the electricity and gas Directives.

Finally, chapter 19 refers to the *acquis* in 'Telecommunications and IT'. As outlined above, the EU established its policy in the telecommunications sector as a result of rapid technological development in combination with a landmark decision by the ECJ, confirming that the sector was subject to the competition rules of the Treaty. The telecommunications *acquis* was updated with the adoption of the new CRF in February 2002, and all CEECs were required to transpose and apply this modified legislation by the time they wanted to become full members of the EU. Implementing the *acquis* required a removal of any conflict of interests through the effective separation of regulatory responsibilities from operational interests. This includes the establishment of a NRA for telecommunications and a separation of policy- and law-making authorities from property ownership.

All of the above mentioned chapters have been closed with the eight new EU members from Central and Eastern Europe by December 2002. With Bulgaria and

[146] The EU is dependent on imports for half of its supplies. However, this dependence could even reach 70 per cent for natural gas, 90 per cent for oil and for 100 per cent for coal by the year 2030.

Romania, all chapters had at least been provisionally closed by December 2004. Basically, immediate repercussions on national law cannot be expected from the closure of chapters. The *acquis* itself needs to be approved in the national arena through implementation measures and the adaptation of structures. In addition, the negotiations on the individual chapters are a supranational process in which both sides have a motivation to keep chapters open so that compromises can be reached also across policy fields when concluding the negotiations (Hölscher and Stephan 2004: 326-327).[147]

[147] These package deals are facilitated by the fact that issues raised in different chapters are often interlinked, i.e. as regards competition policy which unfolds a horizontal and a sector-specific effect.

5. Infrastructure Regulation in Central and Eastern Europe in the Light of Transition

In the old EU countries the process of regulatory reform has so far taken place in an environment characterized by functioning market economies which are framed by institutions that safeguard private property and free transactions among market participants. The CEEC-10, in contrast, had been shaped by the doctrine of Socialism and Communism which emphasized communal ownership and state control for forty years after World War II. Hence, in order to understand the developments of regulatory reform in these countries, we need to take into account their specific situation at the beginning of the general transition process. The transition of these countries from CPEs to market economies has developed a logic of its own in which efforts to reform the regulatory setting of network infrastructures was naturally embedded.

Most CEECs have demonstrated a remarkable economic performance over the past 15 years. Table 5.1 shows that the average GDP growth rate for the CEEC-10 in the time period between 1995 and 2003 was 3.7 per cent. In comparison, the average growth rate of the EU-15 for that time period was 2.2 per cent (OECD 2003). Of the ten countries Hungary, Poland, the Slovak Republic and Slovenia showed positive growth rates for the entire observation period.[148] The countries of the Luxembourg Group (Czech Republic, Estonia, Hungary, Poland and Slovenia) had an average growth rate of 3.8 per cent and the CEECs of the Helsinki Group (Bulgaria, Latvia, Lithuania, Romania and Slovak Republic) of 3.5 per cent. The fastest growing country among the CEEC-10 was Latvia with an annual growth rate of more than 5.2 per cent. The laggards among the CEEC-10 are the two applicant countries: Bulgaria with an average growth rate of 1.4 per cent, followed by Romania with 1.8 per cent.

[148] Except for Latvia in 1990 and Poland in 1992, all CEEC-10 had negative growth rates in the first three years of transition. This is not surprising, however, since economic activities in the CPEs were kept on an artificially high level through excessive public investments which created huge budget deficits.

Table 5.1 Economic Growth CEEC-10 (1995-2003)

Country	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	***Avg.***
BUL	2.9	-9.4	-5.6	4.0	2.3	5.4	4.0	4.8	4.5	***1.4***
CZE	5.9	4.3	-0.8	-1.0	0.5	3.3	3.1	2.0	2.9	***2.2***
EST	4.3	3.9	9.8	4.6	-0.6	7.3	6.5	6.0	4.7	***5.2***
HUN	1.5	1.3	4.6	4.9	4.2	5.2	3.7	3.3	2.9	***3.5***
LAT	-0.9	3.7	8.4	4.8	2.8	6.8	7.9	6.1	7.5	***5.2***
LIT	3.3	4.7	7.0	7.3	-1.8	4.0	6.5	6.8	8.9	***5.2***
POL	7.0	6.0	6.8	4.8	4.1	4.0	1.0	1.4	3.7	***4.3***
ROM	7.1	4.0	-6.1	-4.8	-1.2	1.8	5.3	4.9	4.9	***1.8***
SLK	6.5	5.8	5.6	4.0	1.3	2.2	3.3	4.4	4.2	***4.1***
SLO	4.9	3.5	4.6	3.8	5.2	4.6	3.0	2.9	2.3	***3.9***
Unweighted Average CEEC-10	*4.3*	*2.8*	*3.4*	*3.2*	*1.7*	*4.5*	*4.4*	*4.3*	*4.7*	***3.7***

Note: Figures denote percentages of real GDP

Source: EBRD (2004)

Between 1995 and 2002, general government expenditure across the CEEC-10 decreased by 1.6 percentage points and is now in average at 41.4 per cent of GDP (Table 5.2). This is a significantly smaller reduction than in the EU-15 where general government expenditure decreased by 3.4 percentage points over the same time period (OECD 2003). Again, Hungary showed a remarkable performance with a decrease in government expenditure by 9.6 percentage points between 1995 and 2002. Only three countries, the Czech Republic, the Slovak Republic and Slovakia increased government expenditure over that time period.

Table 5.2 Government Expenditure CEEC-10 (1995-2002)

Country	1995	1996	1997	1998	1999	2000	2001	2002	*Change (in %)*
BUL	41.3	42.0	33.1	37.0	39.6	39.7	38.6	37.2	***-4.1***
CZE	44.1	42.2	41.7	40.9	41.9	43.7	44.2	46.6	***2.5***
EST	41.5	40.5	37.6	40.5	43.2	38.5	37.0	38.4	***-3.1***
HUN	52.6	48.8	49.5	50.4	44.8	47.1	51.9	53.5	***0.9***
LAT	41.5	39.5	41.0	43.3	44.1	42.0	37.2	38.8	***-2.7***
LIT	36.8	34.2	33.5	37.6	40.3	33.6	31.7	31.4	***-5.4***
POL	49.2	46.4	45.8	42.7	42.8	41.7	43.6	44.1	***5.1***
ROM	34.7	33.8	34.0	34.7	35.2	34.8	33.4	32.7	***-2.0***
SLK	45.2	47.0	45.5	42.9	43.3	45.4	47.7	48.4	***3.2***
SLO	43.4	42.9	43.8	44.4	44.5	42.2	42.6	42.6	***-0.8***
Unweighted Average CEEC-10	*43.0*	*41.7*	*40.6*	*41.4*	*42.0*	*40.9*	*40.8*	*41.4*	***-1.6***

Note: Figures denote percentages of real GDP; general government expenditure includes net lending.

Source: EBRD (2003)

A third indicator for economic development is the level of Foreign Direct Development, which "is at the forefront of economic policy decisions in the CEECs, as it is expected to accelerate enterprise restructuring and aid in successful transition to a market economy" (Barrell and Holland 2000: 477). FDI has risen sharply over the past decade, demonstrating the growing attractiveness of the transition countries for foreign investors (Table 5.3). Total FDI in the CEEC-10 increased by almost 130 per cent between 1995 and 2002. There was an extraordinary rise between 1997 and 1998, when FDI increased by 65 per cent. The three largest countries have naturally received the highest amount of net inflows in the balance of payments. However, while in the Czech Republic and Poland the FDI inflows have significantly increased since 1995, Hungary has experienced a sharp decline in foreign investments and even recorded a net outflow in 2003. As regards cumulative FDI inflows per capita, the Czech Republic with 3.709 US Dollars and Estonia with 2.362 US Dollars were the most attractive CEECs for foreign investors between 1989 and 2003. Again, Romania and Bulgaria are among the laggards

with the lowest and second lowest level of cumulated per capita inflows between 1989 and 2003, respectively. However, just recently, FDI has significantly increased in Bulgaria which recorded a net per capita inflow of almost 170 US Dollars in 2003.

Table 5.3 Foreign Direct Investment CEEC-10 (1995-2003)

Country	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**∑ per capita 1989-2003**
BUL	98	138	507	537	789	1.003	641	876	1.341	**775**
CZE	2.526	1.276	1.275	3.591	6.234	4.943	5.476	8.276	2.351	**3.709**
EST	199	111	130	574	222	324	343	153	688	**2.362**
HUN	4.410	2.279	1.741	1.555	1.720	1.123	2.255	598	-1.647	**2.089**
LAT	245	379	515	303	331	400	151	388	289	**1.435**
LIT	72	152	328	921	478	375	439	714	467	**1.163**
POL	1.134	2.741	3.041	4.966	6.348	8.171	6.928	3.789	3.675	**1.105**
ROM	417	415	1.267	2.079	1.025	1.051	1.154	1.080	1.539	**486**
SLK	194	199	84	374	701	2.058	1.460	4.007	481	**1.873**
SLO	161	167	303	221	59	71	371	1.748	-120	**1.646**
Total CEEC-10	*9.456*	*7.857*	*9.191*	*15.121*	*17.907*	*19.519*	*19.218*	*21.629*	*9.064*	**1.664**

Note: All figures are million US Dollars; per capita figures are US Dollars.

Source: EBRD (2004)

These macroeconomic indicators show that in average the transition countries have made remarkable economic progress. However, we still find significant differences across countries, especially in terms of international competitiveness. This becomes evident if we look at the cumulated FDI per capita inflow. In addition to productivity and wage level, the political environment and infrastructure conditions are factors that determine the investment attractiveness of a country. Thus, in order to make themselves interesting for foreign capital, transition countries needed not only to restructure their big industries; even more fundamentally, they had to restructure the political and judicial system as well as their infrastructure regimes in order to offer favourable investment conditions and establish

credibility. Cross-national differences in reform achievements along these dimensions should therefore be able to explain a good deal of variation in the levels of FDI inflow.

Although the enlargement process seems to have impacted significantly on reforms in the CEECs through the Europeanization of national policies, with regard to the general transition process it is instructive to take a closer look at the domestic situation in these countries. The transition process in the CEECs did not only involve a quantitative reduction of state action but also a qualitative redefinition of governmental intervention. It constituted a 'revolution from above' that set out to create the political and economic institutions of a market economy from scratch. Contrary to mere state retreat, such a general transition called for an active role of the government, albeit under different conditions than under former Communist rule.[149] We can only capture the process of infrastructure reform if we get to understand the characteristics and peculiarities of the transition process that has started in the CEECs after 1989/90. This includes the general political and economic conditions in which the reforms were embedded.

5.1. Political Transition

Although all post-Communist states were largely built on the institutional foundations laid by the republics under Soviet, Yugoslavian and Czechoslovakian rule, they can nevertheless be regarded as 'new' states.[150] The latter is due to the fact that the transition process involved fundamentally new definitions of the nature of the state, its functions and limits (Hare et al. 1999: 7-8). The nature and definition of the state itself, i.e. as regards its boundaries, ethnic composition or the relationship between state and economy, has been called into question since the beginning of the transition process. However, the CEECs are new in different ways. Thus, any analysis of the reform

[149] The literature occupied with questions of state failure, especially in regard to developments in Latin American or African countries, had a significant influence on the reform strategies chosen by CEEC governments (cf. Krueger 1989). It posits a rather sceptical view of the role of the state in economic transition and sees the main task in reducing its capacity to intervene. Another perspective claims exactly the opposite and calls for an active role of the state in economic restructuring (cf. Nelson 1989).

[150] In times of Communist rule, the republics exhibited the full set of characteristics of independent states, however without any *de facto* independence.

trajectories of these countries demands close consideration of their national histories, in both the pre-communist and communist period. This is important for the analysis of the factors that might have caused divergence of regulatory regimes across the CEECs.

With regard to political transition, Offe (1991: 869) claimed that most fundamentally, "a 'decision' must be made as to who 'we' are, i.e., a decision on identity, citizenship and the territorial as well as social and cultural boundaries of the state". In other words, transition in the CEECs was and still is related to two different sets of constitutional issues: first, the *de facto* formation of a new state and, as a prerequisite, the definition of the political community which this state represents. And second, the definition of checks and balances through the establishment of an institutional framework which ensures the division of power within this new state. The demands of basic economic reform and upcoming nationalism in Central and Eastern Europe originally suggested the formation of a new centralized state. However, the resistance of ethnic minorities has thus far made this project rather difficult. The second constitutional issue therefore points to the question of institutional design at the centre and the balance between legislative and executive power to ensure fast economic recovery.

5.1.1. State Formation

The collapse of the three Communist federations offered a second chance for many countries in Central and Eastern Europe to regain sovereignty and to develop a distinct national identity.[151] Of the ten countries analyzed in this study, the three Baltic Republics, the Slovak Republic and Slovenia are new in the sense that they did not take over much of the institutional structures of the former Communist federations.[152] The Czech Republic, in contrast, inherited more of this institutional structure, i.e. the Czechoslovakian governmental system. And Hungary and Poland are two countries whose structure has

[151] In Central and Eastern Europe, a 'nation' has in the past been understood mainly in ethnic and cultural terms.

[152] The Baltic states enjoyed two decades of full independence between the two World Wars and could thus draw on legal continuity from the experience of these inter-war years. For these countries, state-building thus meant more of a restoration of the *status quo ante*. However, of these three countries, Estonia was able to base its reform initiatives on its inter-war heritage with much more determination than Latvia or Lithuania.

remained more or less intact throughout the transition period. As Hare et al. (1999: 2) argue, analyses of the economic restructuring process should therefore not take for granted the existence of a well-established state apparatus which is capable of conceiving, developing and implementing reforms. They point to the unique challenges these countries faced at the outset of transition as regards the definition and implementation of coherent policies for successful economic recovery.

The transition from a CPE to some type of market economy had thus to be accompanied by fundamental state restructuring. Institution-building had to take place in an environment in which the state itself had in many cases to be re-established (Hölscher and Stephan 2004: 323). The latter, however, is a highly complex political process. Some of the policies necessary for economic transition are only possible under the auspices of a strong and competent government, others can cause serious difficulties for a weak state, and again others can catalyze and assist the state formation process (Hare et al. 1999: 10). What was needed was not simply a withdrawal of the state from the economy. Rather, state building and economic transition had to be tackled at almost the same time in order to facilitate the creation of markets and to carry out those functions which are necessary for the smooth operation of a market economy.

Initially set up to strengthen its rule, the Communist party promoted economic reforms based on greater flexibility, initiative and responsiveness of the system. This in turn demanded some decentralization of control and political reforms. As in consequence the role of the centre weakened and Communist rule began to decay, the republics were able to decide more autonomously about their future course. In the more homogenous countries, i.e. Hungary or Poland, economic reforms implied the delegation of political power to regional or sectoral lobbies. In the federal states, economic reform had significant implications for the interests of the republics, their relationship with the centre and with each other. The delegation of political power from the centre to the regions enabled the revelation of long-existing national resentments. The latter were mainly articulated in attacks against élites of the local Communist party which were accused of betrayal of the national interest vis-à-vis the centre. As a consequence, most of the Communist elites jumped on the nationalist bandwagon (Batt and Wolczuk 1999: 34-36).

The major task for post-Communist governments was the implementation of a capitalist 'revolution from above' in which the state played the leading role (Offe 1991: 866 ff.). In contrast to efforts of Western governments to roll back the state through programmes of liberalization, privatization and deregulation, the restructuring process in the CEECs is of a qualitative different nature. For the latter, what was required was "not so much a less powerful state as one that plays different roles and does so more effectively", because "weaknesses of the larger adminsitrative setting will frequently hamper reforms and constrain their effects" (Nelson 1989: 10). The prerequisites of economic transition seem at first glance to call for a unitary and centralized state which offers authoritative leadership, coherent and stable policy-making and uniform and reliable policy implementation. The argument for a concentration of forces at the centre was further catalyzed by the absence of qualified administrative personnel.[153]

Problematically, the alternative to an unitary state, federalism, has proved ineffective for managing national diversity in the post-Communist era. The responsible politicians were extremely reluctant to adopting a federal state structure because of the likelihood of secession of national units equipped with constitutional rights to paralyze the federal government. Thus, the challenge for most CEECs was to find a balance between demands of economic transition, which seems to require a strong, unitary state, and the demands of managing multinational societies, which seem to call for a more pluralistic, federal state structure (Batt and Wolczuk 1999: 39).

We can identify two different developments among the CEECs. The struggle for self-rule in countries like the Slovak Republic was paralleled by the reluctance to adopt a radically new and liberal economic system of the Western type. These countries searched for a third way of economic organization instead. In the Baltic States or Slovenia, in

[153] However, a centralized state model does not automatically produce a strong state and does thus not guarantee effective economic transition. One fear at the outset of reform was that an unitary state structure might preserve the problems of Communist rule and lead to an exploitation by the established political elites. And in fact, the most formally centralized CEECs tended to show the least progress in economic transition. As Gibson and Hanson (1996: 307) put it, "the avoidance of substantive devolution may be rationalized as a means of pushing through economic reform, in countries where reform is not, in fact, being successfully pushed through". In addition to the fact that a centralized state can help to preserve Communist legacies, an unitary state structure makes ethnic conflict likely if we consider that many territories have in the past usually been inhabited by more than one nation.

contrast, the creation of a new state was closely linked with a strong nationalist rhetoric that was much more favourable to the adoption of a consistent reform strategy. This commitment to the market economy in many of the CEECs can be seen as a first signal towards their announced return to Europe. A final concern of nation-building was ethnic diversity in the new countries. Resolving ethnic conflict and granting rights to minorities was an important prerequisite for successful economic transition because prolonged ethnic conflict would divert energies and attention away from the major reform tasks.

5.1.2. Central Institution Building

A key question that needed to be solved at the beginning of the transition process was how much power should be granted to Parliament. Most CEECs committed themselves to the West European model of Parliamentarism, based on democratic, consociational and liberal values. As the cornerstone of the consensus model of democracy, parliamentarism based on proportional representation was assumed to be particularly well suited to govern multi-ethnic societies, precluding a possible domination by the majority group (Lijphart 1999). In reality, however, the emphasis of parliamentarism as the highest representative state institution has proven to be less successful as in some countries ethnic majorities began to dominate legislatures, turning the new states into "exclusive republics or nationalizing instruments" (Batt and Wolczuk 1999: 40). This development was especially obvious in Estonia and Latvia, and in the Slovak Republic, in which parliamentary majorities have been used against to suppress the interests of ethnic minorities.[154]

Despite the problems associated with presidential systems, i.e. zero-sum elections, polarization of the electorate or hampering of the democratization process, the newness of most CEECs and the fragility of its established institutions seem to have legitimized the delegation of authority to individuals, i.e. the President. And indeed, except for a few

[154] The old party and state nomenclature ensured their influence upon politics by joining the national strive for liberation from Communist influence. Thus, despite the emergence of multi-party systems in the CEECs, some states witnessed the continued existence of societal groups that were already powerful under the old regime, i.e. state enterprise directors or representatives of regional and local state apparatuses.

negative counterfactuals, there is only limited evidence that directly-elected Presidents have exploited their power to the disadvantage of certain societal groups.[155] Most characteristic, however, in the majority of CEECs there is no clear separation of powers neither along institutional nor along partisan lines. In other words, the system of checks and balances that characterizes Western style democracies is neither existent in a functional mode between executive Presidency and legislature nor in a political mode between government and opposition.[156]

5.2. Economic Transition

Many observers were convinced that the breakdown of the Communist system and subsequent reforms in the CEECs were the consequences of an economic crisis, mainly caused by the exclusion of competition from the national allocation process. They expected that as economic activity was transferred from the state to the private sector, competitive forces would cause inefficient enterprises to vanish while rewarding successful ones (Jack 2002: 620). However, all CEECs reacted differently to the crisis. While politicians in Hungary quickly learned that the crisis would not be able to overcome by mere cosmetic corrections and that a fundamental reform was necessary, the Polish and former Czechoslovakian governments had greater difficulties in setting up a sustainable reform programme. However, these cross-national variations did in the end not lead to significantly different forms of national competition policies. Today, cross-national differences can rather be found in the details of implementation (Dieringer 2001b: 51-52).

Already before the accession process began it was a commonly held view that a pure adoption of the *acquis communautaire* alone would not suffice for successful economic transition. Experts pointed to the structural diversity among Western democracies and

[155] In some CEECs, also Prime Ministers have aspired the role of charismatic leaders with an authoritative element in combination with strong parliamentary support, i.e. Slovak Prime Minister Meciar.

[156] Even if we accept the assumption that there is no direct correlation between the functioning of executive-legislature relations and the speed of economic reform, there nevertheless seems to exist a relationship between the absence of a constitutional framework on the one hand and slow economic recovery on the other (Hellman 1996: 56). For instance, the existence of a constitution *per se* appears to foster political stability and strengthens the capacity for economic recovery.

posited that the CEECs had to make appropriate choices on a practical level in order to introduce competition into the markets. What was needed was a fundamental redefinition of the states' role in the economy. These changes had a significant impact on the relationship between the state and the private sector, especially with regard to two areas: privatization and competition policy. In particular, the transition of CPEs to market economies demanded a sufficient level of competition to ensure economic and social freedom. Thus, a fundamental reconstruction of the competition principle was an elementary prerequisite for successful economic transition in the CEECs (Sturm and Müller 2000: 20-22).[157]

In the CEECs, the industrial and regional structure of the economy had to be fundamentally reorganized to increase international competitiveness (Barrell and Holland 2000: 478). The fact that under Communist rule companies were denied access to foreign technology left the CEECs with idea gaps, while inefficient capital use, production techniques and business practices created object gaps (cf. Romer 1993). Thus, one of the key priorities of the transition process was the modernization of large public enterprises. FDI was attributed a key role in the process of enterprise restructuring (Blanchard et al. 1991). FDI has increasingly become a medium for the transfer of knowledge by introducing new technologies, management techniques, networks and marketing practices. In addition, in the trade sector FDI promised to help integrating the region into the world economy.[158]

5.2.1. Large-scale Privatization

Although privatization in the CEECs has been a highly political process, it nevertheless constituted an important prerequisite for economic transition. Privatization

[157] Problematically, the policies of privatization and liberalization have potential for conflict. Competition policy aims at making markets more attractive for foreign investment, i.e. by breaking-up former monopolies. However, for the ministers of finance in the CEECs a major goal of privatization was to achieve revenues high enough to attain fiscal consolidation. This, in turn, was more likely if potential private investors could see a perspective for the company to continue to operate its business on a dominant basis also after privatization.

[158] This was a very important aspect since nearly two-thirds of total world trade is conducted by or with large multinational companies (UNCTAD 1998).

had to serve objectives that were somewhat different from the ones postulated by Western governments. In the CEECs, the major goals were to ensure equity, to stop the appropriation of assets by state officials, to speed up general economic restructuring and to depoliticize the economy. The goals of privatization in Western EU countries, in contrast, were more specific, i.e. to improve enterprise performance and economic efficiency. Market forces, it was argued, were deficient in state-owned companies because governments pursued a variety of goals other than profitability. But also in the CEECs the restoration of public finances has been an important argument for privatization policies since many countries started with high levels of internal and external debt (Süß 2000: 50).

The CEECs experienced two forms of privatization which usually proceeded at different speeds and according to different rules. There was first the need to privatize smaller enterprises from the crafts, trade and service sector. While in Poland privatization of these enterprises was carried out by the municipalities, in Hungary small-scale privatization was handled by the newly established State Property Agency (SPA), using auctions as the dominant privatization method. Second, large-scale privatization involved the big state enterprises, i.e. public infrastructure companies, which constituted the most substantial part of economic activity in times of Communist rule (Süß 2000: 52-53). The latter was politically more sensitive since privatization caused the state to give up influence in areas previously regarded as elementary for executing authoritarian power.

In the CPEs, the lack of economic efficiency of state-owned companies was extremely strong. Problematically, at the beginning of the transition process the institutional environment for radical and sustainable reforms was non existent. Therefore, the scope for immediate and large-scale privatization programmes, at least for big public infrastructure companies, was severely limited (Rowthorn and Chang 1993). The only alternative to the privatization of those companies would have been to improve the organization and performance of the state sector. And indeed, early proposals emphasized an approach of slow institutional development based on encouraging the liberalization of markets, and only slow and gradual steps towards privatization (Murrell 1996: 30-40; Stiglitz 1994: 192-196).

De facto, however, all governments opted for rapid mass privatization for two reasons. First, there was widespread believe that hesitation to privatize would lead to the decumulation of assets, based on the circumstance that in most CEECs control of these assets was in the hands of the managers or, as in Poland, in the hands of the workers. Rapid privatization would avoid the danger of asset consumption through higher wages or expatriation by the management. A second reason for mass privatization was a deep mistrust in the government's motives for control through state ownership. This was connected with widely shared beliefs about corruption among public officials (Frydman and Rapaczynski 1993: 40-43). According to the latter, the performance problems of public corporations were the logical consequence of the politicization of the economy. Thus, the real and immediate problem was less company inefficiency, but rather the 'depoliticization' of state enterprises.

The question that needed to be answered after the decision between incremental and rapid privatization concerned the privatization method. For obvious reasons, methods of privatization chosen by Western governments, i.e. trade sale or public offerings, did not constitute viable solutions. The stock of private domestic savings was too small for large-scale ownership transference between the state and the private sector. A second factor was the lack of legal infrastructure which made it difficult for potential investors to evaluate risks and liabilities of their engagement. This has however not completely ruled out those methods that were typically employed in Western EU countries. As Table 5.4 shows, governments in the CEECs favoured mainly four distinct ways of privatization, the most common of which was mass privatization.

The basic idea behind mass privatization was to place into private hands the savings that would have been required to buy shares in the state-owned companies in the form of vouchers or privatization certificates.[159] The latter could then in principle be exchanged directly by the voucher holders for shares in companies. However, in most cases the government encouraged and catalyzed the creation of financial intermediaries, i.e.

[159] Among the CEEC-10, the only country that had not introduced a programme of mass privatization at the outset of transition was Hungary. The first mass privatization programmes were set up in 1992 in former Czechoslovakia and in Romania, and in 1993 in Estonia and Lithuania.

investment funds. Among the new EU members, the Baltic Republics and Slovenia largely followed the Russian model of piecemeal privatization and the rather *ad hoc* development of financial institutions. Bulgaria and Romania, in contrast, have opted for the Czech-Slovak model of privatization in waves, with capital market institutions being developed quickly to accompany the process.

Table 5.4 Privatization Methods in the CEECs

Privatization Method	**Main Addressees**	**Characteristics/Problems**
Auction or public tendering	Foreign multinational firm	• Applies only to a few selected firms • The idea of selling central parts of the industry to foreign investors has caused disquiet in the CEECs
Management Employee Buyout (MEBO)	Workers and managers	• Purchases often financed against expected future profits of the respective enterprise
Restitution	Former owners	• Regressive, leading to quick concentration of wealth in the hands of a few citizens • Potentially slow process due to likelihood of law suits of expropriated citizens under Communist rule
Mass privatization	General public	• Avoids the problem of company valuation • Allows quick and just ownership transference • Revenues cannot be used by the government for purposes of deficit reduction

Source: Hare et al. (1999: 16)

The efforts to privatize state assets as quickly as possible produced an extraordinary growth of the private sector in the CEECs. While in all countries, except for Hungary and Poland, the private sector contributed less than 10 per cent to nominal GDP before 1989,

this figure rose to over 30 per cent for three and to over 50 per cent for seven of the CEEC-10 in the mid-1990s (World Bank 1996: 15).[160] However, there does not seem to exist a direct relationship between the method of privatization chosen and the share of GDP supplied by the private sector.[161] Public tendering or auctions have been applied in significant scope only in Estonia and Hungary where governments relied heavily on FDI to sell public enterprises. In the other eight countries, either MEBOs or mass privatizations have dominated the reform process.[162]

The factors and mechanisms behind this variety of privatization methods are relatively difficult to ascertain. While Estonia has opted for sales to foreign companies according to political reasons, i.e. to avoid ownership rights for the Russian minority, in Hungary economic rationales seem to have predominated over political factors. Nevertheless, the latter appear to have been the drivers behind mass privatizations in most CEECs. For many governments, the primary goal of privatization was the depoliticization of state-owned companies rather than the improvement of industrial efficiency. In this context, it does not make a difference whether a country is new or old as regards its pre-transitional history: most of them have opted for schemes of mass privatization. What has differed across the CEECs, however, was the national design of these mass privatization programmes (Hare et al. 1999).

5.2.2. Competition Policy

In contrast to the situation in the old member states, the discussion in the CEEC-10 has thus far not so intensively focused on issues like merger control or abuse of a dominant

[160] According to the World Bank definition, companies are considered private if less than 50 per cent of their shares are owned by the state.

[161] One reason for his phenomenon is that most of private sector growth has been fostered through programmes of privatization of retail shops or farms, and through the emergence of a new small and medium sized enterprise (SME) sector in the wake of mass privatization.

[162] As Bennett, Estrin and Maw (2001) show, in Estonia and Hungary mass privatization was eschewed because the government possessed a strong position relative to public enterprise employees or other potential buyers. In these cases, state-owned firms were sold at positive prices and there was only little or even no retained shareholding. In most of the former Soviet Republics and in the Balkan states, in contrast, governments held a much weaker position. The consequences were mass privatizations, with the distribution of state assets at a zero or nominal price which just served to cover administrative costs.

position. In the latter, anti-competitive forces are already greatly moderated by globalization pressures. What constituted a much greater difficulty is the role of the executive and legislative institutions, in particular as regards their lack of knowledge and experience of the functioning of a market economy (Hare et al. 1999: 27). In order to raise credibility and foster competition in course of economic transition, by now all CEEC-10 have established NCAs, albeit with variation in organizational form and degree of independence from political influence.[163] As will be shown in the next chapter, today we can also observe a tendency in the CEECs towards independent authorities in sector regulation.

The introduction of competition law in course of economic transition in the CEECs faced two major challenges. The main external challenge of national competition law is constituted through the European integration process and membership in international organizations and agreements, i.e. the OECD or Central European Free Trade Agreement (CEFTA).[164] On the one side, the Europe Agreements served as the basis for the harmonization of national competition law with the *acquis*, on the other they laid down the principles of cooperation between the competition authorities of the EU and those of the accession candidates (Heinz 1999). At the beginning, the Europe Agreements called for a general and complete harmonization of national with EU law within ten years.[165] As for competition law, the Europe Agreements directly incorporated the provisions of the Treaty, in particular Articles 81, 82 and 87 ECT. The incorporation of European legislation into

[163] Especially the Hungarian NCA, *Gazdasági Versenyhivatal* (GVH), possesses a rather high level of independence. This is not surprising if we consider that its organizational structure was mainly oriented at that of the German *Bundeskartellamt*. Another factor contributing to the authority's comparatively high level of independence is the fact that the competition principle is established in the Hungarian Constitution (Dieringer 2001b: 54-55).

[164] The CEECs initiated international cooperation also outside the EU framework. One example for horizontal cross-country cooperation is CEFTA which was founded in 1992 by the Czech Republic, Hungary, Poland the Slovak Republic and Slovenia. Later, Bulgaria, Lithuania and Romania joined the agreement. Although CEFTA's focus was on trade liberalization, it also contained provisions on competition law. These provisions followed closely the competition rules inherent in the Europe Agreements in order to enhance the concerted preparation for EU accession. Another form of institutionalized international cooperation that furthered the reform of competition rules in the CEECs started with the accession of the Czech Republic, Hungary, Poland and the Slovak Republic to the OECD between 1995 and 2000.

[165] The Commission's White Book of May 1995 contains an exact timetable for the implementation of EU law that is strictly related to the Single Market.

the national frameworks also included Secondary law, i.e. Directives and Regulations, as well as the decisions of the ECJ.[166]

In addition to policy harmonization, the Europe Agreements also foresaw the cooperation between the EU and the associated CEECs. The responsibility of the Association Councils was, among others, to adopt measures to implement the competition provisions of the agreements within a three-year time period after the agreement's entry into force (Nicolaides and Mathis 1996: 485ff.). The focus of these measures was on the rules regulating the methods of cooperation between the EU competition authorities, mainly DG IV, and the NCAs in the CEECs. Basically, competition authorities of both sides have dealt with cases under the provisions of the Europe Agreements according to their own rules. In most instances, however, mutual notification and information between DG IV and the NCAs was enacted on the basis of the implementation measures.[167]

Despite rules on cooperation between EU and CEEC authorities, several issues carried a potential conflict of interest. A first major issue were state aids. Although state aids have always been a central concern for Western governments as well, they definitely possess greater significance for the economic policy of former Communist countries, in which the reallocation of income was the underlying principle of economic organization. However, due to the economic and financial difficulties associated with transition, in the associated states public aids were treated specially under Article 87 (3) ECT for the first five years.[168] A second issue concerns restraints on vertical agreements. Based on its objective of promoting the Single Market, the Commission exerted considerable pressure on the applicant countries to amend their national competition laws in order to prohibit vertical agreements. This was quite problematic as in the early phase of transition

[166] Another aspect of this rather detailed harmonization process was that draft proposals for new national legislation were checked against compatibility with the *acquis* and approximation to EU rules.

[167] This procedure also played an important role in merger cases. If a case that fell under the EC Regulation on mergers (European Council 1989) also had a significant impact on the economy of the associated state, the NCA of the latter was entitled to express its views on the case.

[168] This article foresees that state aids are allowed in order "to promote the economic development of areas where the standard of living is abnormally low or where there is serious unemployment". Although this does not automatically exempt corresponding state aid from prohibition under Article 87 (1) ECT, the article gives the Commission the possibility to allow such aid.

economic restructuring required the establishment of new forms of cooperation, including such vertical networks (Heinz 1999: 69-70).

The major internal challenges for an effective competition policy in the CEEC-10 were programmes of privatization and de-monopolization. As in the case of infrastructure reform in the Western EU countries, privatization can bring about the creation of increased market concentration. If, for instance, a state-owned enterprise is sold without parallel steps of vertical separation, the monopoly position will most likely be preserved. An additional difficulty for the development of effective competition originated in the goal of most CEEC governments to generate as much revenue from privatization as possible. In practice, however, in many CEECs privatization did not result in increased market concentration. This was mainly due to liberalization efforts fostered by the EU accession process and by CEFTA and WTO membership.

All of the above mentioned challenges have significantly influenced the development of competition policy in the CEECs over the past one and a half decades. Whereas some of them inhibited the introduction of an effective competition policy, others, i.e. European integration, catalyzed the establishment of a stable legal framework. The problems arising from privatization were much stronger in the CEECs than in the EU-15. In the CEECs privatization has thus far constituted a central policy for general economic restructuring. It was elemental to the goal of pushing back the state and fostering private economic activity. In the West European countries, in contrast, privatization was merely confined to the reform of public infrastructure companies in an otherwise free market environment based on private ownership. The difficulties surrounding the establishment of a competition framework in the CEEC-10 might however be justified by the tremendous efforts that have been necessary in order to prepare them for integration into the Single Market.

5.3. Network Infrastructures in the CEECs

One of the key factors for the attraction of FDI and thus economic recovery in the CEECs is an effective infrastructure. Network infrastructures are not only large as regards

capital demand, they also create specific regulatory problems for governments willing to liberalize monopolies. A major puzzle for governments in the CEECs after 1989 was how to reconcile the need for rapid investment in infrastructures with limiting the abuse of monopoly power by sectoral incumbents, i.e. PTOs or regional electricity monopolists. Under Socialist and Communist rule the reform of infrastructures ranked low on the political agenda. However, the introduction of principles of a market economy in course of transition blew the old industrial structures, thereby impacting heavily also on configurations in the infrastructure sectors (Hirschhausen 1996: 10).

5.3.1. The Role of Infrastructures under Central Planning

The fact that infrastructure reform did not rank high on the reform agenda is surprising if we consider that in times of Communist rule many network infrastructure services were only poorly developed, except for some military purposes (Müller 2000: 185).[169] In most CEECs, national networks were created from regional utility companies in the 1940s and 1950s. Because of their centrality for the functioning of the state in times of Communist rule these infrastructures "became departments of ministries or even constituted a whole ministry" (Cave and Valentiny 1994: 69-70). For instance, in times of Communism telecommunications was considered a strategic sector as the ruling party relied on its information monopoly to keep the political system alive. Modernization and mass consumption did not constitute policy goals at all. It was the ruling party which decided how much would be produced and for whom, with telecommunications services ranking rather low on the priority list (Hirschhausen 1996: 9).

Prior to reform there was a complete negligence of private needs in the CEECs, as compared to public or party needs. In other words, telecommunications was not considered an universal service and the notion of telecommunications as a basic infrastructure did not

[169] Estimates say that about 80 per cent of the telecommunications equipment manufactured in the Socialist countries was reserved for military use, the rest was mainly for government and commercial use (Müller 2000: 196).

even exist.[170] The average telephone density of the CEECs was far below 10 per cent in 1989 as compared to about 45 per cent in the OECD countries. Rates for residential infrastructure services were constantly under-priced compared to commercial use, and thus cross-subsidization became a permanent feature of the regulatory system.[171] This might stem from the fact that according to the doctrine of central planning basic services, i.e. infrastructures, were regarded as economically less productive than material goods, i.e. industrial output (Carbajo and Fries 1999: 401).

In this respect, the energy sector was in a more favourable situation than other infrastructures as it provided a key input for material production. The communications and transportation industries suffered from the above-mentioned doctrine, and as a consequence theses services only received little financial resources from the state. Another aspect of infrastructure policy was the treatment of customers. While discrimination was not so obvious in the energy sector, the communications and transport infrastructures showed clear signs of preferential treatment of industrial over residential consumers. Thus, with the exception of energy, network infrastructures were weakly positioned in the CPEs and their performance significantly lagged behind that of their West European counterparts. As a consequence, the CEECs were suffering from GDP growth foregone. For Hungary, the annual loss of GDP due to the bad communications infrastructure was estimated to account for up to 4 or 5 per cent (Major 1991: 76).

However, through the move to more decentralized, market-oriented structures the importance of network services grew significantly. This referred especially to the increased need to coordinate business transactions nationally and internationally, and to the satisfaction of fast-growing private demand. Many governments began to understand that the neglect of public infrastructures under economic planning resulted in a dramatic backwardness of their national economies (Major 1991: 85-88). In course of the transition process policy-makers in the CEECs had to learn about the central importance of public

[170] Countries benefiting from a solid pre-war infrastructure, i.e. Czechoslovakia or East Germany, were lucky as this ensured them a minimum of services even throughout the 1980s (Hirschhausen 1996: 10).

[171] In addition, investments were covered by the central state budget through taxation without any reference to the revenues earned by the respective infrastructure operator.

utilities for the performance of the economy and, thus, for the fostering of long-term prosperity. Today, the ownership structure and type of regulation of infrastructure companies is regarded as an important aspect of future economic development and therefore ranks much higher on the political agenda than in the pre-transition period.

5.3.2. Regulatory Reform in Times of Transition

Hence, one of the major challenges in the general transition process was infrastructure reform. A modern infrastructure was supposed to overcome the legacies of central planning, first by introducing tariffs that truly reflect costs of production and fiscal constraints, second by insulating infrastructure provision from political intervention, and third by forstering economic restructuring. From the outset of transition this challenge was a difficult one because the liberalization of product markets and thus of tariff levels might create strong opposition because of its redistributive effects. As we learned above, privatization requires complementary measures in order to attain competition on product markets, i.e. through effective regulation. However, there was little or even no experience among CEEC governments as regards regulatory instruments at the beginning of the reform process (Carbajo and Fries 1999).

The starting point of infrastructure reform in the CEECs was an even more state-centric system than the one that existed in West European countries in the 1970s. Two crucial developments have shaped the reform of network infrastructures since then: first, increased political and administrative support was given to infrastructure sectors, especially telecommunications. This was accomplished by shifting financial resources from military to civilian production. Most importantly, firms from the military sector began to discover civilian markets. Examples for CEECs in which such a shift occurred are Hungary and Latvia. A second important change was the opening of national equipment markets to the global economy. The abolishment of trade restrictions with countries of the West allowed investors and manufacturers almost unrestricted entry to the markets of the CEECs (Cave 1999).

These initiatives alone, however, were not sufficient to overcome the poor condition of public infrastructures in the CEECs. Since domestic financial resources were largely insufficient to achieve the necessary level of investment, foreign money was essential. International investors, however, need to be reassured that their assets would not be expropriated. Therefore, the existence of a stable, transparent and reliable legal framework was important. This in turn demands an adequate distribution of powers among three types of actors: Parliament, which is responsible for legislation; the administration and NRAs, which implement these legislative provisions; and finally the courts, to whom every party concerned can appeal in case of dispute. The effectiveness of the regulatory system then depends on the appropriate allocation of responsibilities among these institutions.[172]

As a heritage of Communist rule today most CEECs possess rather centralized states and electoral systems that made radical policy changes more likely. And also the judiciary has not yet been able to establish the experience and develop the statutes that are necessary to create a stable and reliable framework. The consequence are heavy burdens for the administrative system which needs to reconcile the lack of institutional capacity to create a credible regulatory environment and the demand for private capital (Cave 1999). One solution to this dilemma evolved around the debate of establishing NRAs which are supposed to increase credibility and regulatory stability for investors based on their independence from politicians and officials (cf. Thatcher 2002b).

After the first successful waves of mass privatization in which ownership of SMEs had been transferred from the state to the broad public, policy-makers began to focus on the privatization of 'hard-to-privatize' firms. However, the plan to privatize infrastructure

[172] The Parliamentary system can first be distinguished according to whether it constitutes an unitary or a federal system in which power is distributed between the federal and sub-federal levels. The latter makes radical policy change less likely because legislative powers are distributed among different actors. The system can further be distinguished according to whether the voting system leads to radical change or only minor adjustments. Proportional representation, for instance, tends to generate coalition governments, and thus rather incremental political changes. As regards the administrative system, countries can differ in the capacity and degree of independence of their policy officials. While in some countries a change of government brings about a change in administrative personnel, in others the bureaucracy might possess greater inertia. The latter applies, for instance, to the Director General of the regulatory authorities in the United Kingdom, which are in general appointed for a five year period by the Secretary of State. The judiciary system, finally, might differ according to its independence and the way administrative and contract law can be developed over time (Levy and Spiller 1996: 3-9).

companies created several new questions, for instance whether public infrastructure companies should be judged according to the same standards as privatized or newly established SMEs, i.e. in the automotive or textile industry. Before enlargement in 2004 it was argued that the relatively small public infrastructure companies in the CEECs had to be granted a monopoly position in order to be able to survive as 'national champions'. Otherwise, these companies would be targets for take-overs by large Western enterprises.[173] In Hungary, for example, the distribution of electricity was organized on the basis of regional monopolies in which the companies were granted a rate-of-return of eight per cent (Dieringer 2001b: 59-60).

In the Baltic States, regulatory reform in infrastructures had a prominent place in the debate about general economic restructuring. Especially the Latvian government emphasized the necessity to create a modern infrastructure prior to accession. In the latter, issues concerned such typical questions as appropriate form of ownership, entry and competition, price-setting and regulatory structure, i.e. the role of NRAs. However, several CEECs did encounter significant problems in course of implementing new regulatory schemes because either the market infrastructure, the administrative capacity or the political environment were not ready for it. Obviously, these countries have tried to emulate the strategies and policies of Western countries without paying attention to an adequate fit of these policies with domestic institutional structures (cf. Knill 2001).

5.3.3. Privatization Patterns

Even if we accept the proposition that processes of globalization and Europeanization push EU member states onto the same development path, it is not unlikely that we can observe diverse privatization patterns across the CEEC-10. As analyses have shown for the OECD countries, this is not very unlikely (Ehni et al. 2004). It seems useful to recapitulate once more the characteristics of the Europeanization rationale of regulatory reform: in contrast to liberalization, the *acquis communautaire* did not explicitly require

[173] In addition, FDI was much more attractive when these companies possessed a quasi-monopolistic position in the market and competition would be postponed to some date after accession.

the accession candidates to privatize state-owned companies as this was *not* foreseen by EU law. Thus, the decision of CEEC governments to sell state assets must have been based on other factors. We can assume that as in West European countries processes of globalization or cross-national policy diffusion might have been at work here.

This has at least two implications. First, globalization pressures and, even more so, policy diffusion are likely to impact differently on countries.[174] Depending on their integration into the world economy and relationship to other states, some CEECs are more exposed to exogenous influences than others. More importantly, however, there is evidence that even similar exogenous pressures have resulted in rather different speeds and scopes of privatization due to a variety of domestic political and economic variables (Schneider, Fink and Tenbücken 2005). Thus, we should expect that also in the CEECs exogenous privatization forces have in the past most likely been mediated by national opportunity structures such as institutional factors or specific actor interests.

We should therefore expect that among the CEECs there are fast and slow privatizers as well as countries that reduce state ownership incrementally and those that privatize rather comprehensively. The analysis of privatization developments gives us an idea about the timing and scope of privatization in each country and allows cross-country comparison. Dissimilarity of privatization developments does, however, not anticipate the final outcome of reform. Countries can have similar levels of state ownership at a certain point in time while showing radically different development paths up until this point. Similarly, it will be interesting to analyze regional differences in the EU-25. Maybe the Visegrád countries or the Baltic States form clusters with similar privatization patterns as Western EU regions. The analysis of privatization developments is at the same time a first step towards the analysis of the role of domestic reform categories that might be able to explain some of the variation of the overall reform process in the CEECs.

[174] In the past, the World Bank doctrine foresaw a linkage between financial aid provided by the organization and regulatory reform initiatives, mostly in the field of privatizations, by the borrowing nations. Recently however, officials of the World Bank, one of the largest lending organizations for transforming and developing countries, have changed their opinion about privatization policies. They now emphasize that what matters is not so much ownership but rather that infrastructure companies are run in a business-like manner, i.e. more frequently combining public ownership and private management (Phillips 2003).

5.3.4. Regime Diversity

While we should expect the process of Europeanization to have only limited impact on privatization, the emergence of regulatory structures at the EU-level has considerable influence on the other two dimensions of reform. Both reform dimensions, liberalization and reregulation, have been in the focus of infrastructure reform at the EU-level. Based on the idea of creating fully competitive markets in as many industries as possible, the Commission has pushed the emergence of EU competencies in these sectors. On this basis, EU member states were required to meet the goals of EU legislation by implementing corresponding liberalization and reregulation policies based on the *acquis*.

These mechanisms did not only apply to the EU-15. As elements of the *acquis communautaire* they also provided the basis for EU enlargement. There are, however, several differences between the reform process in the EU-15 and in the CEEC-10 which should have had an impact on the degree of regulatory convergence in each group of countries. First of all, while the process of infrastructure reform evolved rather gradually in the EU-15, regulatory reform in the CEECs set in rather abruptly. Although all of the transition countries had started to fundamentally reform their national economies at the beginning of the 1990s, the reform of large state-owned network infrastructures was postponed.[175] Most CEECs made first substantial steps towards a reform of their network infrastructures only with the official opening of the accession negotiations in 1998 and 1999. As a consequence, the applicant countries needed to adapt to the *acquis* within a rather short period of time, while their Western counterparts had been able to adjust slowly and gradually to the reform developments at the EU-level. The latter resembled more of an evolutionary process.

Another major difference between infrastructure reform in the EU-15 and the CEEC-10 is the fact that the latter saw the transition process as a chance to cut completely with the past of central planning. This made radical reforms and the establishment of new regulatory structures easier. The *tabula rasa* was facilitated by the almost complete

[175] As outlined above, one of the reasons was that the privatization of 'hard-to-privatize' firms, to which infrastructure companies belong, was politically much more sensitive than programmes of mass privatization targeted at 'easy-to-privatize' firms, i.e. small and medium sized businesses.

absence of national regulatory traditions in the CEECs. And while pre-Communist regulatory structures dated too far back and were thus no longer existent to severely inhibit the establishment of a new regulatory setting, the political heritage of state monopolies under central planning constituted the biggest obstacle to fundamental reform. Nevertheless, the establishment of new legal and political institutions impacted heavily on many industries and created a momentum for reform in network infrastructures. In the EU-15, in contrast, national regulatory systems were hard to align due to the domestic peculiarities that had developed over decades and that continued to exist also in times of Europeanization of regulatory policy.

We should therefore expect regime diversity to be significantly smaller among the CEEC-10 than among the old member states. And this should further be true for both sectors analyzed, although we might expect less similarity in the electricity sector due to a comparatively weaker regulatory framework at the EU-level than in telecommunications. This expectation should hold for the combined analysis of outcomes of privatization, liberalization and reregulation policies in the CEEC-10. Despite the exclusion of privatization from the Europeanization of regulatory policy-making and the predicted greater diversity along this dimension, we should expect the more sporadic and radical approach of liberalization and reregulation policies to have caused a significantly higher level of similarity among the transition countries than among the EU-15.

6. The Outcomes of Reform and Regime Similarity

We saw in the preceding chapter that over the past decade the reduction of government expenditure was significantly smaller in the CEEC-10 than in the EU-15. Between 1995 and 2002 the ten transition countries reduced state expenditure in average by 1.6 per cent, while the West European countries managed to cut government layouts by 3.4 per cent. One possible explanation for this difference might be a variation in the progress of privatization: if a government privatizes and sells shares of a company, it automatically reduces public expenses that the operation of this company incurs, i.e. costs for personnel or investments. Thus, countries that privatize quickly and more encompassing free themselves from the burden of financing the activities of public infrastructure companies. It will therefore be interesting to see whether the privatizations of telecommunications operators and electricity companies have indeed progressed faster and on a broader scope in the EU-15 than in the CEEC-10 since the early 1990s.

6.1. Methodological Remarks

Chapter 6 focuses on the country-by-country analysis of reform outcomes and a subsequent comparison of regulatory regimes. The reasons for country, sector and variable selection have already briefly been outlined in the first chapter. And also the various dependent variables have been discussed theoretically and exemplified in much detail in the preceding chapters. For a sound empirical analysis of the structures and processes of regulatory reform it will however be necessary to shed some more light on the indicators that are used for measuring these dependent variables. In addition, some problems that occurred in course of data collection need to discussed somewhat further before we can proceed with the evaluation.

6.1.1. Indicators for the Dependent Variables

In the analysis, the indicator *level of state ownership* will be used for measuring material privatization. This level is reflected by the percentage of shares that the government holds in the former infrastructure monopolist at a certain point in time. It is measured on a metric scale. If the corresponding figure is high, the level of privatization is low, and vice versa. For the analysis of state retreat the level of public ownership is mapped over time. By mapping the level for each year since 1980 for the EU-15 and since 1990 for the CEEC-10, we get an idea about the timing and scope of the privatization measures in the member countries. The advantage of a purely quantitative indicator such as state ownership is that it offers a much better inter-subjective comparability for cross-country and cross-sectoral analysis than qualitative indicators. What is more, the indicator can be used to capture not only the scope but also the pace of privatization.

The research interest in analyzing liberalization is not so much the process but rather the outcome of reform. The dependent variable therefore is the level of liberalization in the two sectors at the end of the observation period in 2003. However, the variable 'liberalization' is difficult to measure since there are hardly any quantifiable indicators that could be used for reliable cross-country comparison. Therefore, in order to increase the validity of measurement, a composite indicator will be used (King, Keohane and Verba 1994: 25). This composite indicator consists of a series of single indicators, representing the *level of competition* in the various sub-markets. The concrete selection of these single indicators depends on the sector and on data availability. All values for the single indicators are ordinally scaled as provided by the various data sources, i.e. EU or OECD regulation databases. The composite indicator used for measuring the overall degree of liberalization is calculated as the mean value over all single indicators.

'Reregulation' is the third reform dimension that will be analyzed. While it is rather easy to verify if a government has created a NRA, assessing its *level of independence* from political influence is somewhat more complex. The problem lies in finding an adequate measure of agency independence (cf. Tenbücken and Schneider 2004). This is done by taking into account those characteristics that determine whether a NRA can operate freely

or is subject to pressure by the government or the legislative branch. These are, first, organizational and, second, functional characteristics of the NRA. The first set of characteristics refers to the structure and internal organization of the NRA, i.e. the 'term of office' of the executive board, 'number of staff' or 'financing of the budget'. The functional characteristics refer to the regulatory competencies delegated to the NRA, i.e. the 'oversight of licensing requirements', 'merger approval' or 'spectrum allocation'. These individual characteristics are then aggregated to form a composite indicator that will be used for cross-country comparison.

6.1.2. Facet Theory and Partial Orders

The dependent variable that measures 'regulatory regimes' is an artificial construct. As outlined in much detail in the second chapter, a regulatory regime comprises the three dimensions privatization, liberalization and reregulation. In other words, the variable integrates the various indicators used in the analysis of the individual reform policies. Thus, for every country and sector we obtain a distinct regime profile which is defined by a specific configuration of the level of state ownership, market liberalization and NRA-independence. The 25 regime profiles for every sector can then be compared using *Partial Order Scalogram Analysis* based on *Facet Theory*.

In the past, Facet Theory has primarily been used in research projects of psychologists, i.e. in the areas of intelligence tests, attitudes and values of individuals, organizational psychology and environmental studies (Guttman and Greenbaum 1998: 13). However, as a powerful method of structural analysis, Facet Theory has yet to gain attention in political science. For this reason, the following section will briefly outline the core elements of this analytical approach before applying it to the cross-national comparison of regulatory regimes in the telecommunications and electricity sector.

The basic idea behind Facet Theory is that every analytical object can be decomposed into a certain number of distinct dimensions (facets), and each facet can again be decomposed into ordered values. A combination of different facets is called a structuple, each of the facet elements being a struct. For example, the analytical object

'person' could be decomposed into various personal characteristics (facets), i.e. age, height, physical strength or intelligence. We would then attribute different elements, such as small (1), medium (2) and large (3), to each facet. If data is metric, as in case of the facet 'height', it has to be categorized.

Hence, a person which has a medium age (2), is very tall (3), possesses medium physical strength (2) and only little intelligence (1) would end up with the structuple {2321}. In this case, the structuple is only one realization of 81 (3^4) possible combinations. In case all structuples of a whole are comparable with each other, we have a linear or complete order. The comparability of two structuples has been established once at least one struct of a structuple possesses a higher value than the corresponding struct of another structuple and no other struct holds a lower value.[176] It is then possible to compare these structuples along a perfect one-dimensional scale, the Guttman scale.

However, in complex social science phenomena it is usually difficult to compare all structuples of a data set, i.e. the structuples {1312} and {1222}, so that it becomes necessary to depict the structuples in a two or multidimensional space. This lack of comparability of structuples is also the main difference between a linear order and a partial order (Borg and Shye 1995: 107). The geometrical presentation of this kind of data is possible with various techniques of multidimensional scaling. For the visual presentation of multivariate distributions where objects – in our case, countries – can be assigned different profiles, Multidimensional Structuple Analysis (MSA) may be used. For the MSA there is neither an *a priori* requirement for the distributive structure of the variables in the data set, nor for the inter-relation between them. In addition, metric data can be categorized (Guttman and Greenbaum 1998: 25).

For the comparison of regulatory regimes, we can apply a specific form of MSA known as *Partial Order Scalogram Analysis*, POSA (Levy 1998: 5). POSA distinguishes itself from MSA in that each variable can be ordered in the same direction, that is the order '1<2<3<4...<n' holds for the elements of all facets. To determine the smallest possible

[176] For example, the structuple {2321} is larger than the structuple {2221}, if 1<2<3 holds for all structs; Both structuples can thus be compared with each other.

dimensionality to depict this partial order while strictly maintaining the order, we use POSA with base Coordinates (POSAC). Very similar to conventional multidimensional scaling, POSAC orders all existing structuples and depicts them as points in a two-dimensional space using geometric distances on the basis of profile similarities (Guttman and Greenbaum 1998: 27).

POSAC allows us to assess the similarity of national regulatory regimes for each infrastructure sector through a visual comparison of the levels of privatization, liberalization and reregulation across countries. In doing so, the 'regime landscape' can be considered as a two-dimensional space in which regimes with high levels of state ownership, low degrees of competition and low NRA independence are located in the lower left corner while regimes with low state ownership, full competition and strong NRAs are nested in the upper right corner. Hence, a public ownership regime would be situated in the lower left corner and a private competition regime in the upper right corner. The geometric distances between the points in the two-dimensional landscape then indicate the similarity of regulatory regimes. Regimes with similar levels of state ownership, competition and NRA independence are thus located closer to each other than those showing clearly different levels on the three reform dimensions.

6.1.3. Infrastructure Data Set

The basis of the empirical analysis in this chapter is a data set that contains information for 25 countries and two sectors along all three reform dimensions. These data allow us to analyze statistically and to visualize graphically the degree of cross-country regime similarity. However, the collection of infrastructure data confronts the researcher with several problems. First and foremost, data availability is not the same for each sector and for all of the 25 countries. While current status quo data can be collected for all three reform dimensions, reliable time series data are only available for the privatization dimension. For the liberalization and reregulation dimension the collection of time series data is extremely difficult and problematic. This is due to the fact that for both dimensions

quantifiable historic data, especially for the time before 1990, are very hard to find.[177] Thus, the Infrastructure Data Set comprises status quo data as of the year 2003 as well as time series privatization data for the period 1980-2003 for the EU-15 and for the period 1990-2003 for the CEEC-10.

Privatization data were partly available from a data set created for the project 'Globalization, Europeanization and the Redimensionalization of the State: The Privatization of Infrastructures' which was directed by Professor Volker Schneider at the University of Konstanz between October 2000 and November 2003 and which was funded by the German Research Council.[178] However, as the data set only covers the infrastructure sectors of West European countries and a time period until the year 2000, additional privatization data had to be collected for the CEECs and for the time after the year 2000.

As outlined above, the indicator used for measuring privatization is the 'level of state ownership' of the former monopolist. The advantage of this indicator is that it is able to map not only the scope of state retreat but also its timing. It further possesses certain characteristics that ensure inter-subjective comparability across countries (Ehni et al. 2004: 116). The focus in the analysis here lies on material and not on formal privatization. The reason is that formal privatization does not change the ownership structure of the former monopolist but only the company's legal form. Material privatization, in contrast, refers to the *de facto* transfer of property rights from the state to private investors. However, the collection of material privatization data has several pitfalls as it is the case for data on market liberalization.

[177] Reliable information on NRAs, for instance, are in most cases only available for their *current* organizational structure and functional profile. In addition, the comparison of NRA structures and profiles possesses a different logic than, for instance, the comparison of privatization policies. While the latter calls for an analysis of developments over time, the inclusion of the time dimension in the comparison of NRAs would not offer much additional analytical value. The reason is that many characteristics of NRAs do not change significantly over time once the regulator has been established. This is especially true for organizational features. Hence, variation is presumably too small to justify the extreme effort of data collection that would be necessary to conduct time series analysis for this policy dimension.

[178] In this regard, I am indebted to Carmen Ehni, Simon Fink, Alexander Jäger, Janina Thiem and Tino Warthmann for their work with data collection, namely state ownership data for the EU-15 between 1980 and 2000. I am further indebted to Nadja Schorowsky for her help with the collection of reregulation data on NRAs in telecommunications. All other data were collected by the author.

The first problem has to do with the information provided by data bases of international organizations, i.e. the OECD or World Bank, and of sector-specific agencies, i.e. ITU or IEA. These data bases mainly offer information only for selected countries and years. It was therefore not possible to gather privatization data for the new CEEC-10 by using only one source of information. Thus, privatization data for the three infrastructure sectors in the CEEC-10 had for the most part to be collected using various sources, i.e. publicly available data bases, government publications, EU documents, newspaper articles or official company information, i.e. annual reports. As a consequence, not all information are coherent and mistakes in course of data collection are therefore inevitable.

One of the major problems in this context is the validity of the measurements. Validity means that we are actually measuring what we think we are measuring (King, Keohane and Verba 1994: 25). There might be several different indicators for material privatization and these indicators can differ significantly, depending on the source. While the indicators of some data bases cover only forms of direct state ownership, others include also indirect forms.[179] In the electricity sector, for instance, shareholders of the former monopolist are not only federal but also municipal authorities. This is due to the fact that the electricity sector is organized in a rather fragmented and decentralized way. It was therefore necessary to individually check the privatization indicators used by the different data bases in order to be able to conduct a correct comparison of developments across countries and sectors.

A similar problem regards the collection of data on liberalization and reregulation. Liberalization is conceptualized in many different ways depending on the source of information. It covers indicators as different as, for instance, the 'degree of market opening', the 'level of competition' or the 'number of new market entrants'. Similar to the data on privatization, it was necessary to realign the various indicators in order to conduct

[179] In Germany, for instance, the *Kreditanstalt für Wiederaufbau (KfW)*, of which 50 per cent belong to the federal state and 50 per cent to the German *Länder*, held approximately 16 per cent of *Deutsche Telekom* in the year 2004. At the same time, the German federal state held 26 per cent of *Deutsche Telekom* directly. Thus, we might end up with three different levels of state ownership: dependent on whether the respective indicator counts as state ownership all of the 16 per cent, only half of it or none, state ownership amounts to 42 per cent , 34 per cent or 26 per cent, respectively.

a correct comparison. Last but not least, the problem of validity of measurements also applies to the comparison of NRAs. Information on the institutional and functional profile of the NRAs was in part collected from central sources such as the sector organizations, ITU and IEA. However, since not all information are available on this way and due to the fact that some NRA data are often obsolete, individual research became necessary also for the reregulation dimension. Data source for the individual research on NRAs were in most cases the regulator's homepages or specific publications, i.e. annual reports.

6.2. Telecommunications

A brief overview of the basic reform steps in the telecommunications and electricity sector was given in the previous chapters. The analysis of the telecommunications data reveals several interesting findings. First of all, we find that the privatization, liberalization and reregulation developments all follow the pattern of a bandwagon effect (Figure 6.1). In other words, more and more countries began to reform their telecommunications sectors over time with an eventual slowdown towards the end of the observation period.180 As Figure 6.1 reveals, a sustainable liberalization and privatization development did not set in before the early 1990s. Until then, neither many of the old EU members nor any of the CEECs had undertaken significant reform initiatives. The former mainly because they did not want to or because they did not have to, the latter because they were not able to.

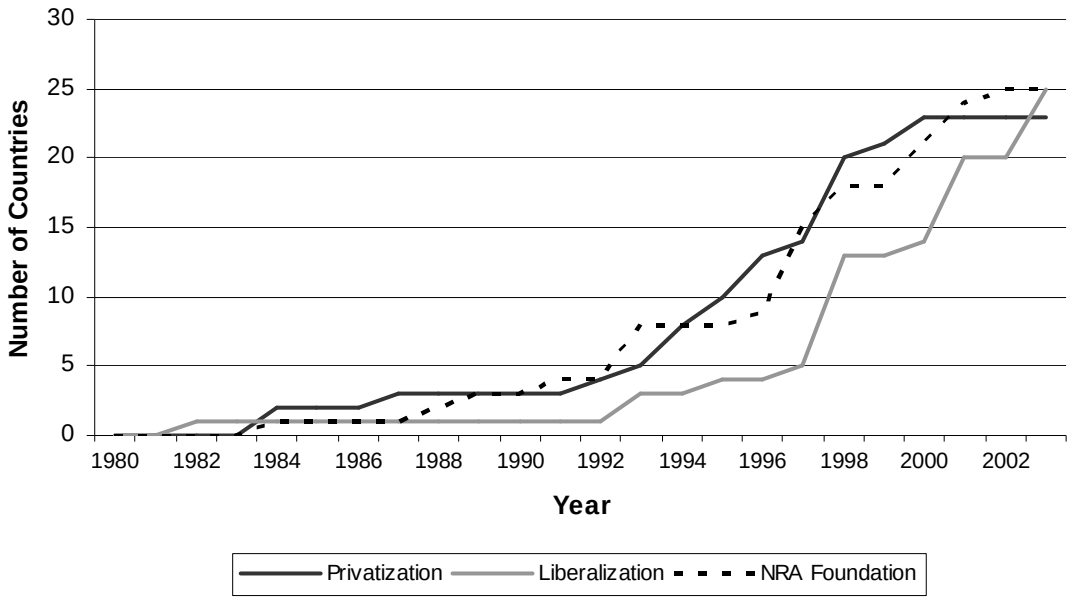
The figure further shows that the reform initiatives in the telecommunications sector were most extensive between 1995 and 2000.[181] By 2001 all Western EU countries had liberalized their national market for fixed-voice telephony. However, liberalization took somewhat longer in the CEECs: the first group of transition countries began to open their markets the same year the last of the Western EU members had completed liberalization;

[180] The *s-shaped* curve with only a few countries joining the reform process at the beginning and many in the middle of the observation period is the typical characteristic of a diffusion process.

[181] The main reason for the accumulation of liberalization measures towards the end of 1990s is Directive 96/19/EC, which demanded from all EU member states the complete opening of their national markets for fixed-voice telephony by 1 January 1998. This meant, among others, that the PTOs had to allow new telephone service providers free access to their network infrastructure.

the second group of CEECs, Bulgaria, Latvia, Lithuania, Romania and the Slovak Republic, began with liberalization in 2003. The timing of liberalization in the CEEC-10 is obviously due to the accession requirements set by the EU, which demanded the complete take-over of the *telecommunications acquis* before enlargement could become effective in 2004. Due to the lagged reform development in the CEECs, the liberalization curve is not typically s-shaped but looks like a stairway instead.

Figure 6.1 Telecommunications Reform in the EU-25



Source: Infrastructure Data Set (2004)

As regards privatization and reregulation in the European telecommunications sector, the bandwagon effect is more obvious. Of the 25 EU members, with the exception of Bulgaria and Luxembourg, all countries had at least partially privatized their PTO by the year 2000. One major difference between the EU-15 and the CEEC-10 regards the timing of privatization: while the majority of the old EU members started to privatize their PTOs in the early and mid-1990s, most of the transition countries postponed the material privatization of state-owned telecommunications operators to the end of the decade. A similar observation can be made for the reregulatory initiatives in that sector. After a period of low NRA foundation activity between 1993 and 1996, many governments

established regulators in the years 1997 and 1998, presumably to create a credible regulatory environment prior to liberalization steps.

PTO privatization, market liberalization and NRA establishment have run remarkably parallel. It is striking, though, that in every country except for Germany, the Netherlands, Sweden and the United Kingdom, the NRA was created before market liberalization.[182] In other words, the new institutional configuration was implemented before the *de facto* opening of the national monopoly. In this context it is further interesting to observe that in most countries the market was not opened until the PTO had been at least partially privatized. Especially between 1993 and 1997 there was more extensive and continuous privatization than liberalization activity. We might conclude from this that privatization and NRA establishment were regarded as *prerequisites for successful market opening*.[183]

In contrast to predictions of the political science literature at the time of the first reform wave in telecommunications (cf. Morgan and Webber 1986; Rubsamen 1989), we thus observe a quite *pronounced convergence pattern* among the EU countries. However, this convergent development cannot blur the fact that there are remarkable differences between countries as regards the institutional implementation of the reform. Such differences pertain not only to the material configuration of privatization and liberalization policies. We can, for instance, still detect significant variation between the OECD states as regards scope and timing of the privatization process (Schneider, Fink and Tenbücken 2005). And, as we shall see below, also the organizational structures and the competencies endowed to NRAs tend to vary greatly across countries.

[182] In those four countries, the NRA was established the same year that the telecommunications market was liberalized.

[183] The final possible date for the opening of national markets for fixed-voice telephony, 1 January 1998, was already set by Directives in the early 1990s. It is therefore very likely that both reform policies were indeed seen as important elements to enhance credibility and predictability for new market entrants and consumers.

6.2.1. Privatization

The forerunners in the EU as regards telecommunications privatization were the United Kingdom, Italy and Spain, which all undertook their first privatization steps in the mid-1980s (Table 6.1). However, while the Italian government only privatized small parts of *Telecom Italia* in 1984 (12,1 per cent), the British government sold the majority of the shares of *British Telecom* (50,2 per cent) and *Telefonica* (53 per cent) in 1984 and 1987, respectively. The laggards in the process are the Slovak Republic and Sweden which both privatized their PTO in 2000. While this observation comes less surprisingly for the former Communist country of Slovakia, it does come as a surprise in the case of Sweden if we consider that all other CEECs have started to privatize earlier. Maybe characteristically for the somewhat slower reform process in Sweden, in 2003 the government still held 45,3 per cent of the shares of *TeliaSonera*, while the state of Finland possessed only 19,1 per cent of the Finnish-Swedish company.

Among the three European forerunner-countries, the United Kingdom takes a special position. This stems from the global reform development that started in the United States in the late 1970s and that spread to other countries one by one. The divestiture of the telecommunications giant *AT&T* and the liberalization of the US market in 1982 can be regarded as the spark that eventually ignited the reform flame. A short time after this event, the PTOs in Great Britain and Japan, *British Telecom* and *NTT*, were privatized and the national markets partially opened to competition (Schneider 2001b). Nevertheless, a comprehensive wave of PTO privatization did, as we saw above, not spread across the other EU countries until the early 1990s.

Table 6.1 State Ownership of PTOs (2003)

Country	PTO	State Shareholding (%)		Year of Material Privatization
		1995	**2003**	
Austria	Telekom Austria	100	42,2	1998
Belgium	Belgacom	50,1	50	1994
Bulgaria	BTC[1]	100	100	-
Czech Republic	Ceský Telecom	51,1	51,1	1994
Denmark	TDC	51	0	1992
Estonia	Eesti Telekom	100	27,2	1999
Finland	TeliaSonera[2]	100	19,1	1998
France	France Télécom	100	54,5	1997
Germany	Deutsche Telekom[3]	100	43	1996
Greece	OTE	100	33,7	1996
Hungary	Matáv[4]	32,6	0	1993
Ireland	Eircom[5]	100	0	1996
Italy	Telecom Italia	50	3,5	1984
Latvia	Lattelekom	51	51	1994
Lithuania	Lietuvos Telekomas	100	8	1998
Luxembourg	P&T Luxembourg	100	100	-
Netherlands	KPN Telecom[6]	48	19,3	1995
Poland	TPSA[7]	100	4	1998
Portugal	Portugal Telecom[8]	72,7	0	1995
Romania	RomTelecom[9]	100	45	1998
Slovak Republic	Slovak Telecom	100	49	2000
Slovenia	Telekom Slovenije	100	62,5	1998
Spain	Telefonica	21	0	1987
Sweden	TeliaSonera[10]	100	45,3	2000
United Kingdom	British Telecom	0	0	1984
Simple Average		**77,1**	**32,2**	

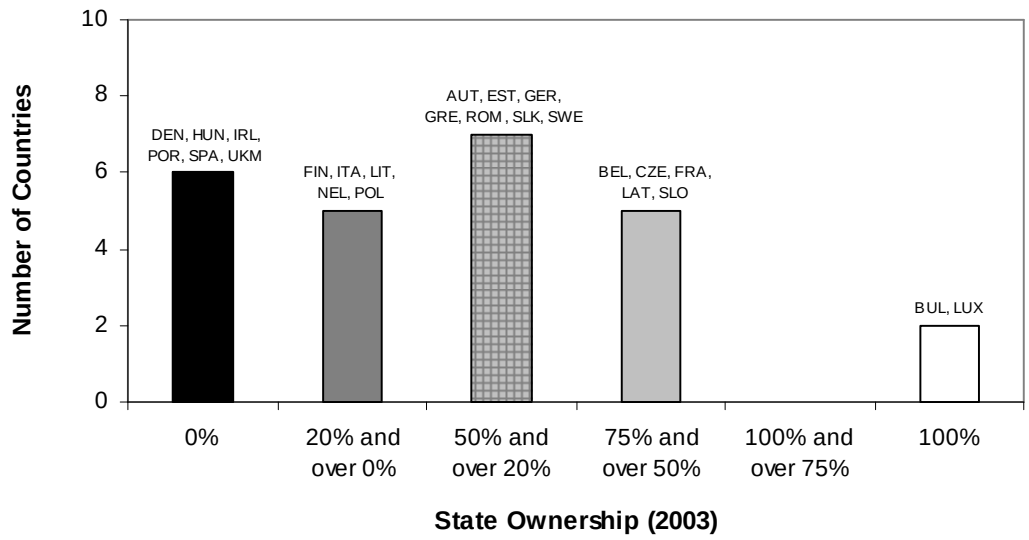
Notes: 1. BTC was successfully privatized in February 2004. 65% of the shares were sold to 'Viva Ventures', a 100% subsidiary of the American investment fund 'Advent International'; 2. Formerly Sonera. The new company was established on 9 December 2002. Sonera was privatized in 1998; 3. In 2003, the German Federal State owned 26%, the Kreditanstalt für Wiederaufbau (KfW) owned 17% of the shares. It was also in 2003 that the German State sold 5% of its Deutsche Telekom shares to the KfW; 4. The Hungarian State holds a golden share and local government authorities retain 0,32% of Matáv's shares; 5. Telecom Éirann became Eircom in 1999; 6. The Dutch State still holds the special share which grants the right to approve resolutions causing fundamental changes to the structure of the KPN group and certain additional rights; 7. France Télécom held 34% of the share votes in in 2003. Together with Kulczyk Holding, FT possesses 47,5% of the shares; 8. The Portuguse State retains 500 Class A shares with special voting rights; 9. Greek OTE is majority stockholder, owning 54,01% of RomTelecom; 10. Former Telia. The new company was established on 9 December 2002. Telia was privatized in 2000.

Source : Infrastructure Data Set (2004)

The Situation in 2003

What picture do we obtain if we look at the privatization situation in the 25 countries at the end of the observation period in 2003? First of all, the distribution of the levels of state ownership across the 25 countries demonstrates a *significant progress of reform*. By the end of 2003 all but two of the 25 PTOs had been materially privatized (Figure 6.2). In other words, in 23 countries at least one share of the former public monopolist had been sold to domestic or foreign investors. From the 25 EU member and applicant countries, only Bulgaria and Luxembourg had not sold shares in the incumbent operator by the end of the observation period. However, in February 2004 the Bulgarian government managed to sell 65 per cent of its shares in *BTC* to *Viva Ventures* of Austria, a subsidiary of the American private equity company *Advent International*. Thus, only the government of Luxembourg continues to refrains from privatizing its former telecommunications monopolist: *P&T Luxembourg* is still 100 per cent state owned.

Figure 6.2 Distribution of State Ownership in Telecommunications



Source: Infrastructure Data Set (2004)

On the other side, there are now six countries that have completely privatized their former PTO: Denmark, Hungary, Ireland, Portugal, Spain and the United Kingdom. Only one country among those six belongs to the group of states from Central and Eastern Europe. The Hungarian telecommunications company *Matáv* is almost completely owned by non-state actors. While local governments hold 0.32 per cent of the shares, the central government only retains a golden share and thus some special voting rights. However, today the majority of the shares, namely 59 per cent, are owned by *MagyarCom Holding*, a 100 per cent subsidiary of *Deutsche Telekom*.[184] Noteworthy, in the process of regulatory reform no country has renationalized ownership in the telecommunications sector.[185]

Over all, there are significantly more countries that have privatized the majority of their PTOs than those that retain an absolute majority of the companies' shares. While in 18 of the 25 cases, the government owned 50 per cent or less of the former PTO at the end of 2003, seven governments still controlled the dominant telecommunications operator through ownership of at least half of the shares. Beside Bulgaria and Luxembourg, Belgium, the Czech Republic, France, Latvia and Slovenia belonged to this group of countries. In 2003, the average level of state ownership was significantly lower in the EU-15 than in the CEEC-10. While in the former, the state held in average 27,4 per cent of the PTO's shares, governments of the CEECs still possessed 39,8 per cent of the former public operator.[186]

Scope of Privatization

The figures and the table above merely indicate the beginning and the status quo of the privatization process in each country as well as the EU-wide bandwagon effect

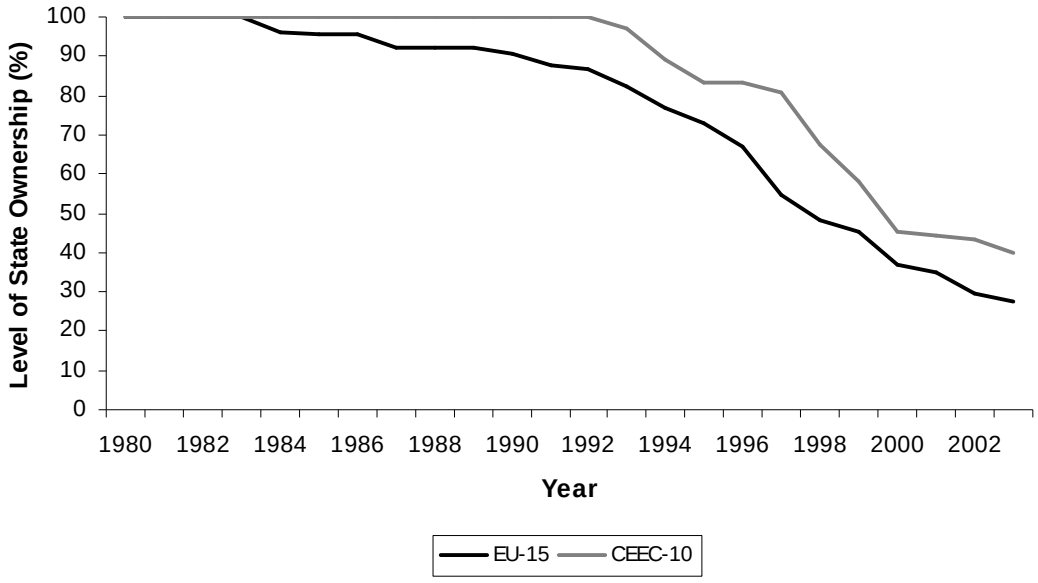
[184] *Deutsche Telekom* has been very active in acquiring shareholdings in Central and Eastern European telecommunications companies since the mid-1990s. Its shareholdings currently cover 15 engagements, ranging from Bosnia-Hercegovina over Croatia, the Czech Republic, Hungary, Macedonia, Poland to the Slovak Republic.

[185] This observation is more than trivial since in other infrastructure sectors the renationalization of assets has been quite common. Examples would be air transport, water provision or waste disposal.

[186] Figure 6.2 reflects the distribution of six categories of state ownership. The same categorization will also be used for the POSAC below.

associated with it. However, they do not tell us anything about the timing and scope of the various privatization steps in each country. As Table 6.1 shows, between 1995 and 2003 the average level of state ownership has declined from 77 to 32 per cent. Thus, across all 25 member states the government is in average not the majority shareholder of the dominant telecommunications operator any longer. Although those figures represent simple and not weighted averages, they reflect the general trend: today, out of 25 former PTOs only the operators in the Czech Republic (51,1 per cent), France (54,5 per cent), Latvia (51 per cent), Luxembourg (100 per cent) and Slovenia (62,5 per cent) are still controlled by the national governments through absolute majority shareholdings. In all other countries the absolute majority of the PTO is owned by non-state actors, mainly foreign telecommunications companies.[187]

Figure 6.3 Telecommunications Privatization in the EU-15 and CEEC-10



Source: Infrastructure Data Set (2004)

How then did the privatization process in the EU-15 and the CEEC-10 develop over time? Until 1993 there was not much privatization activity on the side of the EU-15 and no

[187] Bulgaria privatized *BTC* in 2004 and does therefore still appear with 100 per cent state ownership in Table 6.1.

activity at all on the side of the CEEC-10. Figure 6.3 plots the average annual level of state ownership for both group of countries between 1980 and 2003. As we saw above, in Europe the privatization process started in the mid-1980s with PTO divestitures in Italy, Spain and the United Kingdom, reducing the average level of state ownership from 100 per cent in 1983 to 90,7 per cent in 1990. This rather moderate development was mainly due to the fact that beside the three countries no other government joined the privatization train. In the CEEC-10, privatization was not viable until the early 1990s and state ownership therefore remained at 100 per cent.

The reform process regained momentum in 1993 when the Danish government sold a considerable number of shares of *TDC* and the British government reduced its shareholding of *British Telecom* to zero (see also Figure 6.4 below). From this year on, we observe strong privatization activities in the EU-15, reaching a peak between the years 1997 and 2000. During this period, the average level of state ownership was reduced from 67 to 37 per cent. In 1998, the level of state ownership fell under 50 per cent for the first time since the beginning of reforms in 1984 and reached its final value at the end of the observation period. Today, less than one third of all shares in the former PTOs of the EU-15 are still government owned.

In course of transition also the CEECs joined the privatization bandwagon, although somewhat later but nevertheless with comparable intensity. In 1993, Hungary became the first CEEC to privatize its PTO by selling a 30 per cent share of *Matáv*. Between 1997 and 2000, the average state ownership level of the ten PTOs dropped from 83 to 45 per cent, a level that is only 8 percentage points higher than that of the EU-15. In 2000, state ownership fell below 50 per cent for the first time since the start of the transition process in 1990. This vivid reform development is also reflected in the slope of the two curves plotted in Figure 6.3. We see that since 1993 the curves run strikingly *parallel*, indicating that between the early 1990s and today the scope of privatization was almost the same in the EU-15 and the CEEC-10. Until today, the difference in the level of state ownership has even decreased. While in 1993, average state ownership was 14,6 percentage points higher in the CEEC-10 than in the EU-15, today this difference amounts to only 12,4 percentage points.

Dynamic of Privatization

We have now analyzed the beginnings of the privatization process and the general scope of reform in the EU-15 and the CEEC-10. This, however, does not tell us anything about the degree of privatization and the privatization development in the individual countries. A government might privatize radically by selling all shares of the PTO within a very short period. In contrast, it could also sell shares incrementally over a rather long time horizon using several privatization steps. In doing so, the government might sell some shares early on but retain a majority for some time because it seems opportunistic politically and then sell further shares several years later. The country-specific privatization developments cannot be drawn from the figures above since they use cumulative data. Figures 6.4 and 6.5 provide detailed information on the individual privatization steps in every country of the EU-15 and the CEEC-10, respectively.[188]

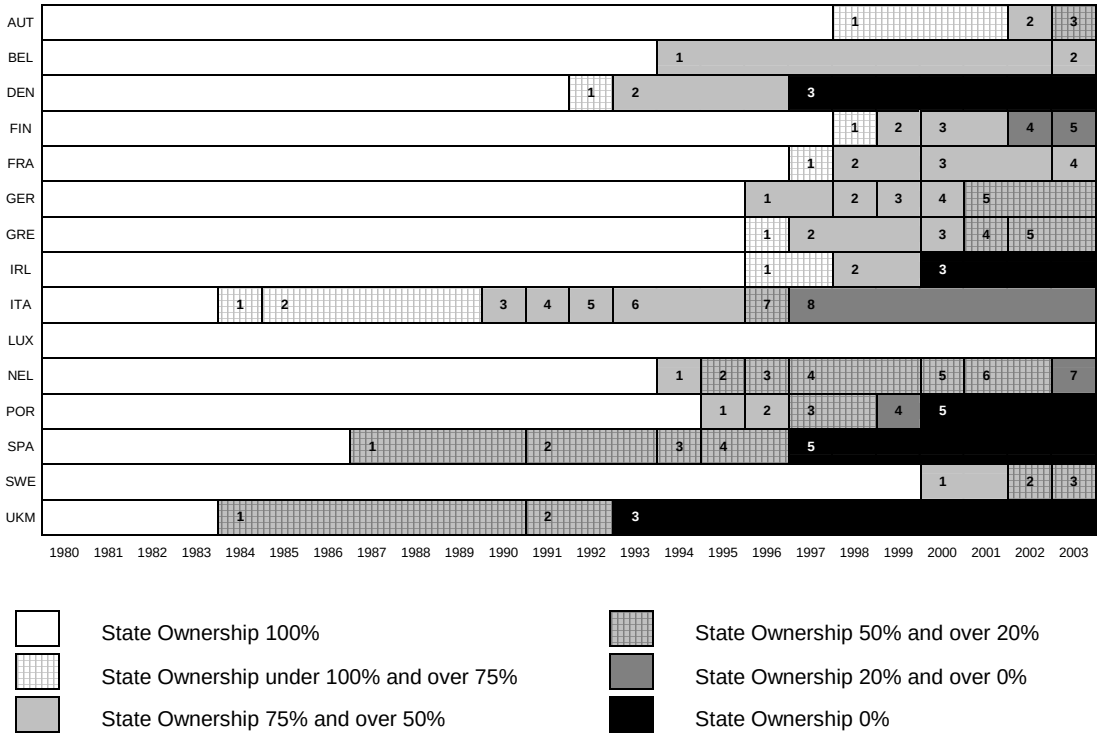
The data in Figure 6.4 show that the number of privatization steps *varies considerably* across the old member states. None of the 15 old member states made only one privatization step so far and just one country (Belgium) made two steps.[189] The majority of the EU-15, that is eleven member states, undertook three, four or five privatization steps. The most active privatizers in terms of privatization rounds are the Netherlands with seven and Italy with eight privatization steps between 1984 and 2003. Interestingly, however, both countries have not yet sold all of the states' shares in the former PTO albeit their vivid privatization activities. In many cases, we find that privatization steps followed closely after one another. Finland and Portugal, for example, undertook five privatization initiatives within only six years between 1998 and 2003 and

[188] The categorization of the data reflects the following logic: first, it was necessary to have both extreme cases, 0 and 100 per cent state ownership, represented. The categorization further respects that for the case that the state owns more than 50 per cent this can either amount to significantly more than that ($75\% < x < 100\%$) or slightly more ($50\% < x < 75\%$). The same applies to the situations in which the state retains 50 per cent or less of the former PTO, thus no absolute majority of the shares: It can either own more than 20 per cent, in which case it usually possesses a blocking minority for company decisions ($20\% < x \leq 50\%$), or 20 per cent and less ($0\% < x \leq 20\%$).

[189] Luxembourg has not yet privatized one share of its PTO and is therefore the only country among the 25 that still retains 100 per cent state ownership. Bulgaria has privatized a majority of its dominant operator BTC in 2004.

between 1995 and 2000, respectively. In sum, we find that the 15 countries undertook an average of 3.0 privatization steps since 1984.

Figure 6.4 Privatization Steps in the EU-15 Telecommunications Sector



Source: Infrastructure Data Set (2004)

In the CEECs, the picture looks somewhat different (Figure 6.5). In contrast to the EU-15 with 3.0 privatization initiatives, the CEEC-10 only made 1.8 privatization steps in average since 1990. This is first of all due to the fact that before 1998 only three countries, the Czech Republic, Hungary and Latvia, had decided to privatize their PTO. All other countries began with privatization in 1998 or even later. Of the nine countries that had privatized parts of their former PTO until the end of 2003, Poland strikes our attention. It has undertaken six privatization steps within six years, that is one privatization step every year since 1998. However, within that period, it had reduced state shareholdings by almost 100 percentage points. In contrast to Poland, most of the other CEECs undertook one, two or three privatization steps since 1990.

Figure 6.5: Privatization Steps in the CEEC-10 Telecommunications Sector

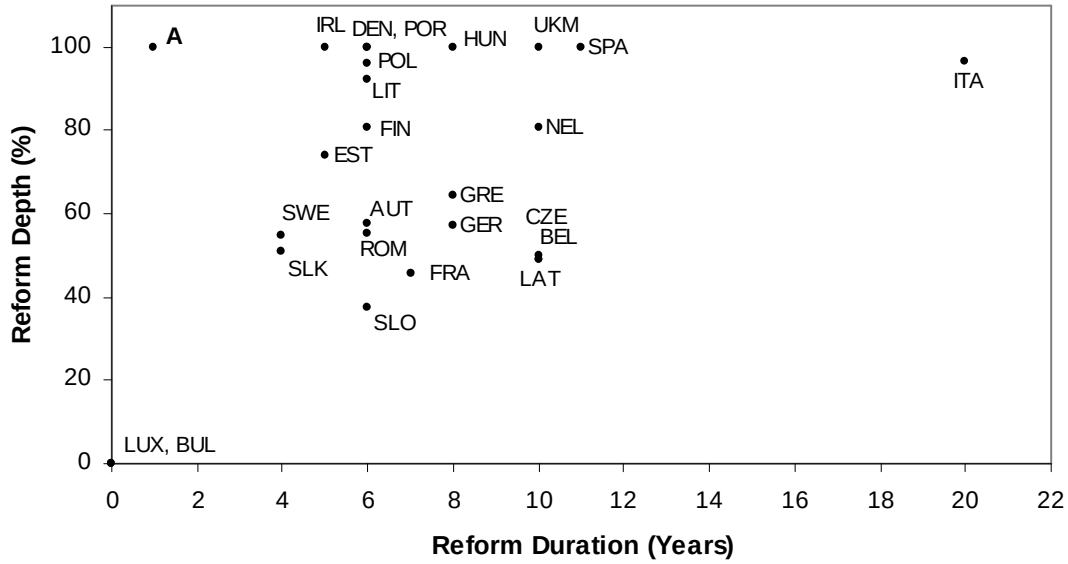
Source: Infrastructure Data Set (2004)

The analysis in the preceding paragraphs already gives a first indication concerning the question whether we encounter radical or incremental privatization in the telecommunications sector. This answer, however, is not only dependent on the number of privatization steps but also on the magnitude of privatization in a certain time period. For instance, the privatization of 80 per cent of a PTO in four steps over five years might be regarded as more radical than the privatization of 80 per cent in two steps over ten years, although, at first glance, four privatization steps point to a rather incremental process. The privatization dynamic can therefore be perceived as a combination of reform depth and reform duration. The combination of both variables on the basis of our data set is plotted in Figure 6.6.

In the figure, 'reform depth' stands for the absolute change of the level of state ownership between 1980 and 2003 and 'reform duration' represents the time span between the first privatization step and the end of the observation period. We can thus separate countries that have privatized a large portion of their PTO in a short period from those in which privatization has thus far proceeded rather slowly. If a country achieved a reduction in state ownership by 100 percentage points within only one year it would be plotted at

point 'A' (1/100) in the upper left hand corner of the diagram. It should be noted, however, that the data in Figure 6.6 do not represent absolute levels of state ownership. Instead they represent the difference in state ownership between t_0 and t_1.[190]

Figure 6.6 Privatization Dynamic in Telecommunications



Source: Infrastructure Data Set (2004)

If we look at Figure 6.6, it turns out that the most radical privatizers in the telecommunications sector can be found among the old member states: Ireland, Denmark and Portugal have the highest values for the average annual scope of privatization. In average, Ireland has privatized 20 per cent of its PTO every year, Denmark and Portugal 16,7 per cent. And all three of them have fully privatized the former PTO. Ireland, for example, has managed to reduce state ownership by 100 per cent between 1996 and 2000. For comparison, it has taken the Italian governments 20 years to reduce state ownership by a similar magnitude.

[190] Thus, a country might appear to have privatized 50 percentage points but nevertheless possess a fully privatized infrastructure sector. While this does not apply to telecommunications since all PTOs were fully state owned before 1980, it does apply to the electricity sector where some companies were already partially private at the beginning of the observation period.

Poland, Lithuania and Estonia are the most radical privatizers among the CEEC-10, with annual privatization averages of 16 per cent, 15,3 per cent and 14,8 per cent, respectively. All three of them have started to privatize their PTO towards the end of the 1990s. And also the Scandinavian countries have joined the privatization bandwagon rather late – Sweden in 2000 and Finland in 1998, but managed to achieve substantial reductions in state ownership since then. All of those eight countries are closer to the upper left corner than any other of the 25 countries, which indicates that they have thus far demonstrated the largest privatization dynamic.

The laggards in the analysis are again Luxembourg and Bulgaria. Both countries are plotted in the lower left corner at point (0/0) because they had not undertaken one single privatization step by the end of 2003. But also Italy, the Czech Republic, Latvia and Belgium rank rather low and can be regarded as incremental rather than radical privatizers. None of them was either able or willing to reduce ownership by more than 5 per cent in average per year. In sum, half of the ten most radical privatizers come from Central and Eastern Europe. And, if we consider that in 2004 the Bulgarian government privatized a majority of *BTC* by selling 65 per cent of the shares to a private investor from Austria, the CEEC-10 could be considered as even *more radical privatizers* in telecommunications than their western neighbours.

6.2.2. Liberalization

Liberalization and the creation of fair competition have been among the primary goals of EU regulatory policy in the telecommunications sector over the past decade. According to widespread beliefs, the breaking-up of monopolistic structures will benefit the consumer and thus the economy as a whole through the creation of competition for quality and prices. The framing of such market-opening through reregulatory elements in the organization of the respective sector is a necessary prerequisite for liberalization to succeed and fair competition to develop. How then have the member states of the EU thus far progressed in liberalizing their national markets for telecommunications? And what

differences do we observe in comparison to the outcomes of the privatization development in the sector?

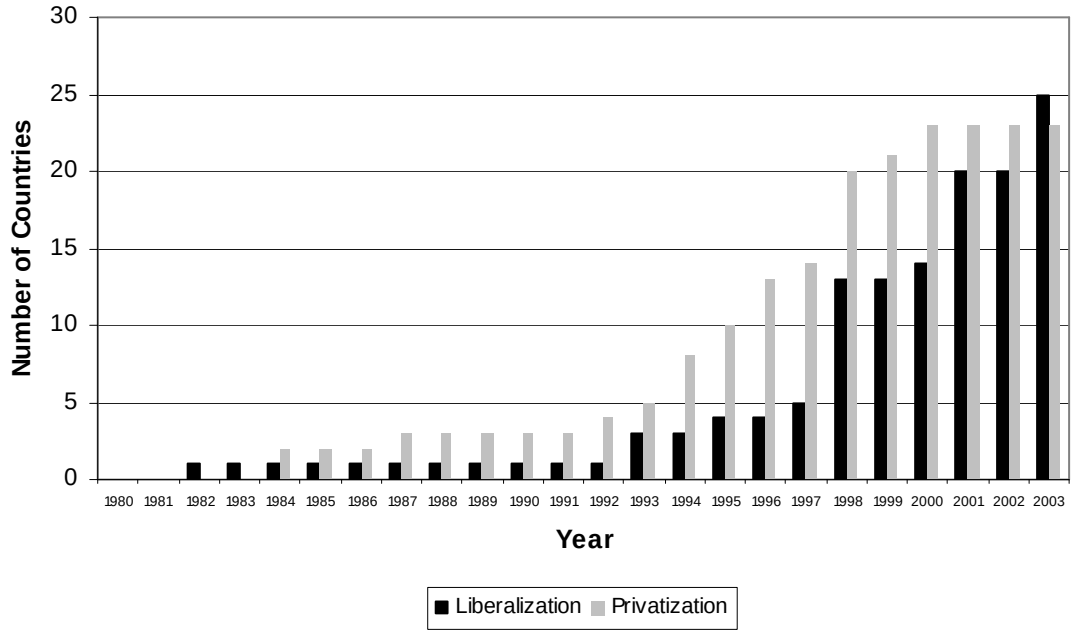
The Spread of Liberalization

Considering the second question first, by looking at the data it becomes obvious that the liberalization process possesses a quite different structure than the privatization development. Generally, the privatization of PTOs did not only set in much earlier, it also proceeded much more gradually than market liberalization. This can be seen from the diagram plotted in Figure 6.7. It shows the cumulated number of countries that had begun to liberalize their markets and privatize their PTOs in a given year. In the diagram, the privatization pillars start to grow significantly earlier than the liberalization pillars. What is further striking is that the privatization development is much *more steady and continuous* than the liberalization development. The latter shows the form of a stairway with four plateaus.

The difference between the two reform policies becomes even clearer if we look at the date of the first liberalization step. As with privatization, the United Kingdom is also the forerunner country as regards market liberalization. It was the only member state that liberalized its market for fixed-voice telephony services already in the 1980s. However, the effective ending of *British Telecom*'s monopoly over supply and the licensing of competitors had even begun before privatization in 1984. Two years before *British Telecom* was privatized, the government decided to open a small portion of the market to competition. The result was a kind of duopoly in which the PTO had to share the market with *Mercury*, a company that was established in 1982 and that was largely owned by *Cable and Wireless*. This duopoly lasted until 1991, when the government announced that it would also license other applicants.[191] From then on, licences were generally granted unless there were good reasons not to do so (Thatcher 1999: 175 ff.).

[191] *Mercury's* licence was expanded in 1984, the year *British Telecom* was partially privatized. At the same time, the government promised investors in the PTO that resale of transmission capacity for public-voice telephony would remain prohibited for five more years and that the duopoly would not be broken up for a minimum of seven years (Thatcher 1999: 175-178).

Figure 6.7 Timing of Fixed-Voice Telephony Liberalization



Notes: Data represent cumulated number of countries that had started to liberalize the national telecommunications market/privatize the PTO by the end of a given year.

Source: Infrastructure Data Set (2004)

In all other countries, full market liberalization was realized significantly after the year 1990: the second plateau in Figure 6.7 is formed by the Scandinavian countries of Denmark, Finland and Sweden, which liberalized their markets in the early and mid-1990s. However, except for these three countries liberalization activity continued to be rather weak until the mid 1990s. The two biggest liberalization waves set in after the reforms in the Scandinavian countries: in a first big wave towards the late 1990s the remaining EU-15 countries opened their markets to competition. And in a second big wave, at the beginning of the new millennium, the CEEC-10 followed suit. One development is characteristic in this respect: in average, the old EU members (except for the United Kingdom) opened their markets three to five years earlier than the ten CEECs.

This accumulation of national liberalization initiatives does however not come as a surprise. Both dates obviously correspond to the requirements set by *EU Secondary law*: first, the respective sector legislation, mainly Directives 90/388/EC and 96/19/EC,

demanded from the old member states full market opening by 1 January 1998.[192] Hence the accumulation of national liberalization measures in the EU-15 in the year 1998.[193] Market liberalization in Germany, France and Italy, for instance, was largely driven by EU reform initiatives. In the 1980s, Germany and France were no driving forces as regards liberalization in the telecommunications market. In Germany a complex constellation of actors from politics, business and the labor unions obstructed any reform (Werle 1999: 110). In France, between 1981 and 1986 the Socialist government was reluctant to open the national telephone market to competition. In 1990, the French government still reaffirmed the right of *France Télécom*, at that time a functional office within the state administration, to retain a monopoly over the basic telecommunications services (Eliassen, Mason and Sjovaag 1999: 30). The emergence of a EU-wide reform approach catalyzed the initiatives of liberalization supporters in both countries. The Commission and other actors in the new policy-network provided supranational and cross-national support for this group (Schneider, Dang-Nguyen and Werle 1994).

The reason for the second big wave between 2001 and 2003 has to do with EU enlargement (see chapter 4). Until the accession negotiations started officially for the ten CEECs in 1999 (Luxembourg Group) and 2000 (Helsinki Group) there was no real pressure on their governments from the side of the EU to undertake fundamental liberalization initiatives. The situation changed however with the perspective of full EU membership by the year 2004. To reach this end, the CEECs had to transpose the provisions of the *acquis* into national law in order to become full members of the EU. Among others, this meant that the liberalization of national telecommunications markets

[192] The first concrete EU-wide liberalization approach in the sector was made in 1988 with Directive 88/388/EC. It demanded competition in the national markets for telecommunications terminal equipment (European Commission 1988a).

[193] For most infrastructure sectors we can assume that EU member countries possess a tendency to wait as long as they can before they finally liberalize the respective market. The reason is that governments have an interest in protecting their national incumbents from foreign competition as long as possible, mainly because the state acts as a major shareholder. This can also be shown empirically: in many instances in the past, countries have been fined by the Commission for not complying with EU liberalization deadlines. It is therefore a plausible assumption that the accumulation of national liberalization initiatives in the markets for fixed-voice telephony in 1998 is directly related to the date set for market-opening in the corresponding Directives.

had to be accomplished by the end of 2003 in order to comply with the Copenhagen criteria and not to delay accession.

In all countries of the EU-15 and in the majority of the CEEC-10, mobile-voice markets were liberalized *before* the markets for fixed-voice telephony. One of the reasons might be that in the mid-1980s mobile-voice telephony emerged as a new technology that could be used to bypass the established fixed network infrastructure, which was at that time owned and operated by the PTO. Since the market for mobile-voice services was still relatively young at the time liberalization began, there was no need to break up long-grown and established regulatory structures. Instead, new regulatory schemes could be designed in a way to create fair and effective competition from the beginning. In Estonia, for instance, the market for mobile-voice telephony has never been state-controlled since the beginning of transition. In fact, many countries allowed competition in the new market for mobile telephony already at a very early stage. Examples for Western Europe are Spain and France which already liberalized their markets in 1986 and 1989, respectively.

The Extent of Liberalization

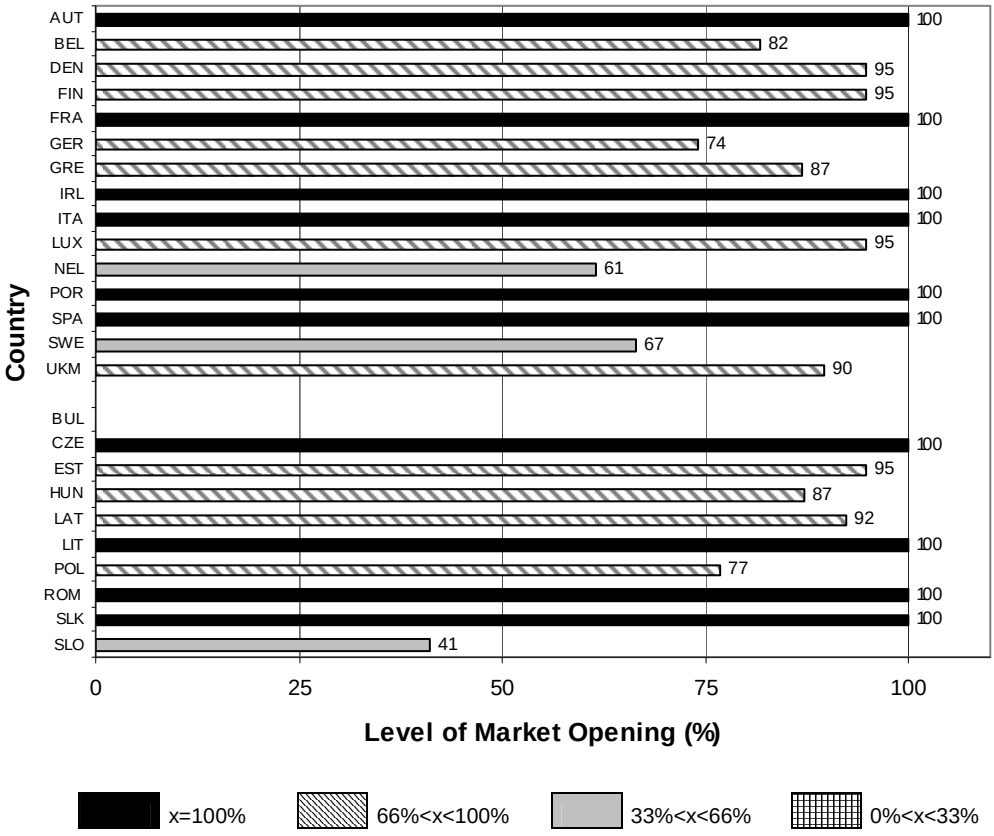
As we saw for the privatization dimension, the timing and duration of reform does not automatically allow us to conclude on the depth of reform. For instance, some governments have begun to privatize their PTO rather late, but acted comparatively radical as regards the volumes of transaction. Figure 6.8 represents the level of market opening in 24 telecommunications markets of the EU.[194] The value for each country is a composite indicator, covering 13 different sub-markets of the telecommunications sector. This includes established sub-markets such as local services, domestic long distance or digital mobile-voice telephony. In addition, it also includes relatively new markets, i.e. XDSL, wireless local loop or cable television, which began to constitute important segments of the telecommunications business at the end of the 1990s.

As the figure shows, in ten countries the telecommunications market had already been fully liberalized by the end of 2003. Interestingly, of the ten countries with complete

[194] No data available for Bulgaria.

market-opening four belong to the CEEC-10. The Czech Republic, Lithuania, Romania and the Slovak Republic have liberalized all 13 sub-markets. In the Czech Republic, even operators from other infrastructure sectors, i.e. electricity, are ready to enter the telecommunications market. In the Slovak Republic, things have also developed rather fast. Since 1998, all telecommunications services – with the exception of voice telephony – and the use of alternative infrastructures for non-reserved services have been liberalized.

Figure 6.8 Telecommunications Liberalization in the EU-25



Notes: Data represent the degree of market opening for each country. The value indicates how much of the market had been opened by the end of 2003. Basis for the country-values are indicators which represent the level of liberalization in each of the 13 sub-markets of the telecommunications sector. These sub-markets are Local Services, Domestic Long Distance, International Long Distance, XDSL, Wireless Local Loop, Mobile Voice (digital), Leased Lines, Paging, Mobile Satellite, Fixed Satellite, Cable TV, GMPCS and IMT 2000.

The openness-value for each sub-market is obtained by converting the ordinally scaled ITU-values into metric values. A monopoly situation (m) is converted into 0%, a duopoly (d) into 33%, partial competition (p) into 66% and full competition (c) into 100% market opening. The final liberalization level is calculated as the mean of all 13 openness-values. Thus, a country that shows full competition in all 13 sub-markets will have 100% of market liberalization in the diagram. No data available for Bulgaria.

Source: Infrastructure Data Set (2004)

Complete market-opening is further observable in the six old member states Austria, France, Ireland, Italy, Portugal and Spain. By the end of 2003, Ireland, Italy, Portugal and Spain had not only fully or almost fully privatized their PTOs, they had also liberalized all of their relevant sub-markets.[195] Thus, there is indication that the extent of liberalization of the market for telecommunications services might correlate with the degree of privatization of the national incumbent. However, Austria and France are strong counter-examples. In both countries the state still retains a considerable number of shares of the national incumbent despite a fully liberalized market. Maybe this is also the reason why both countries are frequently the target of complaints by the Commission about unfair conditions for new market entrants.

Located at the other end of the continuum are the Netherlands, Sweden and Slovenia. None of those three countries attains a liberalization degree above two-thirds of full market opening. The clear laggard is Slovenia with only 41 per cent of market liberalization. All other countries have opened their telecommunications markets by at least 75 per cent. Significantly, the CEECs possess highly liberalized markets. Within three years they have accomplished what has taken many of their Western neighbors, i.e. Denmark, Finland or Sweden, eight to ten years. For instance, except for Bulgaria and Slovenia, all of the CEEC-10 show a higher degree of liberalization than Germany. And in average their markets possess the same degree of liberalization as in the old EU members. Thus, the rather incremental liberalization process in the EU-15 based on the evolution of EU Secondary law seems not to have produced significantly different outcomes than the more sporadic approach in the CEEC-10.

6.2.3. Reregulation

As we saw in Figure 6.1 above, by the end of 2003 all 25 countries under analysis had established a separate regulator for the telecommunications sector. The figure further reveals that NRAs were mostly created *before* the national telecommunications markets were liberalized. This might be surprising because, in contrast to the electricity sector, EU

[195] In 2004, Italy still retained 3.5 per cent of *Telecom Italia*.

members have thus far not been required to establish a regulatory authority that is organizationally separate from the ministry. According to Article 3 FD , the ministries could retain important regulatory functions as long as "[m]ember States guarantee the independence of national regulatory authorities by ensuring that they are legally distinct from and functionally independent of all organisations providing electronic communications networks, equipment or services" (European Parliament 2002b: 39). The reason for the development might be that countries wanted to prepare themselves for market opening by establishing functioning regulatory structures prior to liberalization, thus demonstrating their credible commitment to fair and unbiased regulation vis-à-vis potential new market entrants and investors. The highest level of NRA foundation activity can be observed for the years between 1996 and 1998 in the EU-15 and between 2000 and 2002 in the CEEC-10.

Again, both time periods can be related to EU law. By 1 January 1998, EU legislation banned national monopolies throughout the entire telecommunications sector. By the same date, member states were required to *separate supply and regulation*. There was, however, no requirement that NRAs be independent of governments. In fact, ministries were generally counted as NRAs (Thatcher 2001: 14). Nevertheless, those countries that had not already established NRAs in the 1980s or early 1990s, Austria, France, Germany, Ireland, Italy, Luxembourg, the Netherlands and Spain, decided to set up NRAs just in time prior to mandatory market opening. The second peak period of NRA foundation can once again be explained by the requirement for the CEECs to implement the *acquis* timely before their accession to the EU. Only Estonia established a separate regulator as early as 1998.

Until now, we have only asked whether a country has established a NRA at all. But we have not asked about the NRA's influence in the regulatory concert, i.e. the distribution of power and competencies between the NRAs, the ministries and the competition authorities. If we assume that liberalization and privatization have led to some form of deregulation in the sense that the state administration had to give up certain regulatory powers, new regulation that safeguards fair competition naturally had to result in increased competencies by competition authorities or new sector-specific regulators. In order to

analyze the degree of reregulation it is therefore instructive to assess the role played by the NRA, especially in relation to the state administration and the NCAs.

A central point in the discussion on NRA influence is that of agency independence (cf. Thatcher 2002c).[196] In this context it is important to distinguish between the mere existence of a NRA without any regulatory powers and a strong and autonomous NRA which possesses a variety of exclusive regulatory competencies.[197] The independence of a NRA in turn is determined by several different factors. One aspect is the *organizational structure* of the NRA. This refers to such characteristics as the form of financing, the structure of the regulator's head or the number of full-time staff. For instance, a NRA that has several different sources for financing its budget can act much more independently from the state administration than an authority that has to rely on government appropriation to continue its operations. A similar logic applies to the structure of the regulator's head: if the NRA is headed by a collegial body with several members rather than by a single person, independence from the government is fostered. Plus, a NRA with a large staff can develop expertise in every regulatory field and thus strengthen its autonomy vis-à-vis the state administration.

But agency independence does not only derive from the organizational structure. It also depends on the *regulatory functions* that have been delegated from the formerly responsible ministry to the NRA. This includes such competencies as licensing, merger approval, interconnection charges, dispute resolution, tariff approval, numbering plans or monitoring of service quality. The more exclusive regulatory competencies a NRA

[196] It is necessary to distinguish between three different concepts of independence: formal, material and de facto independence. *Formal* independence refers to the rhetoric of politicians or state officials. We could think of instances in which a NRA is established merely for symbolic reasons, i.e. to enhance the credibility of governmental reform programmes under globalization or budgetary pressures. In this case, the NRA does exist but it does not possess any regulatory competencies. By contrast, *material* independence reflects the status of a NRA according to the legal acts establishing the authority. Thus, it considers all powers that were officially delegated to the NRA on the basis of laws passed by Parliament or decrees and ordinances of the executive. Finally, *de facto* independence describes the status of a NRA as it manifests itself in daily regulatory praxis. It refers to the real and observable relationship between the NRA and other regulatory institutions, i.e. Parliament, ministries and competition authorities.

[197] The concept of 'exclusivity' is important in this context. In case the NRA holds exclusive regulatory responsibilities, agency independence will be higher than if the NRA has to share these responsibilities with other institutions, i.e. ministries or NCAs.

possesses, the higher its independence from political and administrative influence. Independence is highest if all regulatory responsibilities are under the auspices of the authority and none of them are controlled by the ministry or the NCA.

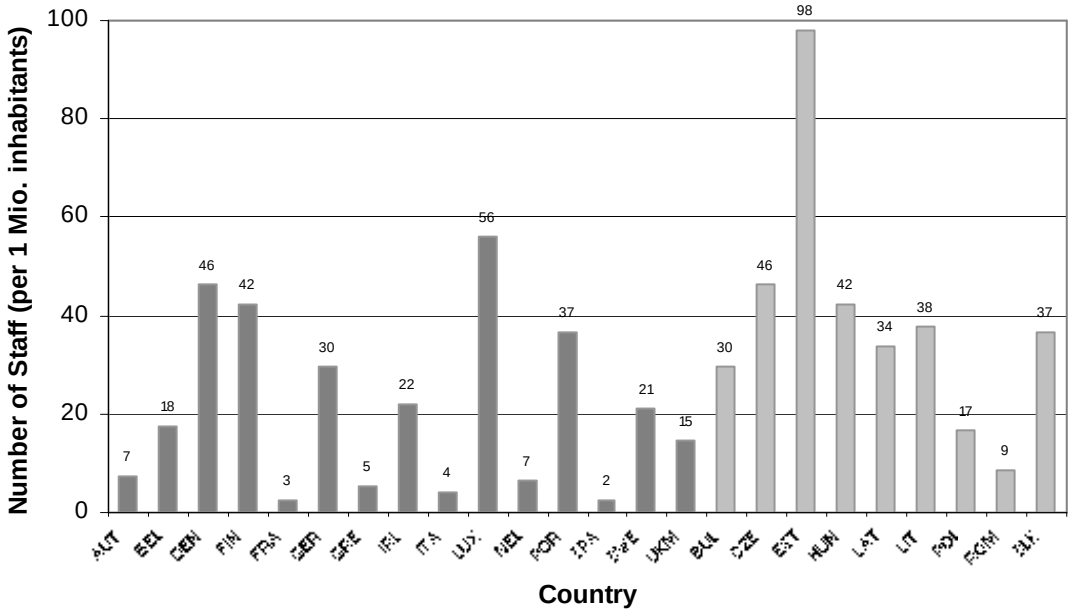
Formally, all NRAs in the EU member states are independent from political power. Most regulatory authorities have been created as separate entities from the ministry which was in the past exclusively responsible for the regulation of the communications sector.[198] They have also been separated from the PTO. In addition, a NRA can be materially independent in terms of political statutes and legally delegated powers, but still be only partially independent from the legislative or the executive when it comes to concrete regulatory decisions. Measuring and comparing the *de facto* independence of the NRAs in all 25 EU member countries would, however, require a very complex and voluminous research design. Therefore, the analysis in this study is limited to the material independence of NRAs.

Organizational Structures

On the basis of the information provided by the infrastructure reform data set we can compare structures and competencies of NRAs across the 25 countries. The data set contains information on a total of 19 variables, nine of which relate to the organizational structure and ten to the regulatory functions of the NRAs. If we look at the organizational structure, the first thing that strikes our attention is the significant difference in NRA-size. While *ILR* in Luxembourg employed 28 full-time officials by the end of 2003, *RegTP* in Germany had a staff of over 2.400 employees. Interestingly, the NRAs in the new member states Poland, Hungary and the Czech Republic are the second, third and fourth biggest among the 25 authorities, respectively. In neither France nor Italy the NRA is staffed with more than 250 full-time employees.

[198] As such, the NRAs today usually possess a public status. In Austria, in contrast, the telecommunications regulator *RTR* is a private non-profit limited liability company which is fully owned by the state. The Minister for Science and Transport exercises the shareholder's right on behalf of the government.

Figure 6.9 Full-time Staff of Telecommunications NRAs



Note: Diagram shows the number of full-time NRA employees per one million inhabitants for the year 2004.

Sources: Infrastructure Data Set (2004), The World Factbook 2003.

If we compare *staff* in relation to country size, we observe that the country with the most favorable ratio is Estonia with 97,8 employees per 1 million inhabitants (Figure 6.9). Luxembourg has the second highest ratio. This is, however, due to special circumstances: first, the country is so small so that we obtain base effects and, second, *ILR* is a multi-sector regulator not confined to the telecommunications sector.[199] The next nine countries possess staff/inhabitant-ratios of around 40. Six of these countries are CEECs, the Czech Republic, Hungary, Latvia, Lithuania, the Slovak Republic and Slovenia. Except for Romania, all countries with low staff/inhabitants-ratios are old member countries: Austria, France, Greece, Italy, the Netherlands, Spain and the United Kingdom.[200] According to

[199] A certain number of full-time employees is necessary for the NRA to execute a minimum level of services, even if the country is extremely small, as in the case of Luxembourg with 0.5 million inhabitants. This base effect leads to a relatively high staff/inhabitant-ratio.

[200] For the case of the largest member states, France, Italy, Spain and the United Kingdom, but except for Germany, this might be due to the fact that over a certain size, staff does not increase proportionally. It is the same effect as in the case of extremely small countries, i.e. Luxembourg, only in a different direction.

staff number, we could thus assume that the NRAs in the CEEC-10 are in average stronger than their Western counterparts.

Most NRAs in the 25 member countries have *reporting duties* towards the executive. They either report directly to the Prime Minister or the responsible ministry. Only very few NRAs in the old member states also need to report to the legislature. This is the case in Austria, France, Germany and in Italy. Among the CEEC-10, only the NRAs in Lithuania and the Slovak Republic have the duty to report to Parliament. All others report to the executive branch. The fact that in most countries reporting requirements are limited to annual reports of the NRA to the executive strengthens the independence of the authorities. In Belgium and Latvia, the *IBPT* and the *Public Utilities Commission* even have no specific reporting requirements at all except for the publication of an annual report.

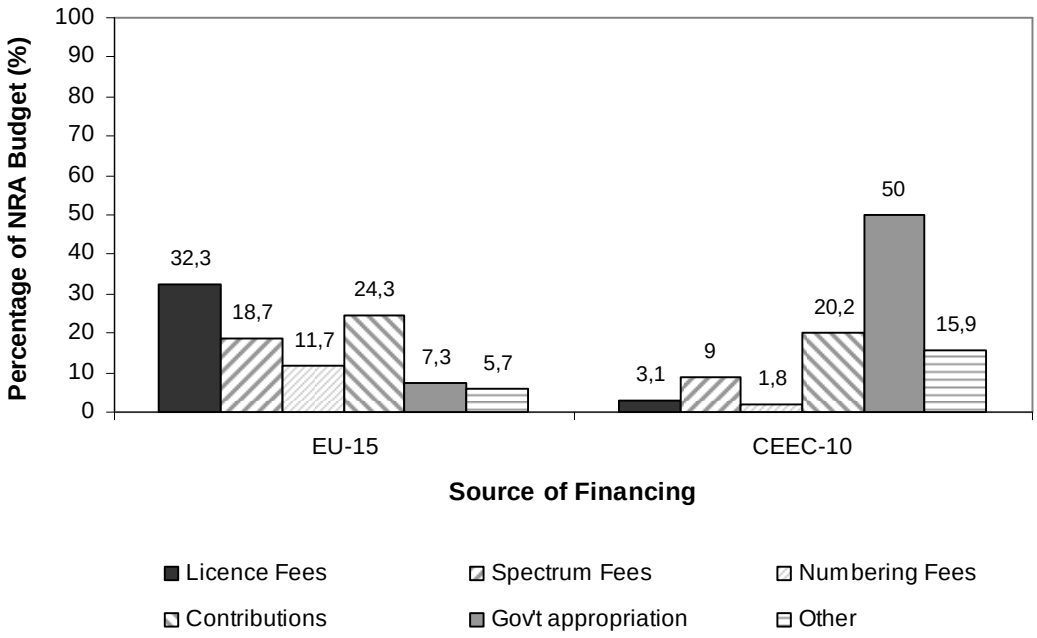
Another organizational characteristic that determines agency independence relates to the *overturning of decisions*. Except for two countries among the old member states, Denmark and the United Kingdom, no decision of a NRA can be overturned by the executive or legislative branch. In Denmark, all decisions of *NITA* can be overturned by the *Telecommunications Complaints Board* and the *Telecommunications Consumer Board*. In the United Kingdom, *OFCOM*'s decisions are subject to control by the *Monopolies and Mergers Commission* (MMC). In the CEECs, the situation is similar. Only in Estonia, the Ministry of Economic Affairs and Communications can overturn the decisions of *ENCB*. This right of the executive significantly reduces the independence of the NRA. The last recourse for consumer or company complaints are in all countries the public courts.

As regards *budget planning* and *financing*, the NRAs still are very much dependent on external bodies and sources. In most countries of the EU-15 and CEEC-10 the annual budget of the NRA has to be approved either by Parliament or the executive, i.e. the responsible ministry. Only in Finland, Ireland and Latvia the budget is approved internally by the regulator's head.[201] Concerning the form and the sources of financing, the difference between the EU-15 and CEEC-10 is more clearly visible: in the EU-15, the majority of the

[201] In Finland, the Director-General of *FICORA* and in Ireland the Director of *ODTR* approves the budget. And in Latvia, the regulator's budget is approved by the Board which includes the chairman and four commissioners.

NRAs is financed through fees from the telecommunications operators, i.e. license, spectrum or numbering fees.[202] Of the ten NRAs in the CEECs only four receive the dominant part of their annual budget from operator contributions or service fees.[203] The majority of the NRAs in the CEECs, however, is financed exclusively through government appropriation. In Estonia, *ENCB* is even financed directly through the state budget.[204]

Figure 6.10 Budget Sources of Telecommunications NRAs



Notes: The figures indicate the average percentage that the respective source of financing makes up of total NRA revenue. Other sources include loans, fines, financial reserves, interests and VAT reimbursement.

Source: Infrastructure Data Set (2004)

[202] In five countries, Austria, Germany, Ireland, Spain and Sweden, the NRA receives a contribution from the operators in relation to their turnover. In Spain, for example, all holders of a general authorisation or individual licence are obliged to pay a charge of 0.15 per cent of their annual revenue to *CMT*.

[203] The *CRC* in Bulgaria, the *Public Utilities Commission* in Latvia and the *ANRC* in Romania use operator contributions to finance their NRA. The *National Communications Authority* in Hungary is the only NRA in the new member states that is financed through fees, mainly spectrum fees.

[204] But financial state support is also existent in West European countries. In Denmark, Germany, Italy and in the United Kingdom, government appropriation is used as an additional source of finance when the revenues from fees are insufficient.

As Figure 6.10 shows, the EU-15 have a much more balanced mix of financing than the CEECs. Fees contribute in average to more than 60 per cent of the regulator's budget. Contributions, which amount to almost one fourth of the budget, are the second important source of NRA-financing in the old member states. This picture looks strikingly different in the CEEC-10. While service fees make up less than 15 per cent, appropriations by the government are the most important income source for NRAs. This makes the NRAs in the new and applicant member states much more dependent on political power and administrative control. The NRAs in the Western member countries, in contrast, have a much broader revenue base and rely to a larger extent on independent sources of financing.

Another organizational characteristic that has important implications for agency independence is the structure and selection of the *NRA's head*. A single person, i.e. a Director-General, is much easier to influence politically than a collegial body of five or more members. The analysis reveals that ten of the 15 NRAs in the old EU members are headed by collegial bodies and that the average number of board members is 5.5.[205] In the CEEC-10, half of the NRAs are chaired by a collegial body, with an average size of 5.25 members. All other NRAs are headed by a single person. The largest directorate exists in Hungary with seven members, the smallest in Latvia with four.

An important question in this context is under which conditions the head or the individual members of the collegial body are selected or can be replaced. If, for instance, the decision-making body is composed of members who are appointed by different state institutions, i.e. by the executive and the legislative, NRA independence is increased.[206] In general, in most of the old member countries the head of the NRA is appointed by the responsible minister or by the President based on the recommendation of the government

[205] The largest collegial body exists in Sweden, where *PTS* is headed by ten board members. The smallest collegial bodies exist in Luxembourg, the Netherlands and Portugal with three members each. Countries with only one director or chairman on top are Belgium, Finland, Germany, Ireland and the United Kingdom.

[206] This is, for instance, the case in France, where three of the five Executive Board members, including the chairman, are appointed by Presidential Decree. The other two are chosen by the Presidents of the *Sénat* and the *Assemblée Nationale*.

or the ministry.[207] It further becomes obvious that in countries that have a collegial decision-making body, the legislature is frequently involved in the selection of the head.[208] Among the CEEC-10, only in Latvia and the Slovak Republic the parliament is exclusively responsible for the appointment of the regulator's head. In all other countries, the competence to appoint board members lies in the hands of the executive.

Finally, an organizational characteristic that determines the degree of agency independence is the existence of a guaranteed *term of office* for the head of the regulatory authority. In case of a guaranteed term of office, the head of the NRA can exercise its regulatory powers without considering short-term political interests and efforts to influence its course of action. In addition, the longer the term of office, the higher the independence of the NRA from political influence. The average term of office in the 25 countries, as it is foreseen by the respective NRA statutes, is 5.1 years. With an average of 3.9 years, the CEECs once again show a below average value on an important organizational variable. In five countries, the term of office is indefinite.

Regulatory Functions

A second group of variables that determines agency independence relates to the *regulatory functions* delegated to NRAs. These include functions such as licensing, numbering, spectrum and interconnection management, tariff approval and monitoring of service quality. As Table 6.2 shows, three different institutions, NRA, ministry and NCA, are involved in sector regulation. In four countries of the EU-15 the ministry holds no significant regulatory powers any longer, but it is charged with exclusive or shared regulatory responsibilities in all ten CEECs. However, while the ministries retain a say in the area of licenses, their competencies concerning issues of interconnection, tariffs or

[207] For example, in Germany, the chairman and the two vice-chairmen of *RegTP* are nominated by the federal government upon proposal of the Advisory Council of *RegTP*, and they are officially appointed by the President of the Federal Republic. The competencies of the chairman of *RegTP* are manifested in a contract between the Federal Ministry of Economics and Technology and the president of *RegTP*. This contract, in turn, is subject to approval by the federal government.

[208] In Italy, for example, the Prime Minister appoints the president of the *AGC* while the eight commissioners are elected by Parliament. And in Spain, the chairman of *CMT* is appointed by the government but subject to the approval of Parliament. The other members are appointed by the Minister of Development for a five-year term. They can be removed only for "exceptional and well established reasons".

service quality have been significantly reduced over the last years. The role of the NCAs has mainly been that merger approval.

Table 6.2 Regulatory Competencies in the Telecommunications Sector

Institution		Regulatory Competence		Regulatory Function						
					License		Interconnection			
		Yes	*No*	*Fees*	*Technical. Standards*	*Merger Approval*	*Charges*	*Dispute Resolution*	*Tariff Approval*	*Monitoring of Service Quality*
EU-15	NRA	15	0	9	13	2	15	15	12*	14
	Ministry	11	4	5	2	0	1	0	2*	1
	NCA	14	1	0	0	14	0	0	0*	1
CEEC-10	NRA	10	0	5	6	1	5*	9	8*	9
	Ministry	10	0	6	8	1	1*	3	3*	2
	NCA	8	2	0	0	8	0*	0	0*	0

Notes: No regulatory competencies of the ministry in Denmark, Germany, Ireland and Portugal (EU-15). No competencies of the NCA in Luxembourg (EU-15) and in the Czech Republic and Poland (CEEC-10). The fact that for some regulatory functions the number of responsible institutions is larger than the total number of countries is due to the existence of multiple competencies within one country. In Romania for example, the power to regulate licence fees is shared between the NRA and the ministry. Only fragmented data available for Luxembourg.

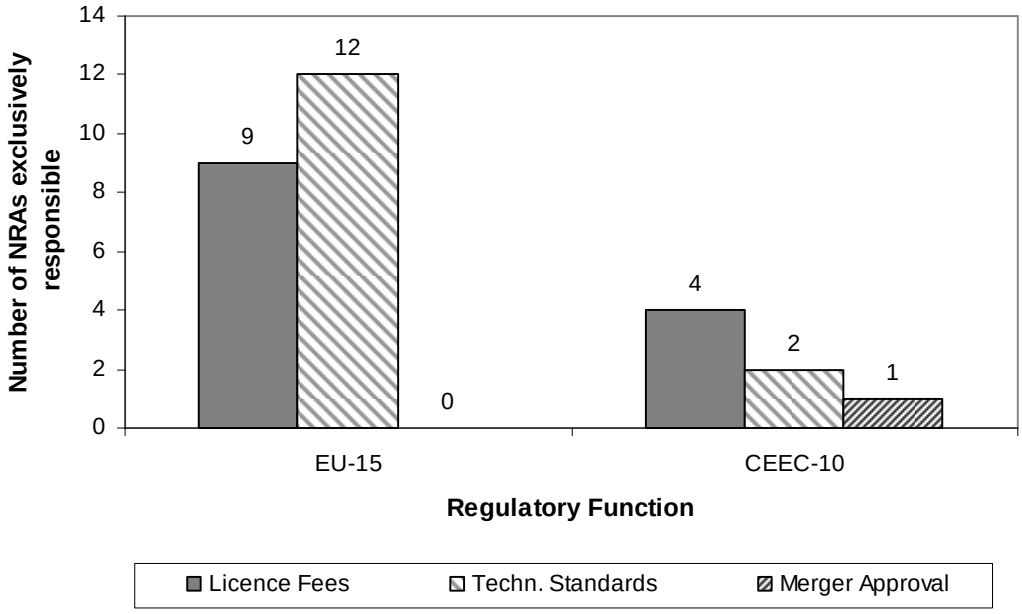
* In these cases, also the former PTO possesses certain regulatory competencies.

Source: Infrastructure Data Set (2004)

As regards *licensing*, in most of the old member states the NRAs are exclusively responsible for the setting of fees and technical standards. In the CEEC-10, these regulatory functions are usually under the shared responsibility of the ministry and the NRA. Figure 6.11 indicates the number of NRAs that hold *exclusive* regulatory responsibility. As can be seen, NRAs have much more exclusive competencies in the EU-15 than in the CEEC-10. Especially in the area of standard setting the ministries of the CEECs are still powerful. Merger approval, in contrast, is almost exclusively under the

responsibility of the NCAs. Only in the Czech Republic, France and Germany the NRA has a say when it comes to the *ex ante* approval of mergers. This exclusive competence of NCAs does not come as a surprise if we consider that competition authorities are usually charged with the control of market abuse, although typically on an *ex post* basis (see chapter 3.3.1.).

Figure 6.11 Regulatory Responsibilities of Telecommunications NRAs



Notes: The diagram indicates the number of NRAs in each group of countries that are exclusively responsible for the regulation of licence fees, technical standards and merger approval. Exclusive responsibility means that the NRA does not have to share power with other regulatory institutions.

Source: Infrastructure Data Set (2004)

As regards issues of *interconnection*, there is a clear dominance of NRA responsibility in the EU-15. In all countries except Belgium, the fixing of interconnection charges and the resolution of disputes between new operators, between new operators and the incumbent, and between operators and the users is regulated by the NRAs. In Belgium, the NRA has to share its responsibility with the ministry in questions of interconnection charges. In the CEECs, dispute resolution generally belongs to the exclusive competencies

of the NRAs. In seven of the ten countries, the NRA functions as the mediator between conflicting companies.

In many CEECs, interconnection charges, however, are determined on the basis of agreements between the dominant operator and its competitors or in joint responsibility between the operator and the NRA. Only in the Czech Republic and in Poland, the NRAs possess exclusive power in this regulatory field. In Bulgaria, Estonia, the Slovak Republic and Slovenia, in contrast, the former PTO holds responsible for the setting of interconnection prices. This leaves much room for anti-competitive behaviour because network interconnection is essential for the commercial success of new entrants in the market. The ministry is responsible for the regulation of interconnection charges only in Hungary.

A further important regulatory function is the *spectrum allocation* for broadcasting services. Here as well, the majority of West European NRAs possesses the exclusive competence to regulate the market. Only in Austria, Greece, Italy, the Netherlands and Spain, the ministry is exclusively responsible. In the United Kingdom, the spectrum is allocated by the *Radio Authority*, which has recently been integrated into the new 'super-regulator' *OFCOM*. Interestingly, in the CEECs the influence of the ministry in the field of spectrum allocation is not as strong as in other regulatory areas. Except for Romania, the allocation of the spectrum is either under the exclusive responsibility of the NRA or shared between the NRA and the responsible ministry.

The *approval of tariffs* is one of the central, yet most difficult regulatory tasks in the newly liberalized telecommunications markets.[209] Among the EU-15, the standard procedure is that the operator proposes a tariff to the responsible regulator, usually the NRA, which then agrees to or denies the proposal *ex ante*. This procedure is used in ten of the EU-15 countries. In Finland, the operator does not only propose but also approve the respective tariffs. A similar procedure is applied in the United Kingdom, where *OFCOM* is involved in the proposal of a new tariff but not in its final approval. In these cases, tariffs

[209] The proposal and the approval of tariffs both consider the most commonly used technique of regulation, the 'price-cap'. The price-cap sets a ceiling for tariffs. Usually, regulators employ the 'RPI-x' formula for calculating this ceiling (see chapter 3.3.2.).

are evaluated on an *ex post* basis either by the NRAs or the competition authorities. In the Netherlands, it is the NRA that both exclusively proposes and approves the tariff structure on an *ex ante* basis.

In all CEEC-10 except Slovenia, the operators are involved in the *proposal of new tariffs*. In the latter, the ministry retains the exclusive right to propose and set telecommunications tariffs. The NRA, in turn, is involved in tariff approval in all countries except Estonia, where the operator itself approves it, and in Slovenia where the ministry has the final say. However, only in Bulgaria, the Czech Republic, Latvia, Romania and the Slovak Republic, the NRA is exclusively responsible for the *ex ante* approval of tariffs and does not have to share power with the ministry. The fact that tariff approval is one of the most important regulatory functions again demonstrates that, in contrast to the regulatory situation in the EU-15, the independence of NRAs in the CEEC-10 seems to be weaker.

Concerning the creation of *numbering plans* for the telecommunications sector, regulatory competencies have largely been delegated to NRAs although in several countries the ministry retains a say. Basically, there is no significant difference between the situation in the EU-15 and the CEEC-10. In the large majority of the 25 countries, the NRA is principally responsible for the establishment of numbering plans. In only four of the Western and in three of the Central and Eastern European countries, the ministry possesses the exclusive regulatory function in that field.

The *monitoring of service* quality became an important function in the context of market liberalization. It is based on the regulatory goal of ensuring universal service provision for consumers at reasonable prices and good quality. Among the old EU members, the monitoring of service quality falls under the responsibility of the NRA. Only in Belgium, where the competition authority shares some competencies in this field, and in Spain, where the ministry is exclusively responsible, this function is not exercised by the NRA. We get an almost identical picture when we look at the regulatory situation in the CEECs: except for Poland and Slovenia, all governments have delegated exclusive monitoring competencies to the NRA. In Poland, the Ministry of Infrastructure is

responsible and in Slovenia, the NRA has to share powers with the Ministry of Information Society.

Table 6.3 Material Independence of Telecommunications NRAs

Rank	Country	Organizational Independence	Functional Independence	Independence Value
1	ITA	23	23	**46**
2	SWE	19	26	**45**
3	GER	17	26	**43**
4	AUT	20	22	**42**
5	FRA	20	22	**42**
6	IRL	16	26	**42**
7	DEN	16	25	**41**
8	CZE	14	26	**40**
9	BEL	16	22	**38**
10	POR	13	25	**38**
11	FIN	17	20	**37**
12	GRE	19	18	**37**
13	LAT	17	20	**37**
14	LIT	14	23	**37**
15	NEL	13	24	**37**
16	BUL	17	19	**36**
17	SPA	16	20	**36**
18	HUN	15	20	**35**
19	SLK	12	22	**34**
20	UKM	12	22	**34**
21	ROM	10	22	**32**
22	EST	14	17	**31**
23	POL	12	19	**31**
24	LUX	10	16	**26**
25	SLO	13	13	**26**

Note: The independence levels are calculated as the sums of the values of the eight organizational and ten functional indicators according to the coding-scheme in Table A.1 in the Appendix. The higher the value in the table, the higher the level of agency independence from political and administrative influence. All values used for the calculation of independence levels are ordinal so that the values cannot be compared with each other on a metric base. We can, for instance, *not* state that the Swedish *PTS* is almost double as independent than the Slovenian *APEK*. The values merely serve to rank the NRAs from the most to the least independent. The maximum possible independence value is 60, the minimum value 18. The detailed values for each indicator are listed in Table A.2.

Agency Independence

What does the above discussed mean for the overall level of agency independence? For a solid cross-country comparison of independence levels we need to create a single indicator that integrates all sub-indicators of the organizational and functional

characteristics. This is achieved in two steps: first, by transforming the data for each sub-indicator into numerical values according to a certain coding-scheme. In a second step, these numerical values are aggregated to a single indicator. This composite indicator then reflects the level of NRA-independence on the basis of all 18 sub-indicators and allows an ordinal cross-country comparison. Table 6.3 ranks the NRAs according to their independence values. The country-values for each of the 18 sub-indicators are listed in Table A.2; the corresponding coding-scheme is printed in Table A.1 of the Appendix.

The table above shows that NRAs in the EU-15 are in average more independent than their counterparts in the CEEC-10. Among the ten most independent NRAs in the European Union only one, the Czech *CTO*, is from the CEEC-10. Italy, Sweden and Germany have delegated the most comprehensive powers to their NRAs. While the Italian *AGC* shows high independence values for the organizational as well as the functional characteristics, the Swedish *PTS* and the German *RegTP* possess considerable functional authority. Interesting is also the case of Dutch *OPTA* which shows relatively low organizational independence but at the same time possesses important regulatory powers. A further interesting finding is that *OFCOM*, the British 'super regulator', which in the literature has often been presented as the prototype of an independent agency, ranks very low in the analysis.[210] The laggards are the Estonian *ENCB* and the Polish *URTiP*, both with low independence levels in the two categories.

6.2.4. Telecommunications Regimes

How do the results found in the analysis of the individual reform dimensions translate into a comprehensive picture that allows us to compare regulatory regimes across countries? As outlined in chapter 2, a regulatory regime is defined as a distinct combination of privatization, liberalization and reregulation outcomes. Thus, the ownership structure, the degree of market opening and the independence of the NRA characterize a regulatory regime. The joint comparison of all three reform outcomes allows

[210] Especially striking are its weak organizational features that make it relatively dependent from political and administrative power.

us to assess whether regimes across countries indeed show similar characteristics or whether these regimes are still rather dissimilar in nature. It further allows us to compare the situation across sectors for each group of countries.

For the POSAC the data had to be transformed into ordinal values ranging from 1 to 6 for each of the three facets according to a certain coding scheme. As a result of this transformation, we obtain 25 structuples with a theoretical range from {111} to {666}. However, not all of the 216 (6^3) theoretically possible structuples could be realized because we analyze only 25 countries in each sector. The first regime facet reflects the level of state ownership, the second the level of market liberalization and the third the level of NRA-independence. Metric privatization and liberalization data had to be categorized. The structuples for each country are listed in Appendix A.3. Table 6.4 demonstrates the coding process using the example of Denmark. According to the coding scheme, we obtain the structuple {654} for the respective privatization, liberalization and reregulation levels in the Danish telecommunications sector.

Table 6.4 Coding Example Denmark

Facet	Element	Element Value	Coding Scheme	POSAC Coding Value
Privatization	P	0%	100% = 1; 75,1% - 99,9% = 2; 50,1% - 75% = 3; 20,1% - 50% = 4; 0,1% - 20% = 5; 0% = 6	**6**
Liberalization	L	94,8%	0% = 1; 0,1% - 25% = 2; 25,1% - 50% = 3; 50,1% - 75% = 4; 75,1% - 99,9% = 5; 100% = 6	**5**
Reregulation	R	41	18 - 25= 1; 26 - 32 = 2; 33 - 39 = 3; 40 - 46 = 4; 47 - 53 = 5; 54 - 60 = 6	**4**

Note: The element value for the facet 'Privatization' is the level of state ownership at the end of 2003 (Table 6.1 and Figure 6.2). The element value for the facet 'Liberalization' is the level of market liberalization in 2003 (Figure 6.8). And the element value for the facet 'Reregulation' is the independence value for the NRA in 2003 (Table 6.3).

Telecommunications Regimes

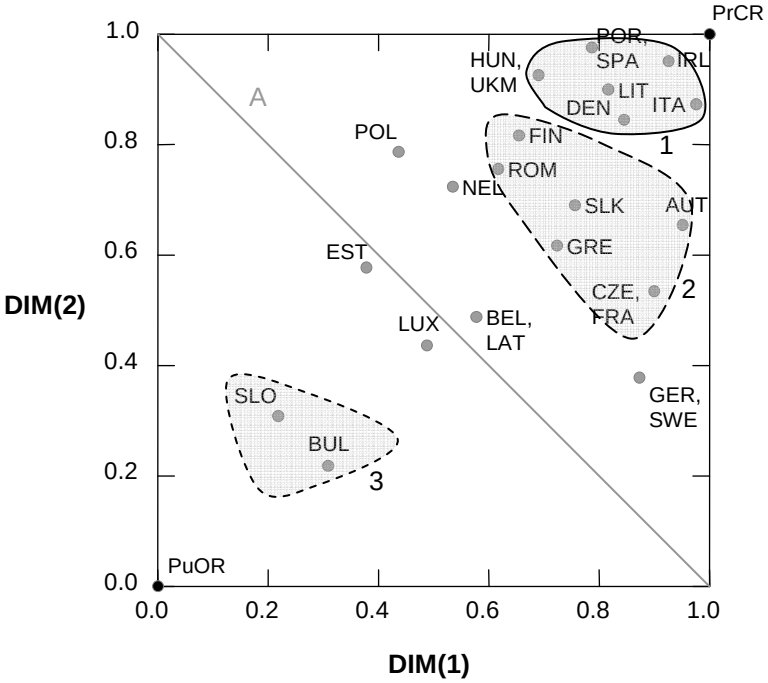
The results for the POSAC with all 25 countries are depicted in Figure 6.12. The figure gives proof to the predictions derived from the analysis of the individual reform dimensions: a *structural dissimilarity* of the regulatory regimes in the telecommunications sectors of the EU member states after two decades of regulatory reform. These span from the Slovenian and Bulgarian regimes, with characteristics closer to a *public ownership regime (*PuOR), to the Irish and the Italian regime, with characteristics close to a *private competition regime* (PrCR). The latter is characterized by dominant private ownership, full competition as well as a strong and effective NRA, while a PuOR reflects public ownership, monopolistic supply and regulation through the government or departmental administration. All other ideal regime types, the semi-liberalized public service regime, the protected competition regime and the mixed economy competition regime, lie in between these two extremes.[211]

The process of regime change in the telecommunications sector can be regarded as a evolutionary process starting at t_0 at point 'PuOR' and ending at t_1 at point 'PrCR'. In course of the transformation process from a public ownership regime to a private competition regime, some countries have reformed faster than others, thus being situated closer to the end point 'PrCR' today. As regards our data sample, except for Bulgaria, Slovenia, Estonia and Luxembourg, all countries have regulatory regimes in telecommunications whose characteristics more closely resemble the ideal type of a PrCR than that of a PuOR.[212] This is expressed by the fact that, except for those four countries, all other regimes are located to the right of line A, and thus closer to point 'PrCR' than to point 'PuOR'.

[211] For a categorization of the various infrastructure regimes, see Table 2.3 above.

[212] In other words, their Euclidian distance to PrCR is smaller than to PuOR.

Figure 6.12 Regulatory Regimes in the Telecommunications Sector



Stress Factor: 0.17

Notes: POSAC orders the countries along three dimensions according to each facet, reduces the data and depicts them in a two-dimensional space. The Euclidean distance between each pair of structuples represents the similarity of the 25 regulatory regimes on the basis of the initial partial ordering along the three dimensions. Countries that lie closer to the upper right corner show characteristics of a private competition regime (PrCR), whereas those closer to the lower left corner possess characteristics of a public ownership regime (PuOR). DIM(1) and DIM(2) are the result of data reduction calculated by the POSAC when the three dimensions are reduced to two in order to represent the structuples in an Euclidean space. The Stress Factor indicates the percentage of structuples not correctly represented in course of this reduction. In general, a stress factor of < 0.20 is considered to be acceptable for the POSAC. Hence, DIM(1) and DIM(2) are artificial or constructed dimensions and do not necessarily represent one of the facets privatization, liberalization or reregulation. They are comparable to those factors in a factor analysis which load high for the variables.

The countries that most closely resemble the PrCR-regime-type are Denmark, Hungary, Ireland, Italy, Lithuania, Portugal, Spain, and the United Kingdom (cluster 1 in Figure 6.12). These countries have succeeded in fully or almost fully privatizing their PTO, liberalizing the national telecommunications market and establishing materially independent NRAs. Austria, the Czech Republic, Finland, France, Greece, Romania and the Slovak Republic, in contrast, have liberalized their markets and established effective NRAs that are supposed to ensure competition; their privatization achievements, however,

have been rather modest. Those countries could therefore be more appropriately categorized as *mixed economy competition regimes* (cluster 2).

Among the CEEC-10, telecommunications reforms so far were most intense in Lithuania, Hungary and the Slovak Republic. All three of them have even progressed more substantially in reforming their regulatory regimes than several prominent West European countries, i.e. Germany, France or the Netherlands. The laggards, however, can also be found among the CEECs. In the analysis, Slovenia shows characteristics of a *protected competition regime* with some minor privatization and liberalization results, while Bulgaria resembles a *semi-liberalized public service regime* with dominant public ownership, limited liberalization and only a weak NRA (cluster 3).

Table 6.5 Basic Statistics of Telecommunications Regime Similarity

Statistics	**EU-25**	**EU-15**	**CEEC-10**
Minimum	0.263	0.462	0.263
Maximum	0.939	0.939	0.858
Mean	0.681	0.739	0.594
Standard Deviation	0.184	0.146	0.209
Variance	0.034	0.021	0.044
Coefficient of Variance	0.271	0.197	0.351

Note: The analysis is based on the values for the joint dimension in the POSAC. The latter are the result of data reduction and determine the location of a regime in the two-dimensional space of Figure 6.12.

The finding that CEECs are among those countries which undertook the most advanced regulatory reform steps as well as among the laggards leads to the assumption that the structural dissimilarity between national regimes is bigger among the CEEC-10 than among the EU-15. This conclusion is strengthened by a basic statistical analysis of the joint values in the POSAC (Table 6.5). Not only is the distance between the minimum and maximum value smaller for the EU-15; what is even more revealing are the variance values for each group of countries: The variance of the joint values for the EU-15 regimes is 0.021 and thus significantly smaller than the variance for the CEEC-10 which is 0.044.

The telecommunications regimes in the old EU members are thus more similar to each other than the regimes in the CEEC-10.

6.3. Electricity

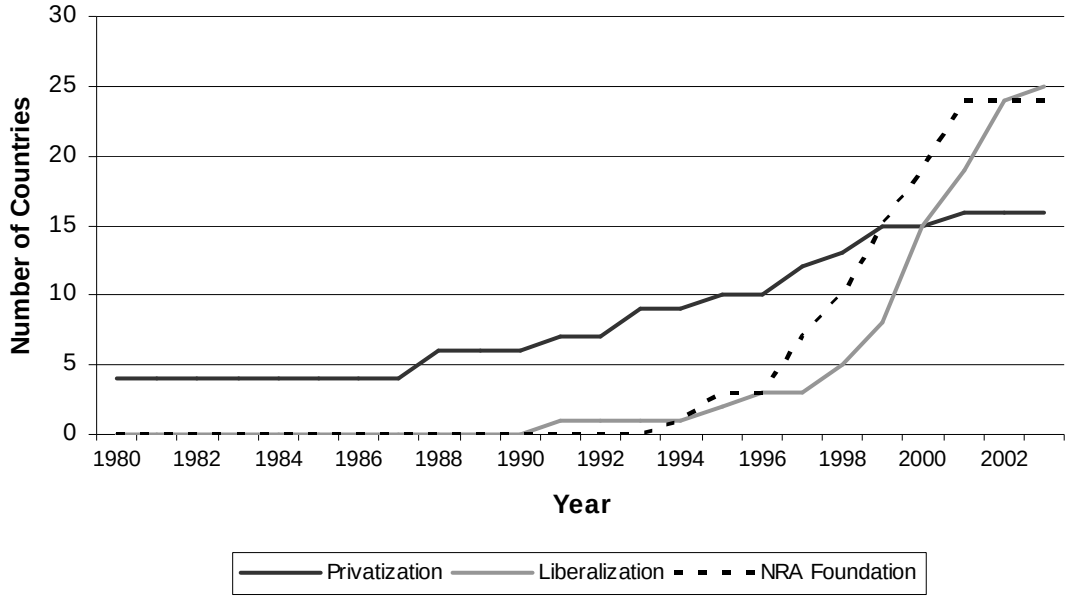
Prior to market reforms, one could basically distinguish between two different kinds of electricity systems: first, vertically integrated national monopolies, i.e. *EdF* in France or the *CEGB* in the United Kingdom, and decentralized and fragmented systems, i.e. in Germany or the Netherlands (Midttun 1997). The former share certain characteristics with telecommunications regimes before reform: one dominant, state owned operator controlling all layers of the infrastructure business and possessing a country-wide monopoly. In the decentralized systems, in contrast, there never existed only one single operator. Instead, numerous regional monopolists owned and operated the network while state owned National Electricity Companies (NECs) generated and sold electricity to the consumer. First liberalization steps were undertaken in the mid-1990s in 'contestable markets' such as production and supply, but natural monopolies prevailed in 'non-contestable' ones, mainly transmission.[213]

In addition to differences in industry structures, it becomes obvious that reforms in the electricity sector have generally not been as vital as in telecommunications. Figure 6.13 reflects the development of the reform process for our three policy dimensions. Although privatization began already before the observation period, the development since the 1980s has been rather modest.[214] Electricity liberalization started later than market-opening in telecommunications; however, the further development is characterized by a more intense and continuous reform process in which 23 countries joined between 1998 and 2003. We obtain a similar picture as regards the establishment of NRAs: the process starts in the mid-1990s and continues with a high rate until the year 2001.

[213] As a consequence, in some countries the diversity of regional electricity companies continued to exist. In Germany, for example, over 900 of such regional (often municipal) operators still control the distribution of electricity to consumers through their power lines.

[214] The privatization curve in the figure is rather untypical for a diffusion process.

Figure 6.13 Electricity Reform in the EU

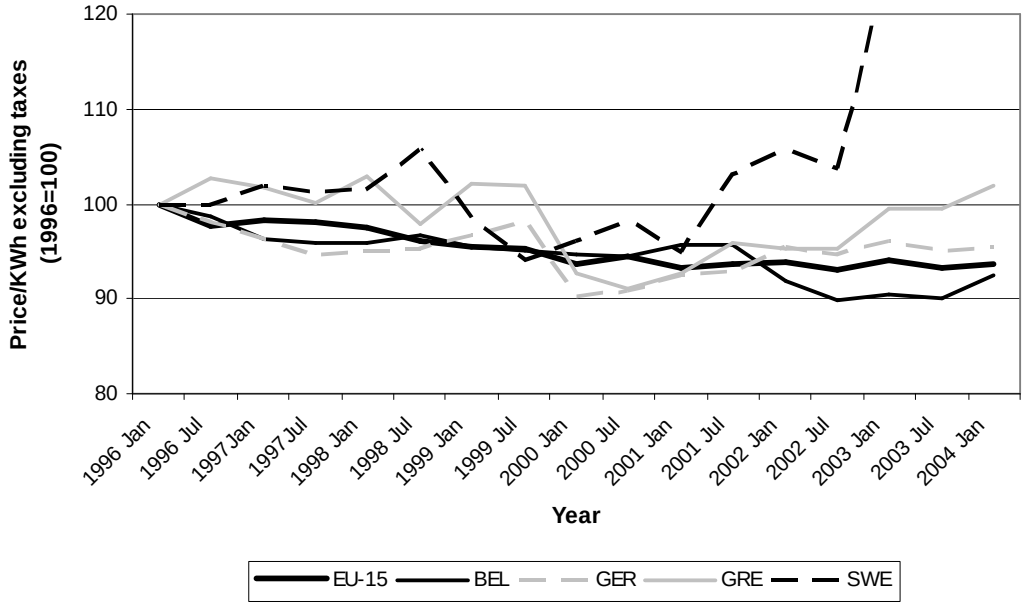


Source: Infrastructure Data Set (2004)

Initial steps in market opening for large consumers already had an impact on prices.[215] While prices for industrial consumers have decreased by almost 15 per cent in real terms compared to 1996, households have witnessed a much smaller reduction of five per cent in this period (Figure 6.14). This might be due to the fact that Directive 96/92/EC initially demanded market opening only for large industrial consumers. Recently, however, in several EU countries, i.e. Germany, France, Sweden or the United Kingdom, electricity prices for households have even increased. This increase was extremely drastic in Sweden, where prices rose by over 30 per cent over the last three years. But also German consumers, which already paid relatively high electricity prices in the past, experienced increases of around 7 per cent since 2000.

[215] According to Eurostat, a 'large consumer' is defined by an annual electricity consumption of 24 GWh, which is equivalent to 5.000 average households.

Figure 6.14 Electricity Prices 1996-2004



Note: Diagram maps the development of electricity prices between 1996 and 2004 for households with an annual consumption of 3.500 KWh. Price calculations on the basis of January 1996.

Source: Eurostat; own calculations

In addition, the development of electricity prices nicely demonstrates that market efficiency and corresponding low prices are not necessarily the result of private sector involvement. In Greece and Sweden, two systems with high state ownership, electricity prices for domestic consumers are significantly lower than in Germany or Belgium, although the latter's electricity sectors are characterized by strong private capital involvement. While in 2004 in Sweden a household with an annual consumption of 3.500 kWh paid 9.5 Cents for one kWh, the same household in Germany paid 12,4 Cents. This makes a difference of over 100 Euros per year. In Germany, the high level of electricity prices and further price increases in recent years has sparked a debate about the regulation of access conditions to the grid and transmission tariffs. Critics see a strong linkage between high electricity prices and the absence of effective external regulatory oversight, i.e. by a NRA.

6.3.1. Privatization[216]

In average, the privatization movement in electricity set in significantly later than in telecommunications. However, in contrast to the PTOs analyzed, some electricity companies were either partially (Germany and Luxembourg) or even completely (Belgium and Denmark) private at the beginning of the observation period. The first movers during the observation period 1980-2003 were Germany in 1984 and Austria and Spain in 1988. While for the Austrian and Spanish governments privatization meant retaining the majority of the shares of *Verbundgesellschaft* and *Endesa*, respectively, in Germany the Federal and State governments reduced their minority shareholdings even further. The United Kingdom also belongs to the early movers in the electricity sector. The two non-nuclear generators, *National Power* and *PowerGen*, were privatized in 1991, the nuclear company, *Nuclear Electric*, remained state owned and was later privatized under the roof of a new company, *British Energy*.

Of the 25 countries analyzed, nine had not undertaken any material privatization of the former NECs until the end of 2003 (Table 6.6). This does not mean, however, that those nine countries would not have tried to privatize their NECs. For example, in 1999 the Latvian government stopped an attempt to privatize the state joint stock company *Latvenergo* because the public was opposed to a foreign takeover. Of the nine non-privatizing countries, seven are from Central and Eastern Europe. Only the Czech Republic, Hungary and Lithuania had partially privatized their NECs, *CEZ*, *MVM* and *Lietuvos Energija*, respectively.

[216] The major problem the researcher encounters when trying to capture the level of state ownership in electricity is that of vertical separation. In course of market liberalization, many governments have separated the four formerly vertically integrated businesses – generation, transmission, distribution and supply – in order to increase competition in the sector. Although in some instances this has been achieved through mere accounting separation within the old NEC structures, in several others, new companies responsible either for transmission or distribution have been established. As a consequence of this organizational separation, it sometimes becomes difficult to identify the exact level of state ownership because some of the newly established companies were (partially) sold to private investors while the remainder of the former NEC often continued operation under the control of the government. For reasons of comparability, in this chapter the measurement of the level of state ownership therefore refers to the remaining businesses of the NECs.

Table 6.6 State Ownership of NECs (2003)

Country	National Electricity Company(ies)	State Shareholding (%)		Year of Material Privatization
		1995	**2003**	
Austria	Verbundgesellschaft[1]	51	51	1988
Belgium	Electrabel[2]	0	0	<1980
Bulgaria	Natsionalna Elektricheska Kompania (NEK)	100	100	-
Czech Republic	Ceske Energetická Zavody (CEZ)	67,6	67,6	1993
Denmark	SK Power Company	0	0	<1980
Estonia	Eesti Energia	100	100	-
Finland	Fortum	100	60,5	1997
France	Electricité de France (EDF)[3]	100	100	-
Germany	EnBW, E.ON, RWE[4]	0	0	<1980
Greece	Public Power Corporation (DEH)	100	51,5	2001
Hungary	Magyar Villamos Múvek (MVM)[5]	71,9	43,8	1995
Ireland	Electricity Supply Board	0	0	1993
Italy	Ente nazionale per l'Energia elettrica (ENEL)[6]	100	61	1999
Latvia	Latvenergo	100	100	-
Lithuania	Lietuvos Energija[7]	100	96,6	1998
Luxembourg	Cegedel[8]	42	42	<1980
Netherlands	Essent[9]	100	0	1999
Poland	Polskie Sieci Elektroenergetyczne (PSE)	100	100	-
Portugal	Energias de Portugal (EDP)[10]	100	30,9	1997
Romania	Termoelectrica, Hydroelectrica, Transelectrica, Electrica[11]	100	100	-
Slovak Republic	Slovenské elektrárne (SE)[12]	100	100	-
Slovenia	Elektro-Slovenija (ELES)	100	100	-
Spain	Endesa	66,9	0	1988
Sweden	Vattenfall	100	100	-
United Kingdom	National Power, PowerGen	0	0	1991
Simple Average		**72,0**	**56,2**	

Notes: 1. *Verbundgesellschaft* is the dominant operator in the Austrian electricity market. The other companies have been disregarded; 2. *SPE* provides around 10% of Belgium's electricity and is thus disregarded.; 3. *EDF* was privatized formally and became a limited liability company on 19 November 2004; 4. *Veba* and *VIAG* merged in 2000 to create *E.ON*, after *RWE* the second largest electricity company in Germany; 5. In 1995, *MVM* was split into a grid operator, six electricity generation and six distribution companies. The generation and distribution companies were subsequently privatized so that the average level of state ownership was eventually reduced to 43,8% at the end of 1997. Since then, there has not been any major privatization step; 6. 50,6% of *ENEL* is owned directly by the Italian government and 10,3% by the Cassa, a state-owned bank; 7. In July 2003, the 10,9% of the share capital of *Lietuvos Energija* held by German *E.ON* were exchanged into state-owned shares in two other companies. Thus, state ownership increased from 85,7% at the end of 2002 to 96,6% at the end of 2003; 8. 33% of *Cegedel* owned directly by the Luxembourg government and 9% owned by the Société Nationale de Crédit et d'Investissement (SNCI). *Sotel*, the second electricity company in Luxembourg, is entirely owned by private investors; 9. *Essent* is the biggest among four electricity companies in the Netherlands; 10. On 2 November 2004, the company changed its name from *Electricidade de Portugal* (EdP) into *Energias de Portugal* (EDP); 11. In 2000, *CONEL*, the national electricity company was split up into four independent companies, one for thermal power generation (*Termoelectrica*), one for hydroelectric generation (*Hydroelectrica*), one for transmission (*Transelectrica*) and one for distribution (*Electrica*); 12. In fall 2004, the Slovak government accepted an offer by *ENEL* for a 66% stake in *SE*. The three distribution companies were privatized in 2001. 49% of the shares of *VSE*, *SSE* and *ZZE* were sold to the foreign electricity companies *RWE*, *EDF* and *E.ON*, respectively.

Source : Infrastructure Data Set (2004)

In Poland, independent power producers (IPPs) have been created, but a large majority of them is still exclusively in the hands of the Ministry of Industry. The same applies to the distribution level, where the Ministry of the Treasury holds the stakes of the distribution companies. In the Slovak Republic, 66 per cent of *Slovenské Elektrárne* were sold to Italian *ENEL* in fall of 2004.[217] In Bulgaria and Romania, first privatization steps of *NEK* and *Electrica* are envisaged for 2007, the year both countries are expected to join the EU.[218] In course of electricity privatization, several old member countries, i.e. Austria, France or Greece, have passed or amended laws that forbid a private capital participation rate in the former NEC of more than 50 per cent. In some CEECs, i.e. Latvia, material privatization of the NEC was even entirely forbidden by law. In order to show their will to reform despite these restrictions, several CEEC-governments have either introduced Chinese walls or they have formally privatized power generators and distribution companies as legally independent companies with the state as the sole shareholder.

Among the CEEC-10, Hungary has gone further in privatizing electricity generation and distribution than any other country. As early as 1992, the government restructured the *Hungarian Electricity Board* (MVMT) and created *Magyar Villamos Múvek* (MVM), with the former subsidiaries of *MVMT* organized as limited companies in a holding under the roof of *MVM*. Between 1995 and 1997, these companies, six power generators and six electricity distribution companies, were consecutively sold to private investors.[219] Today, the Hungarian government still owns 100 per cent of the dominant production company and network monopolist *MVM*. But, compared to the situation before restructuring in 1995,

[217] Since this transaction took place after the end date of the observation period (31.12.2003), it is not recognized in Table 6.6 and thus also not in the statistical analysis.

[218] In Bulgaria, the seven power distributing companies were bundled in three packages and sold simultaneously to private investors in a bid that started in late 2003 and that was completed in June 2004. However, the major producer of electricity and owner of the transmission grid, *NEK*, is still 100 per cent state owned.

[219] In many ways, the developments in Hungary constitute a typical case for sector restructuring in the CEECs. In Romania, for example, the National Power Company *CONEL* was established based on Governmental Decision No. 365/1998. The latter foresaw the reorganization of the National Electricity Authority, *RENEL*, by spinning off the nuclear sector and by splitting off its own subsidiaries as joint stock companies with own legal statuses, thus leaving *CONEL* mainly as a grid operator and electricity supplier.

due to important privatizations at the upstream and downstream level, state ownership was at 43,8 per cent at the end of 2003.[220]

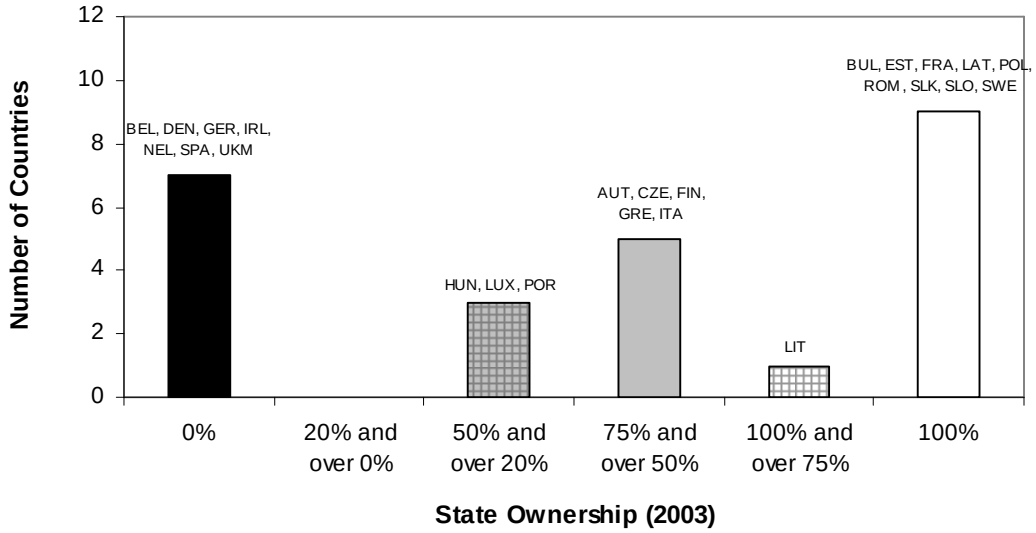
The Situation in 2003

At the end of the observation period, we find an interesting ownership situation in the electricity sector of the enlarged EU: on the one side, there were still 9 countries with 100 per cent state ownership in the dominant electricity company; on the other, there were seven countries which had completely reduced state ownership in the former NEC (Figure 6.15). What is especially striking is that the full privatizations all occurred in the old member states. Second, in contrast to the telecommunications sector, in a majority of the countries the state is still the dominant owner of the former NEC, while several smaller shares are floating freely on the stock market. In Italy, for instance, no shareholder except for the state, which holds 67,7 per cent, owns more than 2 per cent of the shares of *ENEL*.

What is further striking is the fact that among the CEEC-10 so far only Hungary has reduced state ownership below 50 per cent. Although today the state is still the sole shareholder of *MVM*, it has sold substantial shares in power generation and distribution companies after the restructuring of *MVM* in 1995. The Lithuanian case is also interesting as it is the only country where a government *re-nationalized* parts of its NEC: in July 2003, the government exchanged state-owned shares in two power plants for a 10,6 per cent stake in *Lietuvos Energija* which was held by German *E.ON* at that time, thus pushing state ownership back to almost 100 per cent. The laggards among the old member countries are France and Sweden. Neither *EDF* nor *Vattenfall* show any element of private capital participation. Just recently, however, some dynamic came into the market: *EDF* became a limited liability company on 19 November 2004, preparing for material privatization.

[220] Today, *MVM* still possesses 55 per cent of the installed electricity generation capacity.

Figure 6.15 Distribution of State Ownership in Electricity



Source: Infrastructure Data Set (2004)

Shareholdings of West European companies in NECs of the new EU member states are far less frequent than similar cross-country engagements in the telecommunications sector.[221] The 10,6 per cent stake that German *E.ON* held in *Lietuvos Energija* between 2001 and 2003 was rather an exception. But also in the CEECs the dynamic seems to be increasing: in fall of 2004, a 66 per cent stake in the Slovak NEC, *Slovenské Elektrárne*, was sold to *ENEL* for 840 Mio. Euros. This deal constitutes *ENEL*'s largest foreign acquisition so far. According to market analysts, the Italian electricity company is pushing into Central and Eastern Europe to compensate for the loss of domestic generating assets in course of national anti-trust regulation.

But cross-national expansion strategies also exist among Central and East European electricity companies. The Czech energy company *CEZ*, for instance, has already bought three electricity distributing utilities in the Central European region in fall of 2004 and is interested in further expanding into the Slovak and the Bulgarian electricity sector through the acquisition of power plants. This does not come as a surprise: after Hungary, the Czech

[221] Among the old member states, the practice of cross-national shareholdings has become more common over the last years. For example, in 2005 *EdF* held 34,5 per cent of the share capital of German *EnBW*.

Republic has gone furthest in reducing state ownership in the former NEC and introducing principles of efficiency. In the Czech Republic, *CEZ* still controls power generation and sells electricity to eight regional distribution companies, and *CEPS* is the sole transmission operator with an exclusive licence until the year 2026. The majority of the shares (67 per cent) of the joint stock company *CEZ* is held by the National Property Fund, while *CEPS* was established as a 100 per cent subsidiary of *CEZ* in 1999.[222]

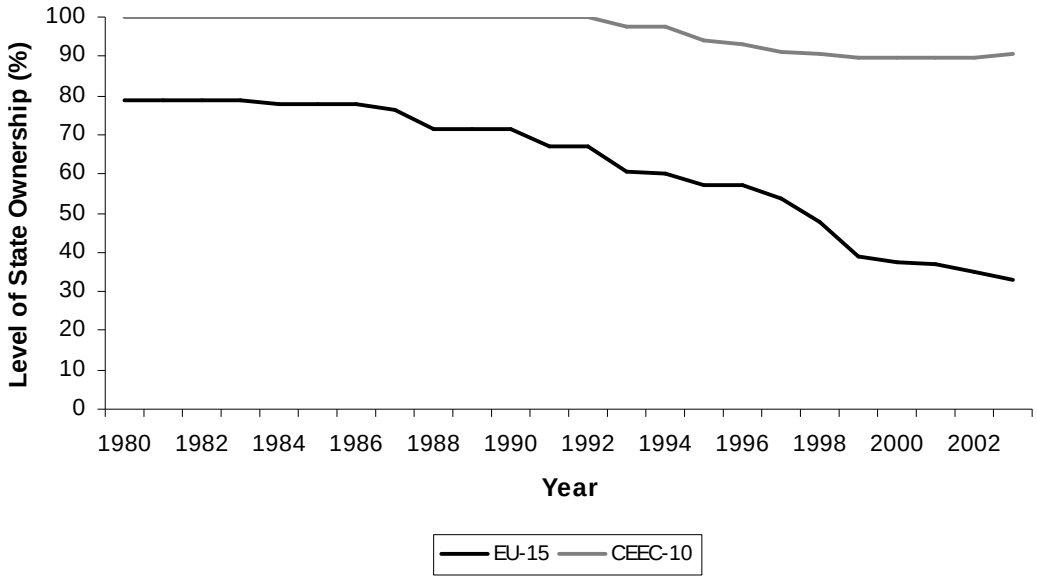
Scope of Privatization

The scope of privatization since 1980 was relatively moderate compared to developments in telecommunications. Throughout the observation period, many NECs either remained entirely state-owned or the governments only sold minority shares. This is mainly due to the low privatization dynamic in the CEECs. But also the old member states have reduced state ownership to a much smaller extent than in telecommunications.[223] What is more, as can be seen from Figure 6.16, the privatization developments in the EU-15 and in the CEEC-10 strongly *diverge*. In the EU-15, major privatizations set in at the end of the 1980s, with Germany reducing state ownership to zero in 1987, and Austria and Spain selling minority shares of the NEC one year later. In the CEEC-10, privatization began very moderately in 1993 in the Czech Republic but slowed down immediately. It regained some momentum when Hungary joined the process in 1995, but average state ownership remained at a constantly high level throughout the 1990s and also in recent years. However, also in the EU-15, the privatization movement has slowed down significantly since 1999.

[222] The Czech anti-monopoly office has ordered, however, that *CEZ* sells a 34 per cent stake in *CEPS* to a third party in the "near future".

[223] This can be seen from the fact that the slope of the EU-15-curve in Figure 6.16 is not as steep as the slope of the curve in Figure 6.3.

Figure 6.16 Electricity Privatization in the EU-15 and CEEC-10



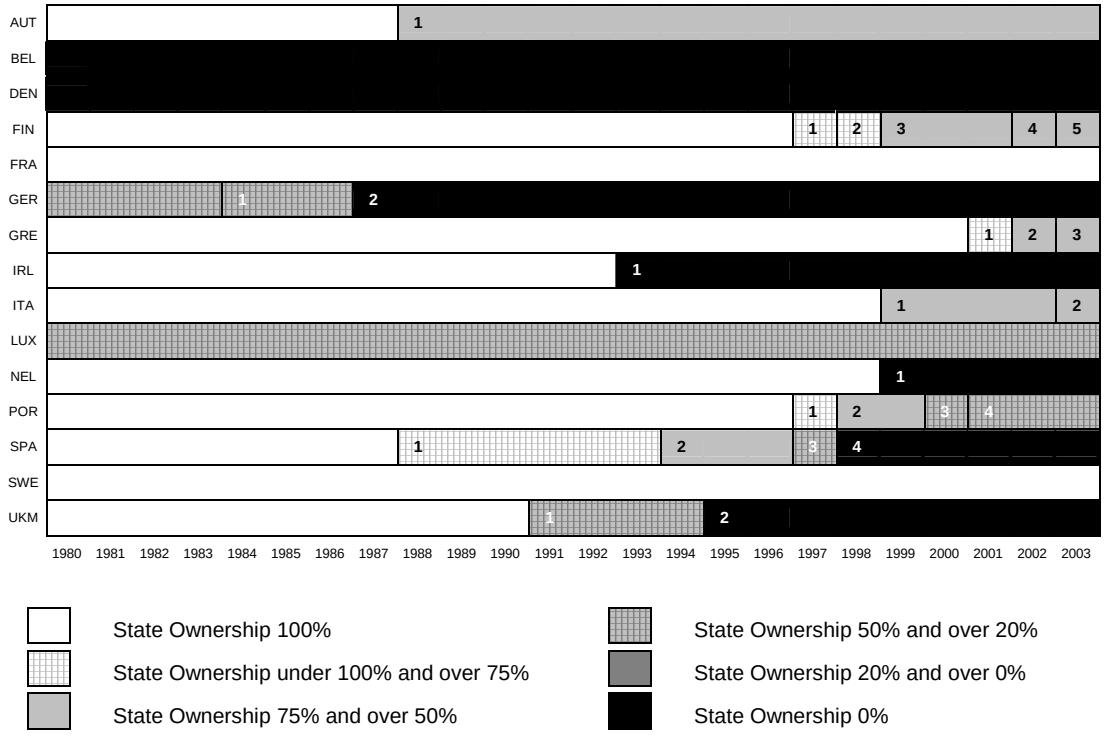
Source: Infrastructure Data Set (2004)

Although in the EU-15 the average level of state ownership was already below 80 per cent at the beginning of the observation period, it took until the late 1980s before further substantial reductions could be recorded. The biggest privatization steps were made in Austria in 1988 and in the United Kingdom in 1991, with the sale of 49 per cent and 60 per cent of the NEC, respectively. In 1993, Ireland privatized its NEC completely within one year. The same happened in the Netherlands five years later. The biggest reduction of state ownership in the EU-15 occurred between 1997 and 1999. This might be related to the entry into force of the first EU electricity Directive 96/92/EC, which foresaw gradual market opening for industrial consumers. As in telecommunications, privatization was obviously regarded as an important prerequisite for a better competitiveness of the incumbent and efficiency improvement.

Dynamic of Privatization

The number of privatization steps in the EU-15 also varies across countries but not as strongly as in telecommunications. It spans from zero in France, Luxembourg and Sweden to five in Finland (Figure 6.17).[224] Although the latter has undertaken the five steps within seven years, it has not yet managed to privatize more than 40 per cent of *Fortum*. Only five countries, Germany, Ireland, the Netherlands, Spain and the United Kingdom, have completely privatized their NECs during the observation period. The 'perfect' privatizer seems to be Spain. The Spanish government reduced state ownership in *Endesa* to zero in four smooth privatization steps over a time period of ten years. The most radical privatization process can be observed in Ireland and the Netherlands; in both countries, the government reduced state ownership by 100 per cent within one year.

Figure 6.17 Privatization Steps in the EU-15 Electricity Sector

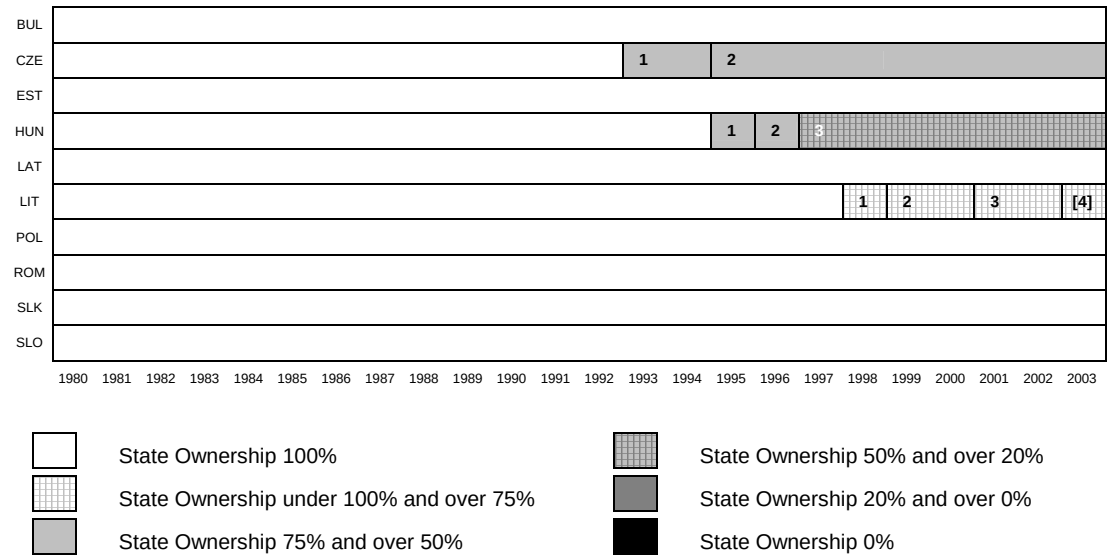


Source: Infrastructure Data Set (2004)

[224] In Belgium and Denmark the NECs have been fully private throughout the entire observation period.

The situation in the CEEC-10 looks entirely different. Since the scope of privatization did not exceed ten per cent across the CEECs, the squares in Figure 6.18 are almost all blank. Thus, the analysis of the privatization dynamic in the CEEC-10 is limited to three countries because the rest had not yet started to privatize until the end of 2003. While the Czech Republic and Hungary have privatized substantial parts of *CEZ* and *MVM*, using two and three privatization steps, respectively, Lithuania has reduced state ownership in three steps by only 15 percentage points. Even more interesting is the fact that in 2003 the Lithuanian government has undertaken a fourth 'privatization' step, but this time in the other direction: 10,6% of the share capital held by German *E.ON* were exchanged into state-owned shares in two other companies. In other words, parts of *Lietuvos Energija* were renationalized.

Figure 6.18 Privatization Steps in the CEEC-10 Electricity Sector

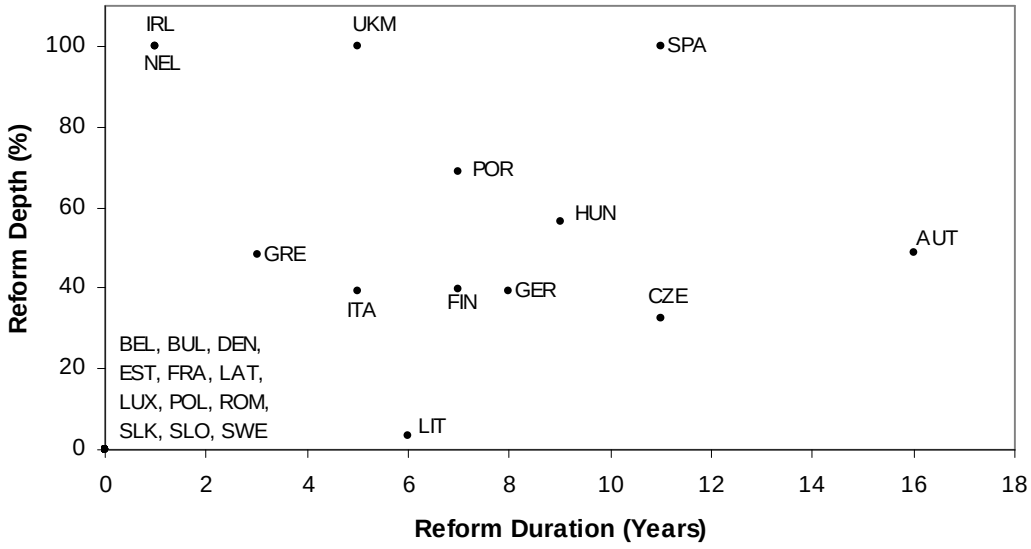


Source: Infrastructure Data Set (2004)

The above discussed has in turn implications for the dynamic of privatization in the electricity sector. As can be seen from Figure 6.19, the analysis reveals a significantly different picture than in telecommunications. First of all, two countries, Ireland and the Netherlands, show the highest possible dynamic with a privatization record of 100

percentage points within one year. Both are thus being plotted at point '1/100'. In contrast, it took the Spanish government 16 and the British government 13 years to fully privatize their NECs. The twelve countries that made no privatization step between 1980 and 2003 are plotted in the lower left corner of the diagram at point '0/0'. A little surprising is that Greece shows the fourth highest privatization dynamic with an average of 16 percentage points per year, right after the United Kingdom with 20 annual percentage points. Also Portugal with almost 10 percentage points per year belongs to the most active privatizers. If we compare these figures with those from the telecommunications sector, we find that Ireland and Portugal are again among the most dynamic privatizers. In total, however, the privatization dynamic in the electricity sector is much weaker.

Figure 6.19 Privatization Dynamic in Electricity



Source: Infrastructure Data Set (2004)

Among the CEEC-10, Hungary is the most dynamic privatizer with an average of slightly more than six percentage points per year. This is significantly less than in telecommunications where the most dynamic privatizers, Poland, Lithuania and Estonia, reduced state ownership in average by 15 percentage points. However, it is still more than several EU-15 countries, i.e. Finland or Germany, which privatized even less intensively.

This result shows very clearly that in the electricity sector the CEEC-10 are not only the laggards concerning the scope of privatization but also as regards the privatization dynamic.

6.3.2. Liberalization

The central elements of electricity liberalization in the EU were horizontal and vertical separation (see chapter 3.2.2.). Horizontal separation mainly aims at creating competition at the level of electricity production. Indeed, today basically all governments in the EU allow electricity generation by IPPs. *De facto*, however, in most countries a handful of producers dominate the industry. These are either partially or fully private, as in Belgium where *Electrabel* produces 93 per cent of total electricity, or still entirely public, as in France where *EDF* dominates the electricity market. Some of these state-owned power generation companies have become important international players in course of market reform.

After vertical separation electricity transmission grids remained under the control of a few companies in most EU-15 and CEEC-10 countries. The latter are either organized in form of a public monopoly as in France or an oligopoly as in Germany, where four private companies operate the grid. Important exceptions are Belgium and the United Kingdom, where the grid is owned by private monopolies, and Finland, which has two competing grids, one privately and one publicly owned. Electricity distribution is usually carried out by a number of regional utilities which dominate the local markets. Among the EU-15, their number spans from eleven regional distribution companies in Luxembourg and Portugal to 930 in Germany. The exceptions here are Greece and Ireland where distribution is still controlled by one single company (European Commission 2005b). The regional distributors are either municipally owned or joint ventures between municipalities and private companies. Only in the United Kingdom municipalities play no role at all and distribution and supply are organized in form of private territorial monopolies.[225]

[225] In the United Kingdom, 15 Regional Electricity Companies (RECs) control the distribution and the supply of electricity.

Table 6.7 Electricity Industry Structure in the CEEC-10

Country	Generation	Transmission	Distribution	Supply
Bulgaria	9 PPPs + 26 IPPs	*NEK*	7 regional PDCs + 1 regional PrDC	*NEK*
Czech Republic	*CEZ* (70%) + IPPs (30%)	CEPS[1]	8 regional PrDCs[2]	IPPs + *CEZ*
Estonia	*Eesti Energia* (6 PPPs)	National Grid[3]	*Eesti Energia*	*Eesti Energia*
Hungary	3 PPPs + 9 IPPs + *MVM* (nuclear power)	MAVIR[4]	6 regional PrDCs[5]	*MVM*
Latvia	*Latvenergo* (5 PPPs)	*Latvenergo*	7 regional PDCs [6]	*Latvenergo*
Lithuania	8 PPPs	*Lietuvos Energija*	2 regional PDCs	2 PPS + 2 IPS
Poland	35 PPPs[7]	*PSE*	33 regional PDCs[8]	*PSE* + IPSs
Romania	*Termoelectrica, Hidroelectrica*	*Transelectrica*	*Electrica*	*Electrica*
Slovak Republic	*SE* (85%) + 1 IPP[9]	SEPS[10]	3 PrDCs[11]	*SE*
Slovenia	3 IPPs	*ELES*	5 PDCs	5 PPS + *ELES*

Notes: PPC: Public Power Producer; IPP: Independent Power Producer; NPP: Nuclear Power Plant; PDC: Public Distribution Company; PrDC: Private Distribution Company; PPS: Public Power Supplier; IPS: Independent Power Supplier

1. *CEPS* is a subsidiary of *CEZ*; 2. These PrDCs are partly (34-59%) owned by *CEZ*; 3. National Grid is a subsidiary of *Eesti Energia*; 4. In Feb. 2002, *MAVIR* has been separated from *MVM* and is now owned by the Ministry of Economy; 5. These PrDCs are dominated by *RWE*, *E.ON* and *EDF*; 6. These PDCs are direct subsidiaries of *Latvenergo*; 7. The majority of these PPPs is controlled by the Ministry of Industry; 8. These PDCs are controlled by the Ministry of Treasury; 9. *TEKO* is the new IPP that operates a combined heat and power plant; 10. *SEPS* is an independent operator of the power transmission system; 11. All three PrDCs are joint stock companies since 2001 and were materially privatized in April 2002 with ownership participation by *RWE*, *EDF* and *E.ON*.

Source: Austrian Energy Agency (2004)

An overview of the industry structure in the CEEC-10 is presented in Table 6.7. In electricity *generation*, IPPs have become important market players in Bulgaria, the Czech Republic, Hungary and Slovenia. In the other six countries, public power producers (PPPs) are still dominating the industry. The overview further reveals that electricity *transmission* is still in the hands of the former NECs, either directly through a formally privatized successor company or indirectly through one of its subsidiaries that was created in course of vertical separation. At the level of electricity *distribution* we again witness a strong impact of private companies. In the Czech Republic, Hungary and the Slovak Republic, regional private distribution companies (PrDCs) dominate the market, while in the other

CEEC-10 public distribution companies (PDCs) prevail. Finally, electricity *supply* is in most cases still managed by the former NEC, although in course of market opening independent power suppliers (IPS) have becoming increasingly active in the market. At the end of 2003, there were IPS in the Czech Republic, Hungary, Lithuania and Poland.

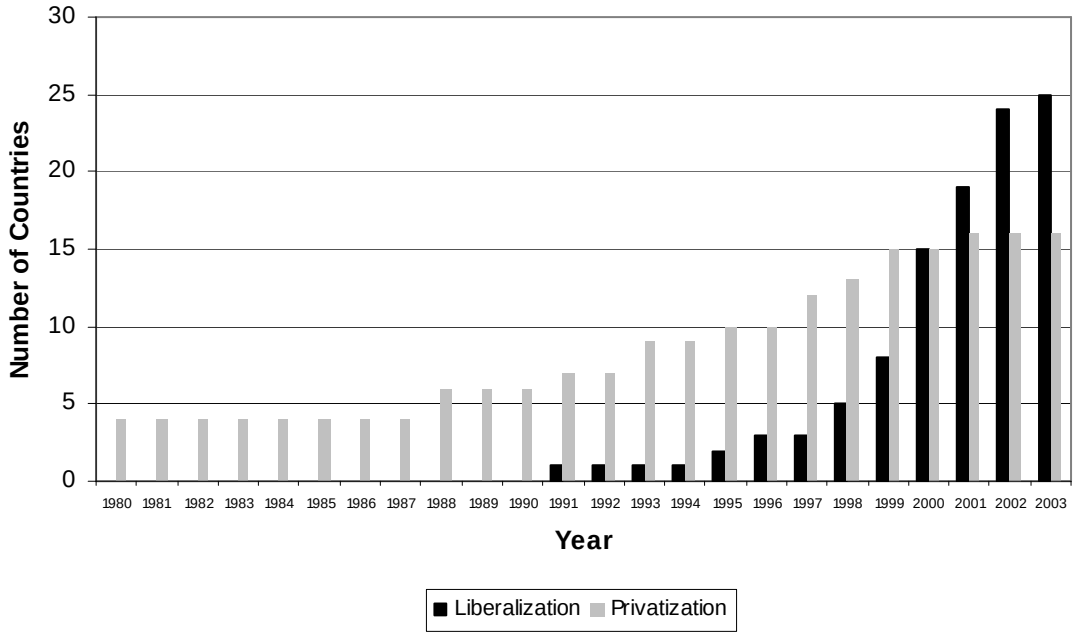
The Spread of Liberalization

The earliest supranational initiative that aimed at liberalizing national electricity markets was Directive 96/92/EC which demanded initial steps of market-opening by February 1999. However, by that date the EU-15 had shown quite different results as regards market opening. While Sweden and the United Kingdom had completed liberalization before 1998, France and Greece had not even undertaken one step of market-opening by 2000. The new Directive 2003/54/EC strengthens the independence of transport system operators from production and supply activities through legal and operational unbundling of these activities. In addition, EU Secondary law now forces transmission operators to open their grids to other suppliers, thus allowing more competition at the level of electricity supply.

Figure 6.20 shows that market liberalization has set in substantially later than privatization of NECs. However, while privatization activity slowed down recently and nine countries still show 100 per cent state ownership, liberalization activity has increased and all 25 countries had begun to open their markets by the end of 2003. Very moderate attempts of market opening can be observed in the early 1990s. At that time, nine EU governments had already started to privatize their NECs. Forerunners of electricity liberalization in the EU were the United Kingdom (1991), Finland (1995) and Sweden (1996). Germany and Spain began market opening in 1998. All other EU member countries followed after the entry into force of Directive 96/92/EC in 1999, with the EU-15 showing the highest liberalization activity in 1999 and 2000.[226]

[226] In the light of the Directive some countries, i.e. Greece, were granted transition periods that allowed a postponement of market liberalization by one year.

Figure 6.20 Timing of Electricity Liberalization



Notes: Data represents the cumulated number of countries that had started to liberalize the national electricity market/privatize the NEC by the end of a given year.

Source: Infrastructure Data Set (2004)

The second big wave of market opening occurred towards the end of the observation period: except for forerunner Latvia, which opened its market already in 2000, the CEEC-10 began to liberalize their electricity markets between 2001 and 2003. Similar to the telecommunications sector, the reason for this difference in timing between the old members and the new and applicant countries was the requirement of the latter to comply with the Community *acquis*. Except for Romania, all countries had closed the Energy Chapter of the enlargement negotiations by the end of 2002.[227] With Hungary being the last CEEC-10 country that joined the liberalization bandwagon in 2003, all 25 countries had started to open their markets for competition in electricity supply.

[227] The negotiations with Romania were closed in November 2004.

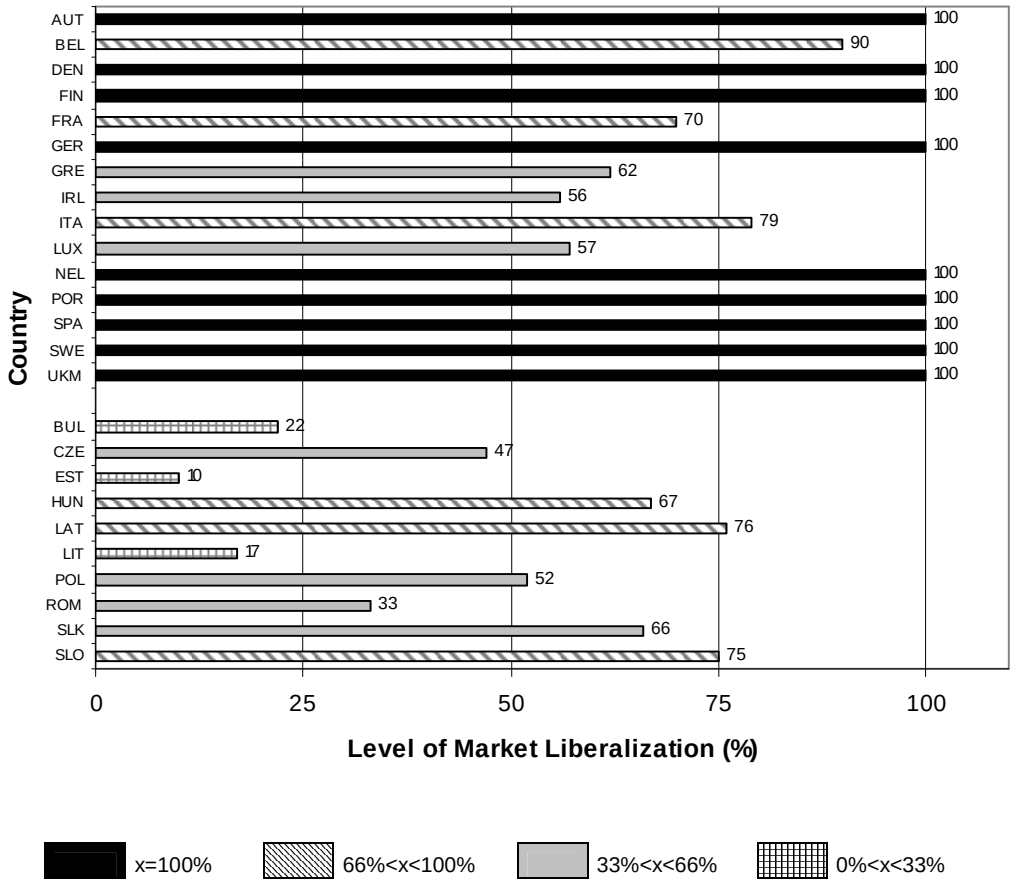
The Extent of Liberalization

Do these differences in the timing of liberalization also translate into different degrees of market opening? In telecommunications, we recall, the level of market opening in the CEEC-10 was comparable to that in the EU-15, although reforms started significantly later in the new and applicant countries. Figure 6.21 gives an overview of the extent of electricity market liberalization in the enlarged EU. All countries had brought liberalization initiatives on the way by the end of 2003. If we look at the extent of liberalization in more detail, two things strike our attention: first, market opening has advanced substantially further in the EU-15 than in the CEEC-10; second, there exists big diversity within each group of countries.

The first point is substantiated by the fact that nine countries of the EU-15 had fully opened their national electricity markets to competition by the end of 2004, while none of the CEECs has thus far achieved to do so. At the end of 2004, the average level of market opening was 87,6 per cent in the old and 44,8 per cent in the new member states (European Commission 2005b). Five countries of the CEEC-10 had not even liberalized 50 per cent of their national markets. In Bulgaria, the Czech Republic, Estonia, Lithuania and Romania, the market has thus far only be opened to the largest industrial consumers. The fact that the Czech Republic and Lithuania have not yet managed to significantly open their electricity markets although both countries belong to the few CEECs that have started to privatize, might be a further indicator for the hypothesis that privatization and liberalization are not necessarily intertwined.[228]

[228] In the Czech Republic, the largest consumers (over 40 GWh) have been able to freely choose their supplier since 2001; all other customers should to be able to choose their supplier from 2006 on.

Figure 6.21 Electricity Liberalization in the EU



Notes: Data represent the degree of market opening for each country. The values indicate how many percent of the market had been liberalized by the end of 2004.

Source: European Commission (2005b)

Secondly, the diversity within each group of countries is striking: among the EU-15 the level of market opening still ranges from 56 per cent in Ireland to 100 per cent in Austria or Denmark. The fact that Ireland is the laggard in electricity liberalization is again surprising as it is the most radical privatizer in the sector. This observation further strengthens the aforementioned hypothesis. Among the CEEC-10, the range of the level of market opening is even bigger: from Estonia with 10 per cent to Latvia with 76 per cent. Thus, while the EU-15 countries are on the best way to realize completely open markets in the near future, it seems that the new member states are two or three years behind this development, even struggling to attain only moderate market liberalization.

In those EU member states that have not yet fully liberalized their markets, there still exist *eligibility thresholds*. These thresholds indicate which level of annual electricity consumption is necessary for a consumer to freely choose its electricity supplier. In course of gradual market opening, the free choice of supply was first granted to the largest consumers, i.e. the steel or automotive industry. Over time, these thresholds were lowered so that today in the nine countries with full market liberalization all consumers, including the smallest households, can freely choose their supplier. Among the EU-15, such eligibility thresholds only exist in France (all non-households), Greece (all non-households), Ireland (1 GWh), Italy (all non-households) and Luxembourg (20 GWh). In contrast, all ten CEECs still have eligibility thresholds, the highest of which exist in Bulgaria, Estonia and Romania with 40 GWh.[229]

In sum, electricity liberalization in the EU has experienced some progress since initial market opening in 1998, albeit with varying speed and intensity across member states. In its latest regular report on the functioning of the market, the Commission points to the negative consequences caused by the delayed implementation of the new EU Directive in 18 member states (European Commission 2005b). It criticizes the low level of competition, even for large industrial consumers. After six years of market opening, less than 50 per cent of the customers have switched suppliers in most member countries. In addition, electricity prices have increased substantially over the past 18 months (see Figure 6.14 above).

The Commission relates this development to four factors. First, governments have failed to integrate national energy supply into a wider European market. Issues of cross-border electricity exchanges are central in this respect. A second problem concerns that of

[229] In Romania, an important step was taken in 2003 when Law No. 318/2003, the Electricity Law, was adopted. The Electricity Law implemented EU Directive 2003/54/EC concerning common rules governing the domestic electricity market. The Electricity Law repealed Government Emergency Ordinance No. 63/1998 on electric and thermal energy and made a distinction between the regulation of activity in the field of electricity and combined heat and power and the regulation of the centralized production of thermal energy. The privatization of companies operating in the electric power sector has only been effected with respect to the electricity distribution and supply companies, which are subsidiaries of *Electrica*, the state-owned distribution company. In spite of these developments, there are still some sensitive legal issues to be resolved. The current plans of the government foresee the transformation of the state-owned electricity monopoly into a competitive market by mid-2007.

market structure. In most member states the electricity markets are still dominated by one or two companies. A further unsatisfactory aspect according to the Commission is that of unbundling of network operators. Especially important in this regard is the establishment of fully independent transmission system operators to ensure cost-reflective tariffs. A final factor for low levels of competition is the continued existence of regulated end-user prices. While these arrangements were adequate during the initial phase of market opening, the Commission sees the risk that such an approach constitutes an obstacle to the achievement of full competition.

6.3.3. Reregulation

As a commodity electricity possesses a special quality which can hardly be compared with those of other infrastructure products. There is no adequate substitute for electricity in industrial production, and the continued availability of electricity at a reasonable price is crucial for both the economy and the functioning of modern society.[230] Thus, the introduction of competition in the market was considered to imply more than deregulation or a laissez-faire attitude towards market outcomes as regards prices or security of supply. Hence, the following section analyzes how the EU-25 have established new rules and institutions that are supposed to safeguard a smooth transition from public ownership regimes, characterized by vertically integrated state monopolies, to regimes in which private generators and suppliers, and the market predominate.

As in any other infrastructure sector, liberalization is a necessary but not a sufficient condition for more competition in the market. The key question concerning the reregulation of the electricity market is how to create functioning competition without endangering security of supply. The blackouts in California in 2001 and in Italy in 2003 point to the possible consequences of an inadequate monitoring of service quality by the responsible institutions. The quality goal can not be attained in the absence of a modern and efficient industry structure. Today, several CEECs have to cope with the negative consequences of old and inefficient power systems. In Romania, for example, the existence

[230] In addition, in contrast to gas, electricity is not storable in larger quantities.

of an old-fashioned electricity system in combination with difficulties in securing the supply of certain fuels resulted in periodic energy shortages and shutdowns in power generation in recent years.

Until the establishment of the current regulatory framework through Directive 2003/54/EC, national variation of reregulatory measures was relatively strong. By 1999, two-thirds of the old EU members had created a separate legal entity charged with managing network operations and granting access rights to new power suppliers. In the other six countries transmission operations were independent only in management and accounting terms, still organized under the roof of the same electricity company that existed already in times of public monopoly. While a large majority of the 15 countries opted for regulated third-party access, whereby tariffs for transmission are set by the responsible authorities, initially only Germany and Greece, and temporarily also Denmark, chose negotiated third-party access, whereby each supplier negotiates individually the terms of access with the network operator.

The new Directive brought several modifications to the old regulatory framework.[231] One of the central innovations was the mandatory establishment of a regulator with well-defined functions. By 2004, except for Germany, all countries had managed to establish such an organizationally separate regulator, although with varying organizational characteristics and different regulatory functions. Because of similar sector characteristics, many governments decided to create integrated NRAs with parallel competencies for electricity and gas market regulation. In two member countries, the regulator even possesses multi-sectoral competencies: the *ILR* in Luxembourg and the *Public Utilities Commission* (*PUC*) in Latvia are both charged with regulating the entire spectrum of network industries.[232] In 2000, the Luxemburg government transformed the former telecommunications regulator into a multi-sector authority with the purpose of maximizing synergies and minimizing institutional redundancy and regulatory costs. In Latvia, *PUC*

[231] For an overview of the major provisions of the new regulatory framework, see chapter 4.1.3.

[232] The new regulator in Germany, the *Bundesnetzagentur*, which was established as the successor organization of *RegTP* in July 2005 is responsible for the regulation of the postal, telecommunications and electricity sector. It is planned to also grant it regulatory responsibilities for the railway sector.

was established in 2001 as a ministerial agency for the regulation of the energy, telecommunications, post and railway sector.

Organizational Structures

For electricity reregulation, the Infrastructure Data Set contains information on a total of 13 variables. Seven of these variables relate to the organizational structure and six to the regulatory functions of the NRAs.[233] If we look at the organizational structure first, it becomes obvious that in absolute terms the size difference among electricity NRAs is not as large as in telecommunications. The smallest NRA is the Finnish *EMA* with only 16 full-time employees, the largest one is the integrated electricity and gas regulator in the United Kingdom, *OFGEM*, with 302 employees. Except for the NRAs in Italy, Poland and Spain, all other NRAs have less than 100 full-time employees. Hence, in absolute figures they are significantly smaller than the telecommunications NRAs.

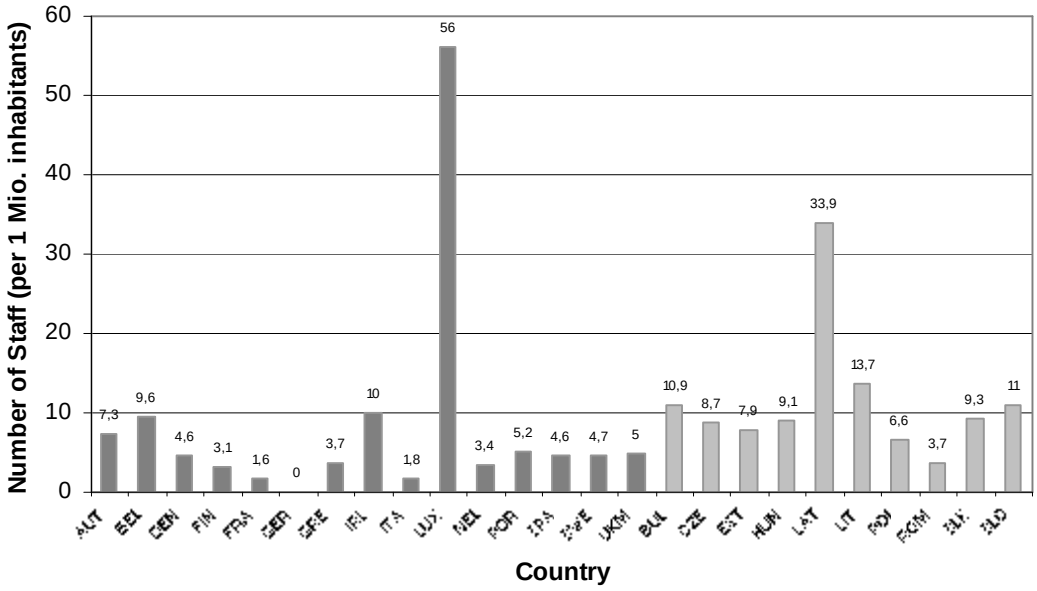
As regards the *staffing* of the NRAs in relation to country size, we find that the two countries with the best ratios are Luxembourg and Latvia with 56 and 34 employees per one million inhabitants, respectively (Figure 6.22). These figures can be explained, first, by the fact that Luxembourg's *ILR* and Latvian *PUC* are both multi-sector regulators and, second, by effects of country size (see footnote 199 above). What is more revealing in the analysis, however, is the fact that NRAs in the CEEC-10 are in average better staffed than their Western counterparts. Most of them possess between eight to eleven employees per one million inhabitants.

As regards the *financing* of electricity NRAs, we obtain a different picture. Generally, the EU-15 have significantly better financial resources than the new member states (Figure 6.23). While in average the old member countries are equipped with 0.7 million Euros per one million inhabitants, the CEECs dispose of only 0.4 million Euros per one million inhabitants. Ireland and Belgium show the best ratios with 2.6 and 1.7 million

[233] Data collection for the electricity NRAs has proven to be even more complicated than for the telecommunications NRAs due to the lack of consistent information. As a consequence, the total number of indicators is smaller (13 instead of 18).

Euros. In absolute terms, British *OFGEM* possesses the largest annual budget with 57 million Euros compared to, for instance, 0.3 million of Estonian *EMI* or 1.3 million of Finnish *EMA*. However, there is no clear relationship between the regulatory status of a NRA and its financial resources. Some NRAs, which are conceptualized as separate authorities, i.e. in France, Portugal, Bulgaria or Estonia, have a weaker financial basis than those which hold the status of a ministerial or advisory agency, i.e. in Greece, Spain, Hungary or Latvia.

Figure 6.22 Full-Time Staff of Electricity NRAs



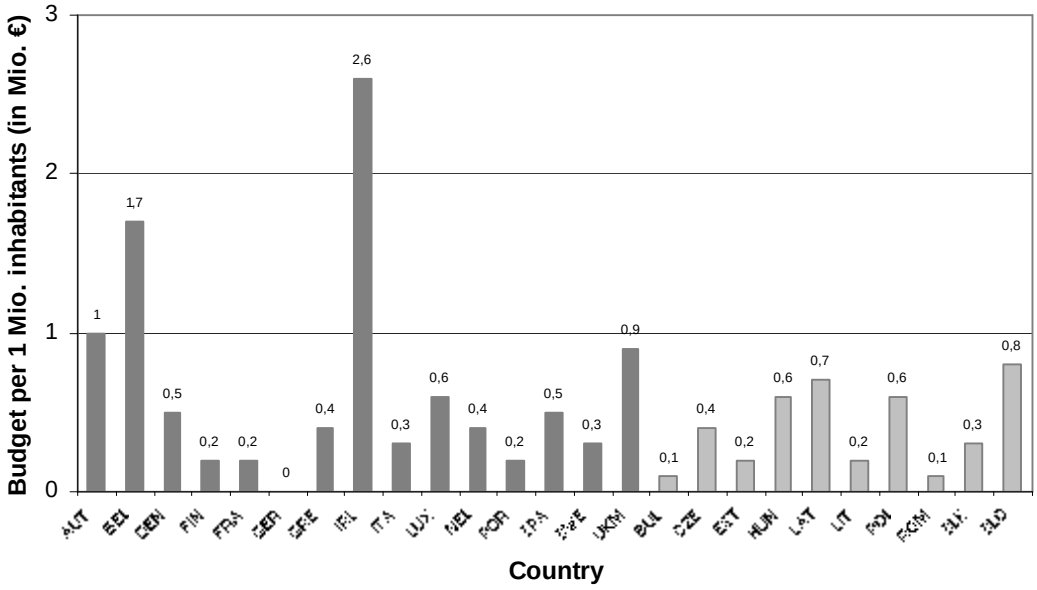
Note: Diagram shows the number of full-time NRA employees per 1 million inhabitants.

Sources: Infrastructure Data Set (2004), The World Factbook 2003

If we look at the increase of the NRAs' annual budgets since 2002 we find further extremes. The scope reaches from a 70 per cent increase in Latvia to a 27 per cent reduction in Slovenia. In total, only six NRAs experienced a budget reduction, eleven NRAs had a budget increase and in seven countries the budget did not change. The source of financing is another indicator for agency independence. As of 2004, in only two of the old (France and Sweden) but in six of the new member states, the NRA is exclusively financed through government appropriation. This is usually the case where NRAs have the

status of a ministerial agency instead of a entirely separate organization. The most important sources of external financing are contributions from operators, transmission fees and licence fees. Greek *RAE* and Spanish *SEA* are the only two NRAs that are financed through a consumption tax levied on the consumer.

Figure 6.23 Budgets of Electricity NRAs



Note: Diagram shows the budget of the 24 electricity NRAs per one million inhabitants in million Euros for the year 2003.

Source: Infrastructure Data Set (2004)

The last three organizational characteristics that are analyzed for the electricity NRAs reflect the structure and selection of their *head*. First of all, we can observe an important difference between the EU-15 and the CEEC-10 as regards the leadership structure. While in eleven of the 15 Western member countries the NRA is headed by a collegial body, the majority of the NRAs in the CEEC-10 are headed by a single person, usually a Director General. The size of the collegial bodies ranges from two members in Ireland to twelve members in Austria and the United Kingdom. The average size of the collegial body is 6.5 members in the EU-15 and 6.0 members in the CEEC-10 and is thus larger than in telecommunications.

Almost all electricity NRAs show a high dependence on the executive as regards the appointment of their head. In 20 countries either the ministry, the government, the Prime Minister or the President appoints the NRA's head. In only four countries, France, Italy, Latvia and the Slovak Republic, the Parliament has a say in this procedure, in Latvia even exclusively. The average term of office for the head of the 25 regulatory authorities is 5.4 years, which is a little longer than in telecommunications with 5.1 years. The EU-15 are slightly above this average, the CEEC-10 slightly below. In five countries, the term of office of the NRAs is indefinite.[234]

Regulatory Functions

As outlined above, the independence of a NRA is not only determined by its internal organization but also by the delegated *regulatory functions*. By 2004, all EU member state governments, except for Germany, had opted for regulated third party access and established a NRA charged with corresponding regulatory functions. In course of reregulation, governments decided to transfer certain powers from the ministry to the NRA. Today, the scope of this delegation of competencies still varies across national electricity regimes, although not as much as in the telecommunications sector.

Table 6.8 gives an overview of the different *regulatory responsibilities* of NRAs in the electricity sector. These cover such functions as licensing, network access, dispute settlement or setting and monitoring of quality standards. The data reveal three major findings: first, in both the EU-15 and the CEEC-10 the role of the ministry is still an important one. It either functions as recourse authority, final decision maker acting on the policy recommendations of the NRA or as legislator. Second, in the CEEC-10 the competencies of the NRAs compared to those of the ministry are much stronger than in the EU-15. Obviously, in course of the transposition of the electricity *acquis* the CEEC-10 have strengthened their NRAs over proportionally vis-à-vis the ministry. And third, except for the German case, NCAs do not play any decisive role in electricity regulation. As in the telecommunications sector their role is mainly restricted to merger control.

[234] The term of office is usually indefinite where the NRA functions as a ministerial or advisory agency rather than as a separate regulator.

Table 6.8 Regulatory Competencies in the Electricity Sector

Institution		Regulatory Competence		Regulatory Function				
		Yes	*No*	Licensing	Network Access	Technical Standards	Dispute Resolution	*Monitoring of Quality Standards*
EU-15	NRA	14	1	8	10	9	13	11
	Ministry	9	6	6	4	4	0	3
	NCA	2	13	1	1	1	2	1
CEEC-10	NRA	10	0	10	9	6	10	7
	Ministry	4	6	0	1	4	0	3
	NCA	0	10	0	0	0	0	0

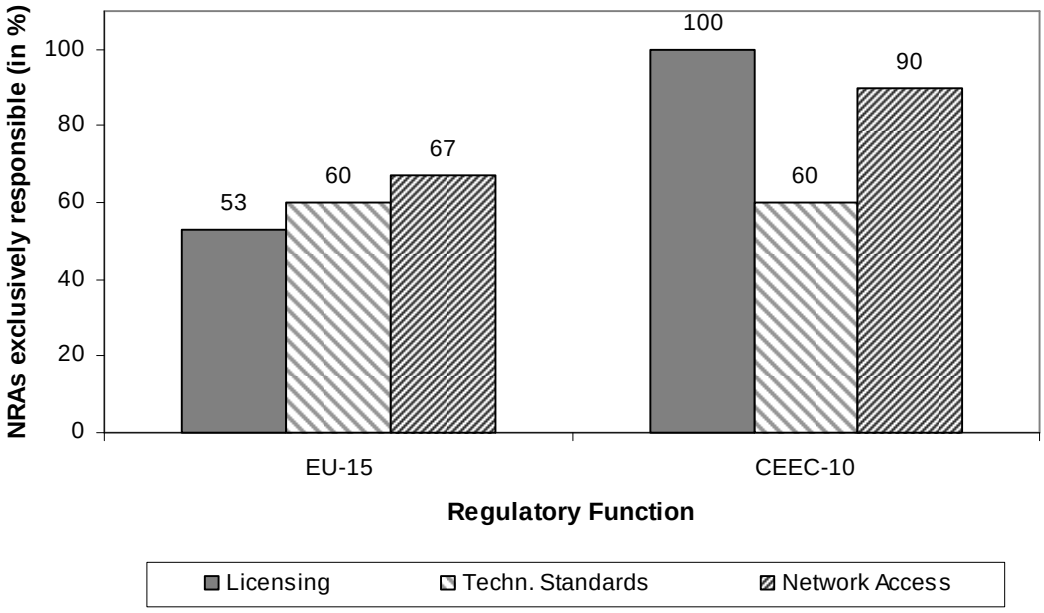
Notes: No NRA existed in Germany at the end of 2004, instead ex post regulation was exerted by the Cartel Office. In the electricity sector, there is basically no regulatory function for which two institution share parallel responsibilities.

Source: Infrastructure Data Set (2004)

While in the dominant number of EU member countries the NRAs hold *ex ante* regulatory powers, the NRAs in the three Scandinavian countries, Denmark, Finland and Sweden, execute their regulatory competencies on an *ex post* basis. In contrast, none of the NRAs in the new member countries uses an *ex post* approach any longer. Until recently, Germany relied on *ex post* oversight by the NCA, the *Bundeskartellamt*, to prevent the abuse of monopoly power by regional transmission operators. Rules for access pricing and conditions were fixed by an industry agreement between the electricity companies, large industrial users and the Federal Association of German Industry (BDI). This 'self-regulatory' arrangement was regarded as a substitute for regulation by a NRA (cf. Eberlein 2000). Only with the *Energiewirtschaftsgesetz*, the new German energy law, the regulatory authority already charged with oversight of the telecommunications and postal market, *RegTP*, was also delegated powers to regulate the electricity and gas markets.

In contrast to the telecommunications sector, electricity NRAs in the CEEC-10 possess almost the same regulatory responsibilities as their Western counterparts. Their strong position becomes especially visible in the regulatory areas of licensing and network access. *Licensing* belongs to those competencies that can be regarded as an extension of the core responsibilities of an NRA, i.e. network access conditions. While only eight of the 15 NRAs in the old EU members are responsible for granting licences for market operations, all ten NRAs in the new member states are exclusively in charge of this issue (Figure 6.24). A possible explanation for this discrepancy is that in the EU-15 the delegation of regulatory responsibilities to the NRAs was a more gradual process than the sporadic reform approach in the CEEC-10. In course of this gradual development the ministry retained certain core functions such as licensing or the setting of technical standards.

Figure 6.24 Regulatory Responsibilities of Electricity NRAs



Note: The diagram indicates the percentage of NRAs in each group of countries that are exclusively responsible for the regulation of licensing, technical standard setting and network access. Exclusive responsibility means that the NRA does not have to share power with other regulatory institutions.

Source: Infrastructure Data Set (2004)

Except for Hungary, all CEEC-10 governments have delegated responsibilities for the control of *network access* conditions, i.e. access tariffs, exclusively to the NRA. Among the EU-15, this is the case only in two thirds of the electricity regimes. In France, Greece, Luxembourg and Spain access conditions are set and controlled by the ministry. Recently, the Commission criticized the access price development especially in the German market (European Commission 2005b). Whereas in most countries in the EU the differences between net purchase and sales prices are at a low level, in Germany this difference is at a constantly high level. The reason for this development is seen in the adopted model of regulation: access prices are not subject to prior approval by a NRA but negotiated between the electricity producer, the transmission companies and the end users. Hence, control can only be exerted on an *ex post* basis.

To ensure power system security and supply reliability, suppliers must conform to established *technical standards* in terms of the connection interface and operating protocol, i.e. the grid code. Two thirds of the EU-15 and of the CEEC-10 governments grant their NRAs regulatory responsibilities as regards the setting of such standards, i.e. in the area of power production and transmission. The fact that in a total of eight EU countries the ministry is still responsible for setting technical standards might be explained by the great importance attributed to this regulatory subject. However, some governments still refrain from delegating competencies to NRAs in areas which are of central importance for securing electricity supply.

The task of *dispute settlement* is one of the extended competencies of a NRA that do not belong to its core functions of sector regulation under the EU framework. It expands the NRA's constituency beyond that of mere executive decision-making, granting it judicial competencies in addition. All member state governments that established an electricity regulator, except for the Netherlands, delegated the responsibility for dispute resolution to the NRA. Only the Dutch government decided to charge the NCA and not the national regulatory authority *DTE* with the settlement of disputes between suppliers and system operators. However, the NRAs do not possess exhaustive powers in this field: in all EU countries operators can bring their case in front of the public courts for final judicial recourse.

The *monitoring of quality standards* is another major task of NRAs in the electricity sector. In the context of market regulation quality considerations are not left aside and are generally dealt with in combination with consumer protection measures. A good example for the linkage between these two regulatory areas is the British regulator *OFGEM*. In the United Kingdom, consumers are integrated in the regulation of the electricity sector through the possibility of complaints that are directed at the regulator. In addition, *OFGEM* does not only monitor but also set the quality standards imposed on operators. In six of the other EU member states, quality standards are still set and controlled by the ministry. In case of Finland, the Slovak Republic, Slovenia and Spain, the ministry is in charge of both, technical and quality standard setting.

Agency Independence

As for the telecommunications sector, the level of independence of electricity NRAs is calculated by transforming the data for each sub-indicator into numerical values first and then combining them to a composite indicator. Hence, the composite indicator for the electricity NRAs reflects the level of NRA-independence on the basis of 13 sub-indicators and allows an ordinal cross-country comparison. Table 6.9 presents the ranking of the 24 electricity NRAs plus Germany according to the individual degrees of material agency independence. The country-values for each of the 13 sub-indicators are listed in Table A.5, the corresponding coding-scheme is printed as Table A.4 of the Appendix.

The average level of agency independence in the electricity sector is comparable to that in the telecommunications sector. However, the results also diverge in several points. First of all, three NRAs from the CEEC-10 are among the most independent agencies, with the Latvian *PUC* showing the highest independence level together with the Belgian *CREG* and the Irish *CER*. At the same time, several NRAs from the EU-15 are among the least independent of all agencies. Especially the Scandinavian NRAs rank low. Thus, in average the electricity NRAs in the old member states are only slightly more independent from political and administrative powers than their counterparts from Central and Eastern Europe.

Table 6.9 Material Independence of Electricity NRAs

Rank	Country	Organizational Independence	Functional Independence	Independence Value
1	BEL	21	17	**38**
2	IRL	21	17	**38**
3	LAT	21	17	**38**
4	SPA	17	17	**34**
5	ITA	18	15	**33**
6	UKM	15	17	**32**
7	BUL	14	17	**31**
8	FRA	16	15	**31**
9	HUN	16	15	**31**
10	AUT	15	15	**30**
11	CZE	12	17	**29**
12	POR	11	17	**28**
13	LIT	12	15	**27**
14	SLK	14	13	**27**
15	DEN	14	12	**26**
16	LUX	15	11	**26**
17	ROM	11	15	**26**
18	EST	8	17	**25**
19	NEL	12	13	**25**
20	POL	10	15	**25**
21	SWE	9	16	**25**
22	FIN	12	12	**24**
23	GRE	13	11	**24**
24	SLO	11	13	**24**
25	GER*	7	6	**13**

Notes: The independence levels are calculated as the sums of the values of the seven organizational and the six functional sub-indicators after coding according to the coding-scheme in Appendix A.4. The higher the value in the table, the higher the level of agency independence from political and administrative influence. All values used for the calculation of independence levels are ordinal, so that the values cannot compared with each other on a metric base. We can, for instance, *not* state that the Irish *CER* is one and a half times as independent than the Greek *RAE*. The values merely serve to rank the NRAs from the most to the least independent. The maximum independence value is 47, the minimum value 13. The detailed values for each indicator are listed in Table A.5.

* Germany had not yet established a NRA in the electricity sector by the end of 2004.

Unlike in telecommunications, the 25 electricity NRAs share relatively similar functional characteristics while their organizational structures are rather dissimilar. This can be seen from the fact that the cross-national variance of the organizational independence values is much bigger than the variance of the functional independence values. For instance, while the Estonian *EMI* or the Swedish *SEA* possess relatively low

organizational independence values compared to those of the Belgian or the Irish NRA, the differences as regard the functional dimension are much less extreme.

6.3.4. Electricity Regimes

For the calculation and graphical representation of regime (dis-)similarity in the electricity sector, the privatization, liberalization and reregulation data were again coded according to a coding scheme (Table 6.10). For two variables, privatization and liberalization, this coding scheme is identical with the one used for the transformation of telecommunications data. For the reregulation dimension, the coding scheme had to be adapted due to the smaller number of sub-indicators that was used for calculating agency independence (13 instead of 18). For the electricity NRAs the maximum independence value is therefore not 60 as in the telecommunications sector, but 47. Table 6.10 demonstrates the coding procedure for the electricity sector using the example of Hungary. The structuples for each country are listed in Appendix A.6.

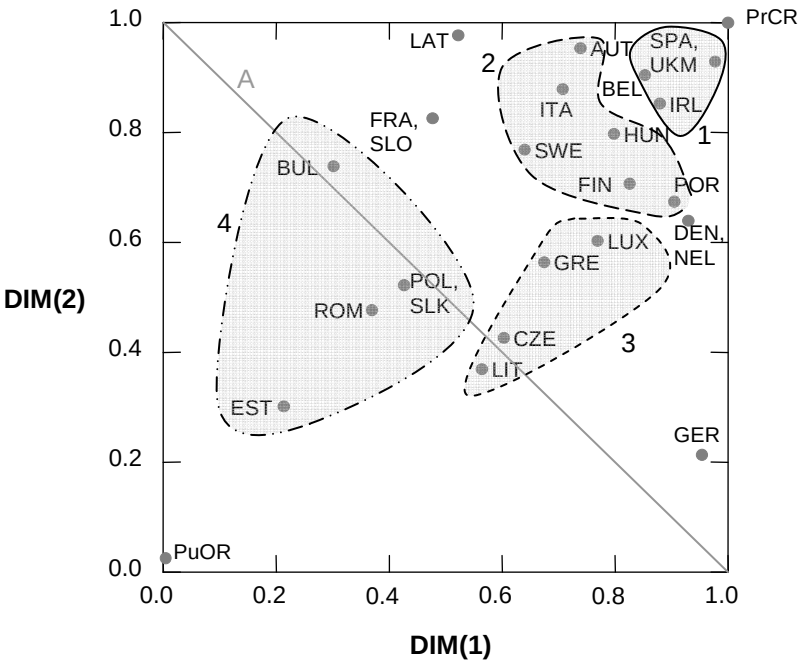
Table 6.10 Coding Example Hungary

Facet	Element	Element Value	Coding Scheme	POSAC Coding Value
Privatization	P	43,8%	100% = 1; 75,1% - 99,9% = 2; 50,1% - 75% = 3; 20,1% - 50% = 4; 0,1% - 20% = 5; 0% = 6	**4**
Liberalization	L	67%	0% = 1; 0,1% - 25% = 2; 25,1% - 50% = 3; 50,1% - 75% = 4; 75,1% - 99,9% = 5; 100% = 6	**4**
Reregulation	R	31	13 - 17 = 1; 18 - 23 = 2; 24 - 29 = 3; 30 - 35 = 4; 36 - 41 = 5; 42 - 47 = 6	**4**

Notes: The element value for the facet 'Privatization' is the level of state ownership at the end of 2003 (Table 6.6). The element value for the facet 'Liberalization' is the level of market opening in 2003 (Figure 6.21). And the element value for the facet 'Reregulation' is the independence value for the NRA in 2003 (Table 6.9).

The result of the POSAC for the electricity sector is plotted in Figure 6.25. The plot of the 25 regulatory regimes reveals several interesting findings. First, the old member states have progressed substantially further than the new member states in their transformation from a *public ownership regime* towards a *private competition regime*. This can be seen from the fact that all profiles of the EU-15 regimes are closer to the final point 'PrCR' than to the starting point 'PuOR'. At the same time, seven of the CEEC-10 countries lie still to the left or close to line A, indicating a comparatively great distance to the final possible reform outcome, point 'PrCR'.

Figure 6.25 Regulatory Regimes in the Electricity Sector



Stress Factor: 0.13

Notes: see Figure 6.12.

Secondly, albeit the relatively large scope of reform, only four EU-15 countries embody the characteristics of a *private competition regime*: Belgium, Ireland, Spain and the United Kingdom have all completely privatized their NEC, fully or almost fully liberalized their electricity markets and established a relatively strong and independent

NRA (cluster 1 in Figure 6.25). Denmark, Germany and the Netherlands have also fully privatized their NECs and liberalized the market, however, the NRAs are either significantly less independent than in the cluster-1-countries or, as in the German case, not even existent. It is therefore difficult to group these countries according to the regime types of Table 2.3. In another constellation, several countries have completely opened their market for competition but not yet fully privatized their NECs. At the same time, the NRAs in these countries are able to ensure fair competition although they are not as strong as in the case of the cluster-1-countries. Austria, Finland, Hungary, Italy, Portugal and Sweden possess these features of a *mixed economy competition regime* (cluster 2).

A third finding is, that except for Hungary, no other country from the CEEC-10 has yet undertaken fundamental steps along all three reform dimensions. Latvia, for instance, has achieved good results in market opening and established a relatively strong and independent NRA; however, the Latvian electricity regime shows almost no elements of private participation in central segments of the electricity market. As a consequence, the Latvian and the Slovenian configuration are hard to categorize because of the strong discrepancy between the privatization dimension and the other two reform dimensions. The same applies to the regulatory regime in France.

Another cluster contains the regimes of the Czech Republic, Greece, Lithuania and Luxembourg (cluster 3). All four show the characteristics of a *protected competition regime,* expressed by partial privatization, a medium level of market opening and medium independent NRAs. For example, in Lithuania the former NEC, *Lietuvos Energija*, continues to be almost fully owned by the state, only 17 per cent of the market has been opened to competition and the regulator, *NCC*, is a ministerial agency with weak organizational characteristics. A similar situation exists in the Czech Republic. A final group contains the remaining CEEC-10 regimes, including Bulgaria, Estonia, Poland, Romania and the Slovak Republic (cluster 4). These regimes are close to the *semi-liberalized public service regime* type. As such they are characterized by the absence of any privatization steps, only weak or medium liberalization achievements and medium independent NRAs.

Table 6.11 Basic Statistics of Electricity Regime Similarity

Statistics	EU-25	EU-15	CEEC-10
Minimum	0.257	0.583	0.257
Maximum	0.953	0.953	0.798
Mean	0.679	0.777	0.533
Standard Deviation	0.179	0.113	0.160
Variance	0.032	0.013	0.026
Coefficient of Variance	0.263	0.145	0.301

Note: The analysis is based on the values for the joint dimension in the POSAC. The latter are the result of data reduction and determine the location of each regime in the two-dimensional space of Figure 6.25.

We might conclude from Figure 6.25 that the diversity of electricity regimes is greater among the CEEC-10 than among the EU-15, because, first, the CEEC-10 regimes are more distanced from in each other in the two-dimensional space than the EU-15 regimes. And second, in the profile plot the geometrical distance between the most active and the slowest reforming country is significantly smaller in case of the EU-15 (United Kingdom and France) than in case of the CEEC-10 (Hungary and Estonia). This is supported by the calculation of the regime variance in both groups of countries: for the values of the joint dimension in the POSAC, in other words the position of the profiles in the plot, the variance among the EU-15 is 0.013 and the variance among the CEEC-10 is 0.026 (Table 6.11). Thus, the basic statistics confirm the conclusion derived from the graphical representation in the profile plot.

6.4. State Retreat and Regime Similarity

The goal of the chapter was to provide a detailed analysis of the reform development in the telecommunications and electricity sector. Based on the results, we are now able to answer the first and second research questions that were formulated in chapter 1 of this study. The first question concerns the extent and pattern of state retreat in the enlarged EU. The privatization of state owned infrastructure companies can be used as proxy for this

retreat. The second research question focuses on the similarity of regulatory regimes among the EU-15 and the CEEC-10 and across the two sectors. The comparison of regime similarity allows us to single out those countries among the CEEC-10 which show contrasting regime configurations. These findings in turn provide the basis for the discussion of the factors that might have caused regime dissimilarity in the final chapter of this study.

Table 6.12 Summary of Reform Outcomes

	Privatization		**Liberalization**		**Reregulation**	
	EU-15	CEEC-10	EU-15	CEEC-10	EU-15	CEEC-10
Telecoms	Large	Medium	Large	Large	Medium	Small
Electricity	Medium	Small	Large	Small	Medium	Medium

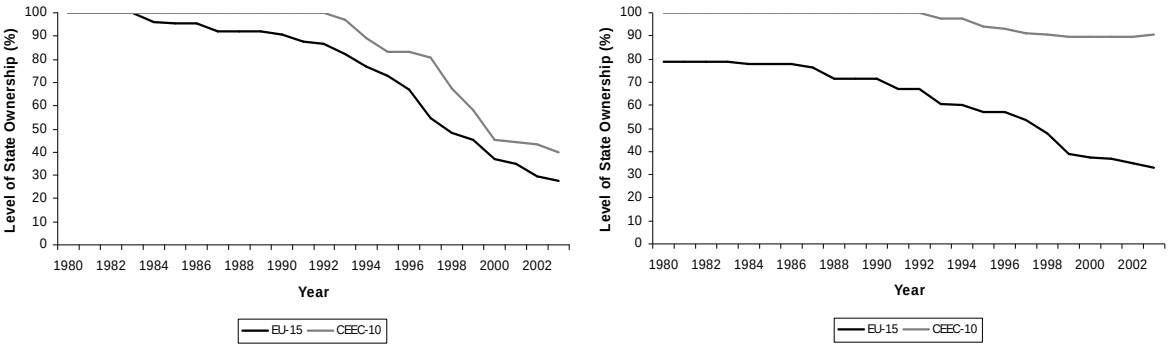
Note: The values in the boxes indicate the scope of reform for each sector and reform policy until the end of 2003.

The analysis of privatization, liberalization and reregulation outcomes in the telecommunications and electricity sector has revealed interesting findings which are summarized in Table 6.12. First of all, for the EU-15 the results do not differ very much across the two sectors; in average, reforms have produced comparatively similar outcomes along all three reform dimensions. While privatization was more encompassing in telecommunications, liberalization has progressed a little further in electricity. As regards reregulation, the EU-15 show a medium level of reform in both sectors. In the CEEC-10, the progress of reform is weaker than in the EU-15 for both sectors on all three reform dimensions. We nevertheless find differences also within this group of countries: while the scope of privatization and liberalization is significantly more encompassing in the telecommunications sector, NRAs are in average stronger in the electricity sector. Striking is the small scope of liberalization in the CEECs' electricity sector.

6.4.1. Patterns of State Retreat

The first research question this study seeks to answer relates to the pattern of state retreat in the EU-15 and CEEC-10. This pattern is expressed through the timing and scope of privatization in the respective sector. Both aspects of infrastructure privatization can be used as a proxy for the material retreat of the state. One prominent position in the literature assumes that CEECs are more radical privatizers than their Western neighbours because of the dynamic that resulted from general economic transition. Any scrutiny of that position must therefore focus on the question whether the dynamic of the processes of mass privatization has indeed sparked a powerful and sustainable retreat of the state in network infrastructures. Since privatization serves as a good proxy for state retreat, the latter can similarly be measured using the indicator 'level of state ownership'.

Figure 6.26 Privatization Patterns EU-15 and CEEC-10



Telecommunications Electricity

The analysis of the privatization data for PTOs and NECs in the 25 countries revealed several interesting findings: first, while we can indeed speak of a significant retreat of the state in the telecommunications sector for both groups of countries, in the electricity sector this does only apply to the EU-15 (Figure 6.26). Although in electricity the retreat of the state has in general been less dynamic than in telecommunications, the *large sectoral discrepancy for the CEEC-10* is nevertheless striking. However, the position that the CEECs are more radical privatizers than the old member states does not even hold

for the telecommunications sector. Also in the latter they did not manage to achieve a bigger scope of reform than the old member states. Only between 1997 and 2000 it looked as if the CEECs' reform agenda would indeed justify the assumption of them being more radical privatizers than the EU-15. However, after this phase of active reform initiatives the privatization dynamic slowed down significantly.

What do these results imply for the answer to our first research question? According to timing and scope of privatization in both sectors, we can indeed ascertain an encompassing retreat of the state in the EU-15 countries. Although in the past two decades the reform development in the electricity sector was somewhat less dynamic, at the end of 2003 the level of state ownership was comparable to that in the telecommunications sector. In case of the CEEC-10, in contrast, it seems not to be adequate to ascertain a retreat of the state. This is due to the development of state ownership in the electricity sector which stagnates at a very high level even after further divestiture in Slovenia. Whether the acquisition of majority shares of *Slovenské Elektrárne* by *ENEL* for 840 Mio. Euros in 2004 brings in a new dynamic into the process of infrastructure privatization of other CEECs remains to be seen.

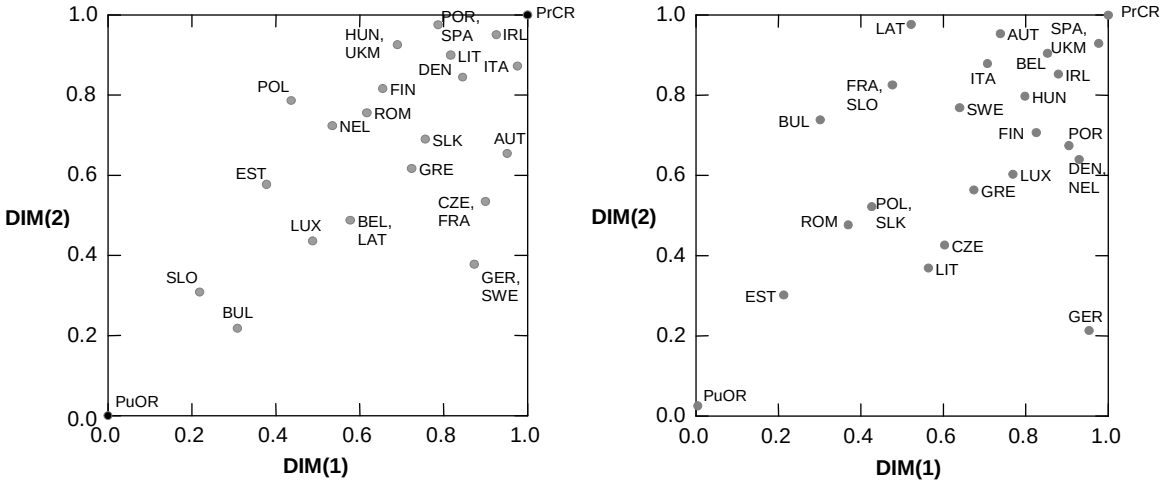
What follows from this is the question why in the CEECs the privatization of electricity companies was so much less dynamic than privatization in the telecommunications sector. Has the stagnation of the electricity privatization process been caused by dominant political-economic ideas in the CEECs that blocked further divestiture in that sector? And was reform stagnation in the past maybe facilitated by a specific constellation of veto-players? These and other possible factors for cross-sectoral difference of infrastructure privatization in the CEEC-10 will be discussed in more detail in chapter 7.

6.4.2. Regime Similarity

The second research question focuses on regime similarity. The similarity of regulatory regimes can be assessed for each sector across all 25 countries, individually for the EU-15 and the CEEC-10 across both sectors, and finally across both countries and sectors. As outlined in chapter 2, regulatory regimes reflect a distinct configuration of

privatization, liberalization and reregulation outcomes. These configurations have been depicted in two separate POSAC profile plots (Figures 6.12 and 6.25). The result we obtain from cross-sector, cross-country comparison is that the similarity among the 25 telecommunications regimes is about the same as in electricity. Both regime structuples are spread similarly across the two-dimensional space in Figure 6.27.

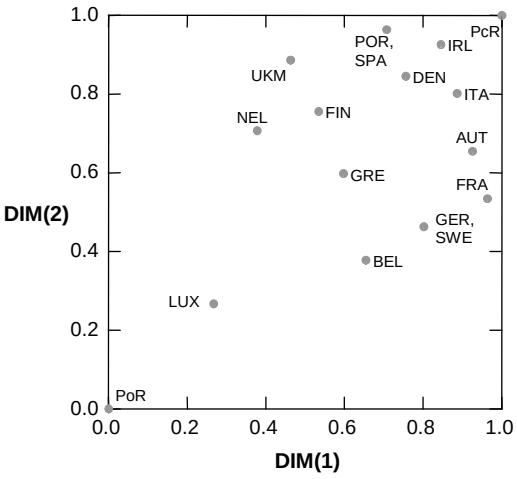
Figure 6.27 Regime Comparison EU-25



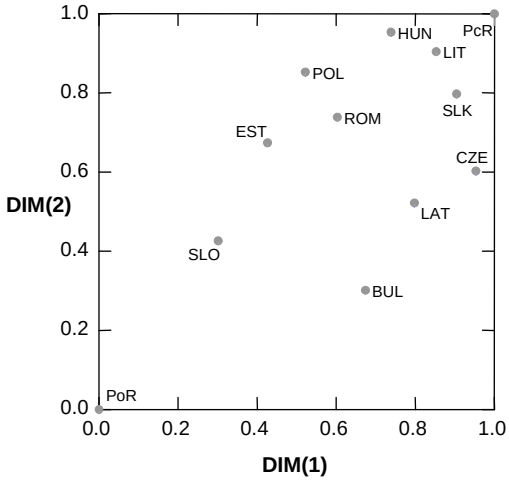
Telecommunications Electricity

However, if we compare the country profiles individually for each sector, we find that in both cases *regime similarity is higher among the EU-15 than among the CEEC-10* (Figure 6.28). This implies that the outcomes of the regulatory reform process in network infrastructures are more homogenous among the EU-15 than among the CEEC-10 countries. In other words, regulatory regimes are more diverse among the new member and applicant countries than among the old EU member states. This difference in regime similarity is again slightly more pronounced in the telecommunications than in the electricity sector, which is confirmed by the variance values for the two sectors presented in Tables 6.5 and 6.11 above. In addition to greater regime similarity, Western EU members also show a significantly larger scope of reform than the CEEC-10. In average, telecommunications and electricity regimes in the EU-15 more closely resemble the characteristics of a private competition regime than the regimes in the CEEC-10.

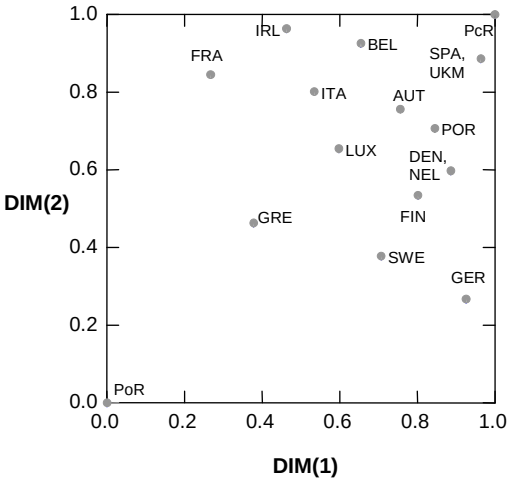
Figure 6.28 Sector Regime Comparison EU-15/CEEC-10



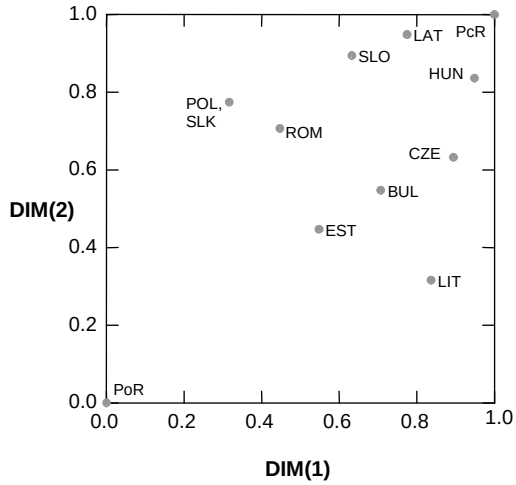
Telecommunications EU-15



Telecommunications CEEC-10



Electricity EU-15



Electricity CEEC-10

How does the situation look like within each group of countries? First of all, among the EU-15 the reform outcomes in the telecommunications and in the electricity sector are almost identical: among the most advanced reformers are in both sectors Spain, Ireland, the United Kingdom, Austria and Italy; and among the laggards are in both sectors Luxembourg, Germany, Greece and Sweden. Although the latter do in most cases significantly lag behind the fast reforming countries, their overall scope of reform is nevertheless on a relatively high level. Especially their progress in privatization and liberalization is high compared to the CEEC-10.

Among the CEEC-10 the situation looks quite different. Except for very few cases, a general distinction between fast and slow reforming countries is difficult to make. And indeed, in cross-country perspective the picture is almost reversed: strong reformers in one sector are often laggards in the other, i.e. Latvia or Lithuania. Two countries, however, do show strikingly dissimilar outcomes in both sectors: first, *Hungary* is among the top reformers and its national telecommunications and electricity sectors both possess strong features of a private competition regime. And second, *Slovenia's* reform achievements are in both sectors among the weakest of the CEEC-10 countries. Except for liberalization achievements in electricity, all regime characteristics in the two sectors clearly diverge from those of the Hungarian infrastructure regimes.

The results of the macro-empirical analysis are largely confirmed by recent evaluations of the European Bank for Reconstruction and Development (EBRD). In telecommunications, Hungary is among the four countries that achieve a good reform level (EBRD indicator of 4.0).[235] According to the EBRD scale (Table 6.13), this includes the partial privatization of the dominant operator as well as comprehensive regulatory and institutional reforms. In addition, the telecommunications market has substantially been liberalized. Slovenia achieved a medium level of reform (EBRD indicator of 3.0). This means that commercialization and regulation have progressed substantially and that there is full separation of telecommunications from postal services, with a reduction in the extent of cross-subsidization. In addition, the indicator value expresses that some liberalization has occurred in the market for mobile telephony and in value-added services. The average reform level across all CEEC-10 for the year 2003 was 3.4 (EBRD 2003: 32).[236]

[235] The classification system for the transition indicators ranges from 1 to 4+. The values of countries on the borderline between two categories are indicated with pluses and minuses. For the calculation of the average reform level in a sector, a 3+, for instance, is counted as 3.3. The values for the average reform level thus ranges from 1.0 to 4.3.

[236] Recently, developments in telecommunications reform have slowed down. While the average EBRD indicator for the sector increased by almost one point between 1995 and 1999, the increase between 1999 and 2003 was only 0.2 points. This is largely due to the difficult global business environment. Privatization, for example, has been delayed because of a lack of interest from the side of (foreign) strategic investors. Nevertheless, many countries are already in an advanced stage of privatization. Many countries made strong commitments to short term privatization through the use of public tendering. Nevertheless, in 2003 with 3.4 points the average indicator for telecommunications reform was still higher than the average for electricity reform which recorded only 3.2 points.

Table 6.13 EBRD Infrastructure Reform Analysis

Country	**Telecommunications**			**Electricity**		
	1995	1999	2003	1995	1999	2003
Bulgaria	2.3	3.0	3.0	2.0	3.0	3.3
Czech Republic	3.3	4.0	4.0	2.3	2.7	3.0
Estonia	3.0	4.0	4.0	2.0	3.0	3.0
Hungary	**3.3**	**4.0**	**4.0**	**3.7**	**4.0**	**4.0**
Latvia	2.7	3.0	3.0	2.3	3.0	3.0
Lithuania	1.0	3.3	3.3	2.3	2.3	3.0
Poland	2.7	3.3	4.0	2.3	3.0	3.0
Romania	1.0	3.0	3.0	1.0	2.7	3.0
Slovak Republic	2.3	2.3	2.3	2.0	2.0	4.0
Slovenia	**1.0**	**2.3**	**3.0**	**2.3**	**3.0**	**3.0**
Average CEEC-10	*2.3*	*3.2*	*3.4*	*2.2*	*2.9*	*3.2*

Source: EBRD (2003)

According to the EBRD, Hungary is the only country that achieves a good reform level not only in the telecommunications but also in the electricity sector with an EBRD indicator of 4.0. An indicator of 4.0 or 4.3 expresses that the national electricity industry in the respective country was separated into generation, transmission and distribution and that a NRA was set up. What is more, rules for cost-effective tariff-setting have been formulated and implemented, and there is heavy private sector involvement in the generation or distribution of electricity. Finally, arrangements for network access, i.e. negotiated third-party access, have been found. Slovenia, in contrast, is again below the CEEC-10 average: as regards electricity reform, it achieves 3.0 on the EBRD scale. (EBRD 2003: 33).

Sector Comparison

The findings above further demonstrate that in sum the scope of privatization in the electricity sector is significantly lower than in the telecommunications sector. If we

compare the average levels of state ownership in 1990 and in 2003, we find that in electricity the dynamic of privatization has not yet fully developed. Not only are in average still more than 50 per cent of the former NECs still owned by the state. What is more, since the mid-1990s the average level of state ownership was reduced by only 15 percentage points (see Table 6.6 above). In addition, whereas telecommunications privatization in the EU-15 and the CEEC-10 ran remarkably parallel since the early 1990s, it diverged significantly in the electricity sector.

The most striking difference between regulatory reform in the telecommunications and the electricity sector is that in telecommunications the former PTO in most instances continued as a vertically integrated entity even after liberalization. In the electricity sector of most EU countries, in contrast, the activities of the former public monopolist were vertically separated. As a consequence, business layers such as power production, transmission, distribution and supply were put in the hands of legally separate companies. Some of these companies were subsequently privatized, others usually remained state-owned: whereas almost all governments have chosen state ownership for the natural monopoly of electricity transmission, power generation and electricity distribution companies are today mostly private.

7. Hungary and Slovenia: The Factors for Diversity

The closing chapter focuses on the factors that have caused the diversity of telecommunications and electricity regimes in Hungary and Slovenia. The central question here is: why did reforms in Hungary proceed faster and in a considerably bigger scope than in Slovenia? Table 7.1 outlines once more the significant differences between the regulatory regimes in the two countries that were already expressed graphically by the POSAC profile plots (Figure 6.27). As regards the telecommunications sector, the difference in the scope of privatization, liberalization and reregulation outcomes are striking. Only as regards electricity liberalization, Slovenia shows slightly more reform progress than Hungary.

In the *telecommunications* sector, Hungary possesses the characteristics of a private competition regime while in Slovenia sector regulation comes close to a semi-liberalized public service regime. Hungary has privatized 100 per cent of *Matáv* and opened the largest part of the market to competition. And the Hungarian telecommunications NRA, the *HIF*, shows a medium level of independence. In contrast, the majority of *Telekom Slovenije* was still state owned at the end of 2003, the market was fairly closed to competition and the NRA showed the lowest independence level of all authorities analyzed. These characteristics make Slovenia a real laggard as regards regulatory reform in telecommunications.

We get a similar but not identical picture for reforms in *electricity*. Although in total the reform achievements of the CEECs in the electricity sector have so far been less than average, Hungary resembles the typical characteristics of a mixed economy competition regime. It undertook the most advanced privatization steps of all CEEC-10, shows considerable liberalization achievements and possesses a medium strong NRA. Once again the developments in Slovenia stand in contrast to these outcomes. The Slovenian electricity sector shows slightly advanced characteristics to a semi-liberalized public service regime only because of good liberalization achievements, which are even bigger than in Hungary. However, *Elektro Slovenija* was still 100 per cent state owned and the NRA possessed only very weak regulatory functions at the end of 2003.

Table 7.1 Regime Comparison Hungary – Slovenia

Policy	Country	State Ownership (%)	Market Opening (%)	Agency Independence
Telecom.	Hungary	**0**	**87,1**	**35**
	Slovenia	62,5	41	26
Electricity	Hungary	**43,8**[1]	67	**31**
	Slovenia	100	**75**	24

[1] The state ownership figure for *MVM* recognizes the privatization of the six distribution and seven power generation companies between 1995 and 1998. These companies were an integral part of the old *MVM* structure before 1995. After these privatizations, the remainder of *MVM* continued as a grid company (plus the nuclear power plant Paks) and was still 100 per cent state owned at the end of 2003.

Note: The table shows the difference in reform outcomes at the end of 2003 for all three policy dimensions. The bold figures indicate in which country the scope of reform was bigger for the respective sector. In the whole sample of the CEEC-10, we cannot find one constellation in which country A shows better reform outcomes in both sectors on *all three* dimensions than country B.

In the literature there exists a variety of theories that promise to explain differences in cross-national regime characteristics. First of all, top-down pressures might vary across countries due to different expectations or time schedules. For instance, towards the end of the 1990s in many CEECs top-down pressures of international monetary agencies, i.e. the IMF or EBRD, were replaced by pressures of Europeanization. Second, diffusion processes, i.e. policy learning or emulation, might be more pronounced in some countries than in others due to a stronger international intertwining of the economy or a better compatibility of existing domestic structures with new policies. However, as it should become clear it does not suffice to merely focus on vertical mechanisms of coercion or horizontal processes of policy diffusion. While Europeanization or diffusion theories might tell us *why* and *when* countries decided to reform their infrastructures, they can hardly explain the *scope* of these reforms.

In course of transition, many CEECs opted for the take-over of Western blueprints (Przeworski 1991: 183). Such policy emulation became necessary because recourse on own experiences was in many instances impossible due to economic modernization, i.e.

new technologies in telecommunications and electricity, but also because of the need to legitimize political decisions. However, the mere copying of Western models did not suffice to master all aspects of the complex transition process. Similar to West European countries, national traditions, country-specific culture and the public mentality seem to have played an important role in course of the reform processes. We therefore need additional concepts and theories that are able to explain the magnitude of reform and, thus, cross-national differences as regards the three policy dimensions.

7.1. Europeanization and Policy Diffusion

It is important to recall that mechanisms of Europeanization as well as policy diffusion could theoretically both have caused cross-country regime diversity across the CEECs.[237] The question we face in the final chapter is how much of the variance as regards reform outcomes can be explained by these mechanisms. Are current conceptualizations in the diffusion literature strong enough to explain why Hungary scores better than Slovenia on all but one policy dimension in the two sectors after 15 years of regulatory reform? If not, what is the explanatory power of domestic variables, i.e. party orientation or veto player? Did they only mediate international forces or did they spark reforms independently? The following discussion, which employs the concrete example of infrastructure reform in two first round accession countries from Central and Eastern Europe demonstrates that cross-country differences in reform outcomes can not sufficiently be explained by merely considering mechanisms of vertical policy transference or horizontal diffusion.

7.1.1. Vertical Policy Transference

As outlined in detail in chapter 4.1., the EU can influence institutional structures and policies in the member states in two possible ways: first, through Secondary legislation and court decisions that impact *directly* on policies and institutions in the member states

[237] For a discussion of the major differences between mechanisms of vertical policy transference, i.e. Europeanization, and processes of diffusion, see chapter 2.4.1. above.

(imposition); and second, through formal and informal institutions which shape *indirectly* the preferences of governments in the member states in course of negotiations at the EU-level (persuasion). In practice, however, it is quite difficult to distinguish between imposition and persuasion (Brooks 2005). We could nevertheless assume that the requirement for the applicant countries to fully take over the *acquis* created similar reform pressures on the telecommunications and electricity sectors of Hungary and Slovenia, while more subtle mechanisms of preference change might have produced different effects in the two countries.

There are good theoretical arguments against the perception of top-down effects of Europeanization as imposition. And also empirical findings point to the fact that these effects are often exaggerated (Levi-Faur 2004). For instance, Schneider (2001b) finds that in Italy the impact of the EU on telecommunications liberalization was strong, whereas in France or Germany it was rather weak. However, the applicant countries were in a special situation: in contrast to the old member states, CEECs like Hungary and Slovenia were completely excluded from the process of EU policy formulation prior to accession. In addition, their leeway for the implementation of the *acquis* was very small and the process of compliance monitoring by the Commission very strict. Thus, it is realistic to assume that top-down effects concerning regulatory reform did play a role in the applicant countries and that they were much stronger than in the old member countries (cf. Jacoby 2001).

Although it may be inappropriate to speak of imposition of EU law in case of the old member states, the applicant countries nevertheless experienced significant pressure on their infrastructure regimes from the side of the EU. First, liberalization is a prominent cornerstone of European policy making with the goal of attaining full competition in national and cross-national markets. Second, the establishment of NRAs is actively demanded by Secondary law, at least in electricity. However, the third regime dimension, privatization, is explicitly exempted from the competencies of the EU in the Treaty. Europeanization might nevertheless exert indirect pressure on the member states to privatize state-owned infrastructure companies through the formulation and the enforcement of rules on state aids and mergers.

Imposition of the Acquis Communautaire

As one form of vertical policy transference, imposition may be able to explain *why* and *when* Hungary and Slovenia began to reform their infrastructure sectors. In course of the enlargement negotiations both countries were required to do so within a certain time frame after the opening of the chapters in order to meet the accession criteria. In some instances, the European Commission even demanded institutional solutions from the CEECs which did not even exist in the old member states prior to enlargement. Hungary and Slovenia belonged to the group of applicant countries which was the first to start concrete accession negotiations in March 1998 (Luxembourg group). With both countries, the telecoms chapter was opened in November 1998 and the energy chapter exactly one year later. The telecoms chapter was provisionally closed in June 1999 with Slovenia and in May 2000 with Hungary. The energy chapter was provisionally closed in November 2000 with Hungary and in May 2001 with Slovenia.

Table 7.2 Timing of Regulatory Reform in Hungary and Slovenia

	Telecommunications				**Electricity**			
	Chapter Open	Priv.	Lib.	Rereg.	Chapter Open	Priv.	Lib.	Rereg.
Hungary	10/98	1993	2001	1993	11/99	1995	2003	1994
Slovenia	10/98	1998	2001	2001	11/99	-	2001	2001

Source: Infrastructure Data Set (2004)

Table 7.2 summarizes the central dates of regulatory reform events in the two countries. It reveals several interesting findings. First, privatization seems indeed *not* to be connected to direct enlargement pressures: Hungary privatized *Matáv* and several *MVM* companies already in the early and mid-1990s. The Slovenian government privatized *Telekom Slovenije* in 1998, but *before* the telecoms chapter was officially opened in November of that year. It has, however, not sold any shares of *Elektro Slovenija* even after

the electricity chapter had been closed. Second, in both sectors and countries liberalization has achieved a remarkable level. Obviously, the requirement to take over the *acquis* has pushed both countries to substantially open their markets. And finally, we also find a relationship between the *acquis* and reregulation: although in Hungary the decision to establish NRAs in 1993 and 1994 had been taken independently from supranational pressure, reforms thereafter were actively demanded and supported by the OECD and especially the EU. In Slovenia, NRA establishment was hampered by difficult and long-lasting Parliamentary procedures for both, the Telecommunications and the Electricity Act, and finally was the result of strong pressure exerted by the EU.

To initiate first steps of regulatory reform, *Hungary* did not need active pressure from the supranational level. As early as 1989, the Hungarian government separated operator and regulator in the telecommunications sector, and in 1992 the first reform-oriented Telecommunications Law was passed.[238] The national incumbent, *Matáv*, retained a monopoly right for international connections until 2002, as well as a guarantee of universal service and regional monopolies for local calls. However, active top-down pressure from the supranational level has speeded up regulatory changes in Hungary. And also the strong incumbent, *Matáv*, could not block the liberalization of the telecommunications market because external requirements set by the EU were too strong (European Commission 2003b). In October 1997, Hungary joined the WTO agreement on the liberalization of telecommunications services, thereby facilitating access to its markets but maintaining the above-mentioned monopoly in fixed-voice telephony until 31 December 2001.

Pressure was also exerted on Hungarian *MVM* to liberalize electricity supply, not so much generation. The major argument for the Hungarian Energy Law of 1999 was conformity with EU provisions, mainly in the areas of liberalization and discrimination between private and industrial consumer. As Attila Chikán, then Minister of Economic Affairs in Hungary, argued, the law provided the basis for an alignment with the *acquis*. This alignment was furthered in December 2001 with the passing of a new Electricity Act.

[238] This law, however, was based more on rhetoric-tactical considerations in order to meet the wishes of the people than on concrete reform objectives.

The latter became necessary because the EU pointed to problems of fully integrating Hungary into the internal energy market of the Union, based, among others, on a weak NRA. Consequently, the new law fulfilled the requirements set by Directive 2003/54/EC and introduced regulated third-party access and strengthened the organizational and functional independence of the sector regulator *MEH*.

Throughout the 1990s, the Hungarian electricity sector was characterized by separate systems of price regulation, one for industrial and one for private consumers, based on two different regulatory regimes. The Orbán government, which took office in 1998, did not plan to improve the system for private consumers and wanted to open the market only for customers with an annual consumption of more than 100 GWh; one year later this threshold should have been lowered to 40 GWh.[239] In general, until 1998 all governments made a deliberate decision against competition and in favour of rapid modernization of the sector, financed by foreign capital. However, pressure came from the EU through the new regulatory framework of Directive 2003/54/EC, so that eventually the Orbán government made a binding commitment to market opening according to the provisions of the Directive.

In *Slovenia*, one of the smallest countries in the EU, supranational pressure might have been easier to exert due to the country's higher dependence on foreign cooperation.[240] Generally, market reform in telecommunications was subject to constant pressure by the EU. The latter demanded the CEECs to open their markets by the end of 2002. As the Slovenian Telecommunications Act of 1997 foresaw the commitment to remove all special and exclusive rights in the sector by 1 January 2001, the EU forcefully pointed to the necessity to establish a NRA before market opening. Based on this EU pressure, Slovenia adopted a new Telecommunications Act in May 2001 which, among others, established the *Telecommunications, Broadcasting and Postal Agency of the Republic of Slovenia (ATRP)*

[239] At that time, all new investment contracts with foreign companies included a clause according to which 15 per cent of the market would be opened by 2001.

[240] Slovenia became member of the ITU on 16 June 1992, of CEPT on 17 February 1993, and of the WTO on 30 July 1995.

by July 2001.[241] However, despite EU pressure reform progress in the Slovenian telecommunications sector was lagging behind that of Hungary, mostly because of problems with operators possessing SMP and the ineffectiveness of *ATRP*.

As regards the electricity sector, by 2003 Slovenia showed a good level of alignment with the *acquis*. However, this was also easier than in telecommunications as the progress of electricity reform was rather modest among the EU-15 as well. For instance, by 2003 the CEECs were not yet required to fully open their electricity markets to competition, but rather to allow the free choice of supply for certain groups of consumers, i.e. industrial consumers with more than 9 GWh per year. Legal basis for this was the Energy Act of September 1999 which foresaw market-opening for all domestic customers with an annual consumption of more than 40 kWh and introduced regulated third-party access.[242] However, also in the Slovenian electricity sector, top-down pressure by the EU was quite obvious: bilateral pressure was put on Austria to 'Europeanize' Slovenia. On the surface, this only concerned safety matters surrounding the nuclear power plant in Krsko. But, it actually had a deeper impact and spilled over also into questions regarding market-opening and reregulation (Sabic 2002: 108-110).

The pressures on the applicant countries to establish sector-specific regulatory regimes according to the provisions of the *acquis* were flanked by the requirement to harmonize national competition rules with EU law. The significance of functioning competition was already emphasized in the White Paper on the preparation of the CEECs for accession: "[c]ompetition policy is fundamental to the establishment of the internal market. Without the institution of a system ensuring that competition in the common market is not distorted […], the internal market would be unworkable (European Commission 1995: point 2.27). In case of Hungary, the Europe Agreements constituted the basis for the harmonization of national competition rules with EU provisions. Central

[241] The Telecommunications Act of 2001 defined in detail the rules of operating in the liberalized markets and provides for their implementation (Republic of Slovenia 2001). It further foresaw a transition period for market opening in the areas of leased lines, local loop, number portability and cost-based accounting mechanisms for operators with SMP until July 2002.

[242] The fact that the Slovenian government opted for regulated third-party access in spring 1999 came as a surprise since the first draft of the Energy Law had envisaged the single buyer model (Filippini, Hrovatin and Zoric 2002).

aspects of the agreement referred to barriers to competition, abuse of a dominant position, public undertakings and state aids (Articles 81, 82, 86 and 87 ECT).[243] As a consequence, Hungary was severely limited in its choice of new regulatory instruments.

Domestic Preference Change

At first glance, one might assume that the second form of vertical policy transference, persuasion, did not play any role as regards regulatory reform in the CEECs. It could be argued that the applicant countries had no possibility to participate in processes of policy formulation and that therefore preference change could not plausibly originate from negotiation processes at the supranational level. However, indirect mechanisms of policy transference did play a role. For instance, two years before official accession negotiations started, Hungary became member of the OECD. This membership had a strong impact on Hungary, especially as regards the competition principle. As Kovács (1997: 114) states, "[p]erhaps, without these incentives the Hungarian situation would be much worse from the competition aspect". In Slovenia, in contrast, the catalyzing effect of OECD membership was non-existent, simply because the country is not yet member of the organization.

After coming to power, the new Orbán government decided not to privatize the remainder of *MVM* and to let it continue its operations under vertical integration.[244] The idea was to create a national champion that would be competitive internationally. The NCA was against this decision, because of the risks associated with an obsolete industry concept. Eventually, however, the government changed its perspective and Hungary also adopted the new leitmotif of regulatory policy-making that emerged in Western Europe in

[243] There existed different opinions on the question whether Hungary should harmonize its national competition law with EU rules rapidly or slowly. In 1998, the Hungarian Constitutional Court ruled that harmonization has not to occur earlier than Hungary's *de facto* accession to the Union. The main argument was that Hungary was not involved in the formulation of the then existing rules on competition.

[244] The consequence from the decision not to build any new power plants in the country was the dependence of the country on electricity imports from the West. Hence, the government wanted to retain a monopoly of electricity import because this would lead to single-buyer price advantages.

the 1990s.[245] The transformation of the old leitmotif of 'national champions', inspired by an industry-policy motivation, to a competition-oriented regulatory philosophy found its expression in the formulation of preferences that largely reflected EU goals. Thus, the EU-level with its informal and formal norms provided a framework in which strategies became viable and that a priori ruled out other options (cf. March and Olsen 1998).

In case of Hungary, the EU did indeed serve as a 'meta-plan' for regulatory reform. This can be seen from the fact that regulatory policy making at the EU-level was emulated by the Hungarian government. As a result, similar to the EU-level, regulatory reform in Hungary brought considerable liberalization outcomes in the telecommunications and electricity sectors, whereas the liberalization level in the transport sector was rather low. And international organizations such as the OECD, the World Bank or the IMF functioned as a additional normative guide for the implementation of the competition principle (Dieringer 2001a). Since May 1997, Hungary has been member of the International Energy Agency (IEA), a sub-organization of the OECD, and since May 1996, member of the Nuclear Energy Agency (NEA). Membership in these organizations did not only further international cooperation but also the harmonization of national regulatory goals and practices. In addition to a change of preferences and strategic goals, the supranational level also served to legitimize difficult policy decisions by pointing to the reform agenda of the EU or the above-mentioned international organizations.

An important aspect for the acceptance of new policy ideas and preference change in the applicant states were the deeply-rooted *belief* of policy-makers that their country always belonged to a larger Europe (Schimmelfennig 2003: 171-172). Especially Slovenia defined its past over a certain nearness to the EU-15. In times of the Yugoslav regime, many Slovenian companies already had direct contacts to their customers in Austria, Germany or Italy, and therefore the acceptance of goals postulated by institutions at the

[245] In many instances, it is difficult to distinguish between mechanisms of top-down preference change and horizontal policy diffusion, i.e. emulation. Since the EU behaves as an unified actor vis-à-vis Hungary by demanding regulatory reforms on the basis of the *acquis* on all levels, we can regard this form of policy transference indeed as a top-down process. However, as discussed below, horizontal policy diffusion from single EU countries to Hungary did also take place, i.e. the emulation of British or German NRA structures and functions.

EU-level was less problematic than in other countries, i.e. Bulgaria or Romania. These distinct beliefs in a common European history had a significant influence on institutional arrangements at the sectoral level, i.e. the establishment of the Communications Authority in Hungary, and supported the diffusion process in which both countries borrowed structural and functional characteristics from Western NRAs.

7.1.2. Policy Diffusion From Western Countries

If we want to analyze the role of horizontal policy diffusion in the regulatory reform processes of the CEECs, we are automatically confronted with the question if policy-makers borrowed ideas from the West through copying or learning. It is not unlikely that differences in the affinity of governments towards policy concepts of third countries and in the adaptability of domestic configurations to implement these foreign concepts caused differences in reform outcomes in Hungary and Slovenia. We observe one clear pattern across several applicant countries: at the beginning of the transition process, CEECs simply copied regulatory systems of North-American and West European countries (Cox 1993; Przeworski 1991). This, however, gradually changed in the mid-1990s, and many CEEC-10 enacted regulatory reforms according to EU-level provisions, many already in anticipation of their upcoming EU accession.

For the governments in the applicant countries this strategy shift brought two major advantages. First, policy-makers understood that in course of the accession negotiations the adoption of EU Secondary law would anyway be required from the CEECs. The Hungarian government under Prime Minister Gyula Horn (MSZP), for instance, anticipated the positive effects of fast regulatory adaptation prior to the opening of the official accession negotiations. Horn argued that early adoption of the *acquis* meant that in course of the negotiations only slight derogations would be demanded from Hungary. In his 1998 election campaign, future Prime Minister Victor Orbán (FIDESZ) opposed this view and claimed that more exemptions and derogations would be necessary in the interest of the Hungarian economy. Although Orbán won the elections, his position did not materialize in the end (Dieringer 2001a).

The second reason why policy-makers in the CEEC-10 found it appealing to copy provisions of EU Secondary law prior to the start of official accession negotiations was the fact that there existed no own concepts that could meet the criteria of good regulatory governance. As such, the decision to take-over European rules proved as the easier and qualitatively better way than to develop own ideas, i.e. by universities or think tanks. In addition, most CEECs did not have the possibility to take recourse on own regulatory traditions that had existed prior to Socialist rule. In other words, a regulatory leitmotif was missing. In 40 years of Socialism, the CEECs had missed major economic and technical developments and suddenly became the possibility to implement state-of-the-art regulatory provisions to make their economies competitive internationally.

One mechanism of policy diffusion is emulation. We recall that emulation "entails adoption of policy ideas without such understanding" (May 1992: 333). The central problem for the early reformers among the CEECs was, however, which system to emulate. At the time the first freely-elected government in Hungary, headed by Prime Minister József Antall (MDF), was willing to initiate reforms, blueprints for the regulation of network industries were almost non-existent in Western Europe. Viable blueprints existed only in the United States and the United Kingdom for the electricity sector and in Germany for the telecommunications sector (Dieringer 2001a). In the early days of reform, Hungary thus followed a British-style reform model in close cooperation with Anglo-American consultants in the electricity sector. But, after protest from the management of *MVMT*, the former monopolist, the government decided to maintain the quasi-monopolistic structures and to place the priority on private foreign investment.

In case of Hungary, *social emulation* was the predominant form of horizontal policy transference from foreign countries in the early 1990s. This was expressed, for instance, in the emulation of the German and Austrian social security systems based on historical ties between Hungary and Austria and the appealing character of German corporatism. While Austria was a 'natural' peer for Hungarian policy-makers due to the countries common history, Germany's tripartite system possessed appeal because of its appeasing character and relatively positive results in the late 1960s and 1970s. But also in other policy fields, Austria, Finland and Germany were in the focus of Hungarian policy-makers as regards

policy imitation based on socio-cultural ties, i.e. central banks or monetary policy (Cox 1993: 356-359).

In course of reform, however, Hungarian policy-makers gave up the mere imitation of foreign regulatory models which they thought to be viable also in Hungary and so *learning* became the dominant mechanism of policy diffusion. Generally, we can speak of learning if a government adopts a new policy on the basis of "a rational revision of beliefs about the effects of [that policy] in the light of the experience of countries that had adopted that policy" (Meseguer 2004: 300). In other words, information about policy outcomes that becomes available to a government can change its belief and preference structure. In the difficult process of regulatory reform in the CEECs, learning became a viable option in an environment of general economic restructuring. Due to a lack of experience, CEEC governments were actively looking for new economic concepts in Western countries, because the latter offered a free learning source as to which policies work and which do not.

In Hungary, policy learning occurred mainly from the United States and the United Kingdom in the electricity sector, and from the German and other continental European systems in the telecommunications sector. However, the policy-makers' major orientation was not at the regulatory model itself but rather at the performance of these models and thus concrete policy outputs. In the energy sector, the Horn and Orbán governments decided to wait and see how different models in different countries perform. This sectoral learning process was fostered by other conditions such as the domestic constitutional framework, requirements of EU integration or standards set by supranational organizations, i.e. the World Bank or the IMF. In addition, both Horn and Orbán evaluated thoroughly how the proponents of the policies they copied fared at the polls and elections: in the United Kingdom as well as in Germany, after initial resistance, regulatory reform was perceived positively by the public.

Recently, policy learning in the Hungarian telecommunications sector was furthered by several bilateral contacts between national and foreign experts. This includes, for instance, the horizontal cooperation of *NCAH* with the Austrian authority *RTR*. In 2004,

NCAH officials visited the *FCC* in the United States and initiated a co-operation; that same year they signed a memorandum of understanding with the Portugal regulator *ANACOM*. In addition, there exists a working relationship with the Finnish authority *FICORA*. An interesting case of 'intra-Hungarian policy learning' can be observed in the electricity sector: the organizational structure of the sector regulator *MEH* is oriented at that of the NCA which gained high reputation in course of the general transition process. *MEH* in turn was used as the blueprint for *NCAH* that was created in 2004.

As mentioned above, the relative openness of Yugoslavia towards Western Europe allowed Slovenian companies direct contact with their customers also before 1989. This created the possibility for Slovenian decision-makers to understand the social and economic traditions of their Western neighbours. Hence, as one of the very few countries of Central and Eastern Europe, Slovenia had the chance to learn about the functioning of a market economy. This is one of the reasons why in Slovenia regulatory reform did not set in from one day to the other, but proceeded gradually and smoothly. Policy learning was furthered by the interest of foreign investors in the Slovenian economy. Especially the Austrian government, headed by Chancellor Wolfgang Schüssel since February 2000, showed explicit interest in the Slovenian electricity market. Its primary motivation was to gain market shares through investments, mainly in the field of hydroelectric power generation.

So far, *competitive emulation* seems to have played almost no role in the regulatory reform processes of the two CEECs.[246] As outlined above, almost all cases of emulation by Hungarian or Slovenian governments are instances of policy imitation from peer countries or countries with which they share certain cultural or social ties. The reason might be that the transition countries did not perceive their Western neighbours to be competitors, at least not at the beginning of the reform process, due to the obvious backwardness of their own economies. Today, however, economic competition between the EU-15 and the CEEC-10 is existent in several markets. Especially the Antall and Horn governments had

[246] We speak of 'competitive emulation' when a new policy in country A creates an advantage that forces its *competitors* to also adopt this policy in order not to suffer any economic loss. In other words, the incentive structure of a country changes due to the positive effects of a new policy in a competitor country (Simmons and Elkins 2004: 173).

to experience that the blind copying of foreign reform models can lead to suboptimal outcomes because these models are usually not adapted to specific domestic conditions. As a consequence, the successor governments under Orbán (1998-2002) and Medgyessy (since 2002) shifted their strategy from mere copying to policy learning.

At this point, one could argue, however, that several CEECs regarded each other as major competitors in their search for direct investment by Western companies. As a consequence, it is not unlikely that laggards among the applicant countries emulated their more progressive Central and Eastern European neighbours in a 'race for Europe'. However, in the concrete cases of Hungary and Slovenia we find no evidence that either one of the countries has emulated reform policies of a third country from Central and Eastern Europe in course of mutual economic competition. The reason for this might be the deeply rooted belief in both countries that they always belonged to Europe, so that orientation as regards economic reform was exclusively directed towards the developed EU-15 countries.

7.1.3. What Does It Explain?

In sum, theories of top-down policy transference seem to hold some explanatory power as regards the timing of regulatory reform. Hungary and Slovenia started liberalization around the same date because they were forced to do so in course of the enlargement negotiations. This development was catalyzed by membership in other supranational organizations to which both countries acceded in the 1990s. In case of Slovenia, the creation of NRAs in the telecommunications and electricity sector can directly be related to pressures exerted by the Commission which was explicitly expressed in the yearly progress reports. In Hungary, it was the enforcement of the *acquis* but even more so the subtle mechanisms of domestic preference change that contributed to NRA-reform; the latter eventually led to a significant increase in regulatory powers and independence of *NCAH* and *MEH*.

However, neither policy imposition nor domestic preference change can explain why Hungary started to privatize much earlier in both sectors than Slovenia, and why Hungary

had already established NRAs long before the accession negotiations started. What is more, by analyzing vertical pressures we can not understand why Hungary has proceeded substantially further than Slovenia as regards the scope of reforms. For instance, although both countries began to liberalize their telecommunications sector in 2001, Hungary managed to almost completely open its market by the end of 2003, while at that time Slovenia was still light years away from full competition. These outcomes should surprise us as the EU exerted similar pressure on both countries in course of the enlargement negotiations.

Like mechanisms of vertical policy transference, theories of policy diffusion can explain why and when a government opted for reform. We saw, for instance, that Hungary and Slovenia copied Western NRA models because of a certain cultural or historical affinity to these countries. The same applies to the learning of CEECs from experiences of EU-15 countries. But also diffusion theory cannot explain the differences between Hungary and Slovenia as regards the timing and scope of reform, especially along the privatization and reregulation dimension. There are various possible reasons for the fact that diffusion processes are not able to explain more powerfully cross-country policy dissimilarity.

The first reason is that the same diffusion mechanisms do not need to have the same effect in all CEECs. For instance, not all countries are equally keen to engage in learning, equally reactive to competitive pressures, or equally sensitive to emulative pressures. Thus, emulation or learning might have led to significantly different intensities and results across the CEECs. Secondly, some mechanisms are more relevant in early stages of diffusion, while others become more relevant in later stages. Learning, for instance, is supposedly more relevant in later stages of the reform process, when more information about the effects of a policy are available and these information can better be judged. This can be seen, for instance, in case of telecommunications liberalization in Hungary.

These questions inevitably take us to the discussion about the impact of domestic variables. From previous work on regulatory reform in Western Europe, we can assume that domestic variables exerted a strong influence on the national adoption of EU-imposed

or internationally diffused policies. The results of the studies by Swank (2004) on tax policy, Lee and Strang (2004) on public sector employment and Kogut and McPherson (2004) on privatization reveal that party differences retain some power to explain the choices of policies in which not a clear trend towards convergence occurred or in which convergence is only happening after substantive delays. In other words, the impact of partisan politics seems to be negatively correlated with the speed of diffusion.

We can conclude at this point that while approaches of vertical policy transference as well as concepts of horizontal diffusion reveal much of the determinants that cause infrastructure reform, they are obviously unable to explain differences as regards pace and scope of the reform process. Although this finding does not stand in direct contrast to recent empirical studies which emphasize the role of international mechanisms of coercion and diffusion in the reform of infrastructures (cf. Henisz, Zelner and Guillen 2004), it nevertheless points to the problems associated with macro-quantitative data analysis in this context. We are therefore left with the conclusion that one needs to consider other variables, i.e. domestic categories, which might be able to explain more precisely the divergence of policy outcomes between the two countries.

7.2. Domestic Categories of Reform

Domestic variables tell us how new policy ideas or concepts that diffused from other countries are accepted and implemented nationally. New ideas and concepts could be rejected due to a misfit with national structures and dominant belief systems but could also be accepted despite the misfit with them. The latter, however, might cause severe adaptation problems. Consider the following example: a government copies the privatization policy of another government because the latter was successful with this policy.[247] If the emulating country is not ready for processing a new and liberal policy because of the absence of elementary institutions, i.e. a functioning NRA or court system,

[247] In this context, 'success' does not need to refer to concrete policy outcomes, i.e. an improved economic performance, but can also be reflected in the public opinion, expressed i.e. through positive polls or election results.

the success of the privatization policies will hardly be replicable. Domestic categories further tell us how top-down pressure is mediated nationally. For instance, if a political system is characterized by strong veto players, a government might be able to transpose EU liberalization requirements only with considerable delay.

The constraining impact of institutions and actors is catalyzed by the fact that top-down forces are sometimes weakened by the characteristics of the supranational norms themselves.[248] EU Directives, for instance, need to be implemented and transposed into national law. Hence, in course of Eastern enlargement, regulatory provisions inherent in the *acquis* left a certain level of discretion with the applicant countries. This creates room for variation and might explain why some CEECs have opted for rapid and encompassing liberalization and reregulation, while others have been more hesitant in their reform approach. A similar logic applies to globalization pressures, if we consider that certain countries are more deeply integrated in the world economy than others: for them, international competitiveness and thus the need for reform is considerably higher than for less integrated economies.

7.2.1. The Institutional Environment for Reform

Based on national traditions and political and economic legacies, different national systems have emerged in the CEEC-10 after the breakdown of the Socialist regimes (see chapter 5). Among these domestic institutions are the political-administrative, the regulatory and the judicial system. A similar role applies to economic institutions, i.e. the banking system. The assumption is that differences in these institutions shape patterns of regulatory reform and can therefore help to explain variation in policy outcomes. While exogenous top-down or diffusion pressures might push countries on a similar reform path, national institutions mediate the effects of these pressures. Hence, in certain political systems reform policies are harder to realize than in others. Various actors might possess the power to veto decisions because of their constitutional role in the decision-making

[248] It is important to note at this point that domestic institutions do not only constrain but can also *enable* or *speed up* national reform processes.

process. If, for instance, the privatization of public enterprises demands a two-third majority in the Parliament, the opposition might usually be able to block any decision of the government to realize state involvement in the economy.

Political System and Veto Player

The analysis of the characteristics of the political systems reveals important differences between Hungary and Slovenia. Taking their impact on the implementation of reform policies into consideration, they might indeed be able to explain some of the observable regime dissimilarities. A first reason for the slow reform activity in infrastructures has to do with the fact that the prime task in Slovenia at the beginning of the 1990s was the establishment of a fully sovereign state. All efforts concentrated on basic *state-building measures* such as the introduction of an own currency, the establishment of a central bank, customs and tax authorities, the creation of a world-wide diplomatic network and the signing of foreign contracts and agreements. Slovenia had never been an independent nation at any time in history and so the task to transform it from a regional to a national economy became the reality of Slovenian politics (Mrak, Stanovnik and Stiblar 2004: 1-3).

The second reason for the lagging behind of Slovenia in the reform process was the *slow pace in the legislative process* until 2003. For a law to be adopted, three readings were necessary in Parliament. In Hungary, in contrast, parliamentary committees take over most of the technical work in course of the law-making procedure. A first effort by the government in November 1998 to reform this procedure was not approved by Parliament. However, the structure of committees and commissions was changed after the elections in 2000 in order to improve efficiency of Parliamentary work. Finally, in July 2002 the adoption of new Standing Orders aimed at simplifying and speeding up the legislative process (European Commission 2002b: 20). This enhanced the role of the committees by considering amendments and resolving all unclear issues before the second reading.[249]

[249] In the past, laws transposing EU provisions had always been given priority in form of an accelerated procedure in Parliament. However, the newly adopted laws often needed amendment soon afterwards. This,

Adding to these structural and procedural problems were the provisions set by the constitutional framework. The Slovenian constitution does not only foresee the proportional distribution of seats in Parliament, but at the same time sets rather low requirements on the percentage of votes a party has to win for representation in Parliament. The results of these constitutional provisions were multi-party coalition governments characterized by a generally slow pace of action. The latter was even furthered by the Slovenian tradition of consensus building. In combination with the above-mentioned problems in improving the necessary procedures, the fact that governments often had to turn away from positions already decided upon led to generally slow reform activity (Bertelsmann Stiftung 2003b: 14).

A third and final important difference between the government system in Hungary and in Slovenia is the *multitude of actors* that are involved in infrastructure regulation. In Slovenia, several different ministries and agencies are in charge of telecommunications regulation: the Ministry of Transport and Communications is generally responsible for legislation in the sector, the Ministry of Economic Relations and Development proposes tariffs for fixed-voice and mobile-voice telephony, while the Ministry of Finance finally decides about them. The latter also supervises the Competition Protection Office which has played a minor role in competition protection in the telecommunications market so far, although it has received several initiatives to investigate the abuse of a dominant or monopoly position. Finally, the Broadcasting Council deals with broadcasting issues. This plurality of actors would probably not have been problematic if at the same time an efficient coordinating body had existed.

Being aware of the shortcomings of a system characterized by different actors with individual competencies, the Drnovšek government tried to consolidate this complex regulatory structure by creating two central players: the *Ministry of Information Society*, established in January 2001, and the *ATRP*, established in July 2001 as the responsible sector authority. That same year, responsibility for the energy sector was transferred from the Ministry of Economy to the Ministry of Environment and Spatial Planning. While the

in sum, led to delays in the overall law-making process. These problems were accompanied by instabilities within the coalition governments which furthered slowed down decision-making.

latter continued to expand its role as a central regulatory actor, the Ministry of Information Society was abolished in 2004 according to the Novels of Government of the Republic of Slovenia Act and the Public Administration Act (Republic of Slovenia 2004). In sum, however, the large number of actors made a stringent reform policy more difficult.

Although Hungary disposes of a horizontally and vertically integrated system of infrastructures regulation, the governance structure is in general *less fragmented* than in Slovenia or the other CEECs (Hesse 1993: 20).[250] This facilitated reforms and their implementation. In Hungary, the regulation of the telecommunications sector has been exercised by two institutions: the *Ministry for Transport, Communications and Water Management* (MTCW) was responsible until June 2000, when a Government Commissioner for Information Technology in the *Prime Minister's Office* took over this responsibility for two years. This shift worked rather well and helped Hungary maintain its leading role among the CEECs in the area of information society. After the elections in April 2002, the *Ministry for Information Technology and Communications* (MITC) was created and equipped with all major regulatory competencies.

However, on several issues, i.e. privatization, the MTCW and later the MITC had to coordinate with the *Ministry of Economy*. The latter was established in 1998 by the Orbán government and today holds a strong position in the regulation of network infrastructures.[251] Especially the Ministry of Economy regarded competition as an elementary prerequisite for economic success and therefore protected it firmly. In 1997, the ministry of finance stated that a rearrangement of tasks among public and private actors plus an activation of the citizens is necessary for economic success and sustainable infrastructure development. The latter mainly implied competition of supply of services, and the perception that the state shall concentrate on network development and ensure universal service provision (Dieringer 2001a).

[250] Before 1989, there existed a certain fragmentation of economic governance structures in Hungary. At that time, ministries were typically organized along the central economic and industrial sectors.

[251] After the elections of April 2002, the Ministry of Economy was reorganized to form the Ministry of Economic Affairs and Transport. Until today, it has also been responsible for energy policy and all issues surrounding FDI.

Traditionally, the *Ministry of Finance* held this strong position but under György Matolcsy (FIDESZ), Minister of Economy since January 2000, power has continuously shifted towards the economics ministry. Within the finance ministry, the department for enterprise and regulation decided about regulation in network industries in all instances in which the budget is concerned. Throughout the 1990s, it criticized the sale of shares in *Matáv* and *MVM*. In addition, it did not want competition to become effective because of the fear that the revenue of the former state-owned monopolists will be smaller under competition than under monopoly pricing. This, in turn, would affect the national budget negatively (cf. Welfens 1999).

In sum, the *institutional environment* for radical reform in infrastructures was much *more favourable in Hungary than in Slovenia*. Although in the latter the opposition acts exclusively within the boundaries of Parliament due to the absence of a second chamber, the reform process was slowed down significantly because of procedural insufficiencies and the general consensus orientation of the Slovenian political system (Bertelsmann Stiftung 2003b). In Hungary, an inter-ministerial committee consisting of the Minister for Foreign Affairs and several other ministries actively furthered the harmonization of national law with EU policies. And also the Prime Minister's Office, which was established already in 1990, holds a strong position since the reforms initiated by the Orbán government. Its major task has been the central coordination of sectoral policies, often on the cost of the independence of other ministries. As such, it exerted direct influence on the privatization authority *ÁPV Rt*, which was charged with the material privatization of all network industries.

7.2.2. Actors in the Reform Process

A similar logic applies to the influence of political and societal actors, i.e. parties or interest groups. Depending on their position and role in the decision-making process, the chances for new policies to be implemented are either lower or higher. It might for instance be the case that the ruling parties are strictly opposing reform programmes due to the incompatibility of these policies with their ideology or belief system. In this case, it will

definitely be more difficult for exogenous policy ideas to be perceived positively and thus to be realized. What is more, different relations between interest groups and the executive can bring about different national traditions, which in turn impact on the state's capacity to reform (cf. Hall and Soskice 2001; Schmidt 2002b). A prominent example would be the tripartite systems of Austrian or German corporatism, which are said to be stabilizing elements but which can at the same time also slow down reform activity.

Civil Society and Public Attitude Towards Reform

A major difference between the two countries is the way regulatory reform in infrastructures progressed over time: while in Slovenia reforms occurred in form of a steady and gradual process with hardly any radical breaks, reforms in Hungary can be divided into different phases with significantly varying intensities. Responsible for these dissimilar developments are among other factors differences in the public's general attitude towards political and economic reforms. These differences in attitude, in turn, have caused differences in the role and positions of political parties in the two countries. Therefore, before we analyze and compare the characteristics of the Hungarian and Slovenian party system, the focus shall be put on the general public receptiveness for economic reform.

In the 1990s, Slovenia demonstrated the smoothest political, economic and social transition of all CEECs (World Trade Organization 2002). One of the major reasons for this development was the gradualist reform approach based on a *consensus-oriented public*. Slovenia always stood in a tradition of collaboration and conflict resolution across ideological boundaries. This was especially helpful for the prime task after 1992: the building of a new and sovereign state. The fact that Slovenia's manufacturing base was very much diversified made technology transfer possible and the economy internationally competitive. This allowed the government to take a step by step approach to economic restructuring and to start with economic stabilization instead of facing various reforms at the same time.

The tradition of consensus-building among the various societal groups before major collective decisions are taken is rooted in the political culture inherited from Yugoslav

federalism and the system of self-management (Bertelsmann Stiftung 2003b: 14).[252] The general public, characterized by a high level of education and a strong civil society, is deeply against radical reforms. In the past, the social and political establishment did not see the need for radical reforms because Slovenia showed a relatively high level of economic development compared to other countries in the region. For instance, gradual political and social change has already begun in the 1980s and persisted throughout the 1990s. However, after twelve years of relatively gradual transition under the Drnovšek government, the public is slowly developing the desire for growth and change.

First and foremost, the gradualist reform approach ensured consensus among the major stakeholders in the policy-making process. The latter mainly comprised the coalition government, the directors and employees of publicly owned companies, the trade unions, the privatized companies and the NGOs. An important aspect of this consensus-orientation is the fair distribution of the financial burden between governmental, semi-governmental and private actors. As such, the management of the pace of integration is very important to the political actors of the consolidated Slovenian democracy: the unwritten goal in this context is always to attain a balance of winners and losers in the medium term. In day-to-day politics, however, the setting of strategic goals, which became necessary for instance in course of Slovenia's EU application, often collided with this gradualist approach, delaying tactics and lengthy pursuit of consensus in the implementation of concrete matters (Bertelsmann Stiftung 2003b: 13).

In sum, the decision to adopt a gradualist and more cautious reform approach in network industries is closely linked to the endogenous origins of the general political and economic transition process. First, the old élites which were able to continue to steer the political and economic developments even after 1989, were very much interested in a gradual reform approach. They opposed radical reforms similar to the broad public. This was furthered by a pragmatic dealing of the public with the old-new political elite based on a positive assessment of the situation in the late 1980s and thus a relatively high acceptance of the ruling Liberal Democratic Party. Second, in the past Slovenia has always

[252] In addition, consensus finding was promoted by the current Slovenian Constitution.

demonstrated a high level of economic development compared to other CEECs, so the general attitude of Slovenians toward radical economic reform was rather cautious.

There is much evidence for the assumption that the *gradual and cautious reform approach* adopted by the Slovenian governments caused the relatively low reform levels which we are able to observe at the end of 2003. Although this applies to all three reform dimensions, the decision to hold back privatization most typically reflects the reluctance for fundamental reform. Until recently, the interests of the Hungarian civil society in the reform process, i.e. issues of quality monitoring or consumer protection, had only insufficiently been represented. One reason for this is that the party-independent public in Hungary is still very weak and that especially trade unions have lost their influence and privileged position over the last years. Many of the 60.000 NGOs, like the Hungarian civil society as a whole, have been more focused on market-based services than on actively reinforcing participatory democracy (Bertelsmann Stiftung 2003a: 6).[253]

The fact that the civil society has for a long time after 1989 only weakly been organized has encouraged the state to establish organizations that represent societal interests (Dieringer 2001a). Thus, opposition against radical reform undertakings was severely limited from the side of the general public and, as a consequence, top-down reforms became more easily possible. This lack of potential opposition by the public partly explains why reform ideas of the Antall, Horn, and especially of the Orbán government could have been realized with more ease than in other CEEC-10 countries. However, in course of the broadening of competencies of the regulatory authorities *MEH* and *NCAH* in 2001 and 2003, respectively, consumer interests began to obtain facilitated access and influence on regulatory decisions. Although this made regulatory capture more likely, it nevertheless strengthened civic interests vis-à-vis business interests, which had always possessed a rather good influence on regulatory decisions.

[253] Under Prime Minister Orbán, between 1998 and 2002, parliamentary democracy was even pushed to the side and the executive accumulated most of the power in its hands, i.e. through the nomination of FIDESZ party members for boards or advisory councils in the broadcasting, finance or even judicial sector.

The Party System

In course of the fundamental restructuring of the political system, newly founded parties as well as successor organizations of the old Socialist nomenclature began to take responsibility for the democratic policy-making process. Depending on the individual history of each country, the political reform process started from different premises (see chapter 5.1.). While some were able to take recourse on government structures and party traditions that existed before World War II, others were faced with the challenge to create a completely new political system. In contrast to Hungary, Slovenia had never existed as an independent state prior to reform but was part of the Yugoslav federation. The assumption is that variations in party systems are able to explain differences in the reform of network infrastructures.

Within twelve years of democratic rule, Hungary experienced four different Prime Ministers and governments. Since 1990, every four years the government changed and the various parties that participated in these coalition governments brought in and tried to realize their ideas in the policy-making process. So far, all major parties have participated in the coalition governments, although in different positions and constellations: from 1990 until 1994, Józef Antall, the first freely elected Prime Minister of Hungary, headed a coalition of MDF and SZDSZ. In 1994, Gyula Horn from MSZP won the elections with an absolute majority but lost in 1998 to a young candidate of FIDESZ, Viktor Orbán. Orbán, who led a coalition with MDF and FKGP, in turn lost to Peter Medgyessy of MSZP in 2002.

The picture looks significantly different in Slovenia. Since the first free elections in 1990, following Slovenia's declaration of independence from Yugoslavia, the Liberal Democratic Party of Slovenia (LDS) party of Janez Drnovšek has controlled government with various coalition partners and only brief interruptions. Between 1990 and June 2000, Drnovšek had been Prime Minster without interruption. Only between June and December 2000, Andrej Bajuk was Prime Minister, but he governed without a cabinet. Drnovšek again became Prime Minister in December 2000 in a four-party coalition together with ZLSD, SLS and DeSUS. In December 2002, he was elected President of the Republic of

Slovenia and finally handed over government responsibility to Finance Minister Anton Rop.

Throughout the 1990s, the Slovenian party system had been rather fragmented. However, despite this fragmentation, for most of the time the continuity of the government expressed the preference of the Slovenians for only gradual reform and stable political and economic conditions.[254] After 2000, the party landscape, which had never been particularly polarized, entered into a phase of consolidation. As the party landscape consolidates, certain characteristics of increasing party rule can be identified. The importance of parties is reflected in the monopoly position of the party elite, as well as in the occupation of state and quasi-state institutions by the parties. The Liberal Democrats' long-time governmental power and the consequent continuity of high-ranking personnel also contribute to this impression (Bertelsmann Stiftung 2003b: 5-6, 11).

Dominant Ideas and Ideologies

A central explanatory factor for regime diversity between Hungary and Slovenia is the reform ideology of the ruling parties in the two countries. In Slovenia, the privatization process went about rather slowly. The reason is that the LDS, which has ruled the country since 1992, blocked all major privatizations in the sectors under analysis. For instance, Prime Minister Drnovšek and other party leaders showed a general unwillingness to privatize the incumbent telecom company *Telekom Slovenije*. Their goal was to create a national champion that would be able to compete with other large international telephone companies and could thus continue as an independent operator.

In 1997, state-owned enterprises still accounted for about one third of all assets in Slovenia. These enterprises mainly comprised public utilities, banks or insurances, and due to the reluctance of the LDS to privatize, the level of state-ownership was hardly reduced

[254] However, the relatively high percentage of votes (43,5 per cent) received by the losing candidate of the Presidential elections in 2002, Barbara Brezigar, Slovenia's chief public prosecutor, was surprising. This is possibly a sign that growing segments of the public, who opposed radical reforms in the past, were slowly developing the desire for growth and change. This is particularly true among young people and in urban areas, where Brezigar received most of her support.

until 2003. For instance, partial privatization – between 25 per cent and 49 per cent of the shares – of the electricity incumbent was planned for 2002 or 2003, but the reform was stopped because of strong opposition from interest groups in the electricity sector and most parties in Parliament. The major argument that was brought forward against even a partial privatization of *Elektro Slovenija* was that the continuation of vertical integration of the company, including several power plants and a coal mine, would better enable the Slovene energy sector to compete with its (West) European rivals (CEEBICnet 2005).

The common goal that *united all parties* in Slovenia was that of EU accession. Nevertheless, most parties also shared a similar attitude towards FDI. In general, foreign investments were not very much welcomed. As several commentators observe, this reflects the selective protection towards the influence of international economic factors on the national economy. There existed a big fear of rapid re-distributional effects that could destabilize the consensus-oriented Slovenian society and political system (Kitsing 2004: 42). As a consequence of this obvious hostility towards FDI, until 2000 the annual influx of foreign direct investment was rather small and amounted only to about 1 per cent of GDP. This figure doubled in 2001 to 2.3 per cent of GDP.

Towards the late 1990s, EU accession was among the highest priorities for all Slovenian parties. The general belief that there is no alternative for Slovenia, a small and extremely open country that has already been fully integrated in the Western economy for some time, than to accede to the EU has always bridged party lines. In other words, the deeply rooted consensus-orientation of the Slovenian public also prevailed on the central objective that existed in Slovenian politics over the past decade. However, taking into account the general public attitude also the gradualist approach towards regulatory reform in network infrastructures was in line with the public interest in consensus as well as the tradition of collaboration and conflict resolution across ideological boundaries. This made changes to the status quo even more difficult.

In Hungary, the pace and scope of regulatory reform largely depended on the party orientation of the respective government. The year 1994 brought an electoral victory for the Socialists (MSZP) and the Liberals, but the MSZP was able to govern the country

without coalition partner. Interestingly, under Prime Minister Horn both industries were privatized to a significant extent: in electricity, state ownership was reduced by 56.2 per cent and in telecommunications by 63.1 per cent within these four years.[255] For instanced, in 1995 the Horn government privatized major parts of the electricity sector, i.e. the cable business, six distribution companies and two out of seven power plants.[256] The strategy was to limit *MVM* to a grid company, retaining at maximum the nuclear power plant Paks.

Horn earned much criticism from the opposition for his plans, and in combination with obstruction from within the industry his privatization goal eventually failed. In the 1998 elections, energy market liberalization and the future role of *MVM* were two of the most important issues. At that time, the incumbent, Gyula Horn (MSZP), emphasized the role of foreign investors, while the candidate, Viktor Orbán (FIDESZ), emphasized the importance of national control over the electricity sector.[257] After the victory of Orban's FIDESZ, in summer of 1999 the discussion about the privatization of MVM ended. The new Prime Minister Orbán decided that *MVM* would continue as a public company, but that all transmission operations be separated in form of an own company.

Under the Orbán government the dispute between foreign investors and the FIDESZ/FGKP coalition escalated. The major reason was that Prime Minister Orbán refused to allow energy price increases above the inflation target of 6 per cent under price cap regulation regardless of the rising cost of fuels on the world market. In 2001, Parliament blocked a revised draft law on the liberalization of the electricity market. Thus,

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[255] Considering these impressive privatization figures, it is surprising that the FIDESZ government under Viktor Orbán declared the period between 1994 and 1998 as "four years lost for reform". However, if we regard it from the ideological perspective of Orbán and the other party leaders of FIDESZ, which is characterized by a fundamental resentment against FDI and the preference of creating national (state-owned) champions, this statement becomes comprehensible.

[256] Four more power plants were sold between 1996 and 1998. The six regional power distributors could only be sold by giving state grants of about 20 Billion Dollars.

[257] As the Bertelsmann Transformation Index (2003a: 1) indicates, "[D]uring his term in office, the head of government, Viktor Orbán, divided Hungary's political elite and its citizens with his inability to compromise and cooperate and his unbridled ambition for power. He sidelined the parliament and, as part of this strategy to concentrate power, neutralized the institutional checks and balances that countered the executive branch. He served nationalist resentments and returned, at least in part, to a statist economic policy". The report further concludes "that the right-wing conservative victory in the 1998 parliamentary elections resulted in the stagnation of development and even some tendencies that were detrimental to democracy. This must be viewed as a failure in cementing democratic consolidation".

the original plan to partially liberalize the market, equalling 15 per cent of annual consumption as of January 2001 was further delayed. Under the MSZP/SZDSZ coalition after 2002 the debate on tariffs continued but the harsh confrontation between foreign investors and the Hungarian government was more or less contained.

Contrary to his previous announcements that national champions in infrastructures would serve Hungarian interests better in the long run, the Orbán government nevertheless completed most of the reform process that was started under his predecessors Antall and Horn. The Orbán government's strategic priorities lay in completing the system change that began in 1990 and that FIDESZ viewed as having been interrupted by the MSZP government between 1994 and 1998. At the same time, FIDESZ wanted to create a new social elite and establish a firm foothold for it in politics, the economy and society. During the FIDESZ administration and the election campaign, reform policy was focused entirely on EU accession. Thus, all economic and institutional reforms were measured against the aim of accession until mid-2001. In essence, Viktor Orbán carried on the Horn administration's rigorous reform policy, largely putting aside previous anti-reform statements.

Organized Interests

Beside party orientation, the role of organized interests in the CEEC-10 has to be considered for the explanation of cross-country differences in reform outcomes. And indeed, an analysis of the union landscape reveals a fundamental difference between Hungary and Slovenia: in the former, the *influence of unions* has been weak throughout the observation period while in Slovenia unionization has been rather strong. Since unions can be assumed to oppose major reform steps because of the fear that in course of privatization and liberalization employment will be reduced, this difference might further add to the explanation of the varying reform speed and scope. Strong unions can put indirect pressure on governments by opposing reforms publicly or even act as veto player, for instance in systems characterized by a tradition of tripartite conflict resolution, i.e. in Austria or Germany.

In Hungary, labour unions lost the prominent position they once held under Communist rule in course of transition. Especially striking is the extreme *fragmentation of the union landscape*. At the one end of this landscape we can find organizations that are strictly oriented at the political ideology and goals of the Socialist party MSZP, the successor party of MSZMP. Organizations located at the other end of the spectrum wanted a clear break with the past and thus decided not to continue with ideologies and positions already existent under Communist rule. As a consequence of this strong fragmentation of the union landscape and the resulting weak organization of labour interests, the system of wage bargaining was highly decentralized.

Important to note are also the cross-sectoral difference as regards unionization in Hungary: in telecommunications, for instance, there are significantly less unions than in electricity. This resembles in a way the difference in the valuation of the two sectors according to the Communist doctrine: while electricity had always been regarded as central for upholding power in the Soviet territories, the development of the telecommunications infrastructure had not actively been pursued except for military purposes (see chapter 5.3. above). What is common among them, however, is again the fragmentation of the system. In the telecommunications as well as in the electricity sector there exists a variety of peak organizations, sector organizations and company unions. In sum, this resulted in a not very stringent horizontal and vertical structure in which some unions even promoted strongly diverging political positions.

Two other factors contributed to the weak position of unions in Hungary and thus to the fact that their veto power in course of the reform process was rather small. First, the relationship between domestic societal groups has never been very controversial as regards the general transition process. There existed national consent among the most important societal groups about the goals of market-oriented transition (Dieringer 2001b: 62-63). Second, the Hungarian economy experienced continuous wage increases in boom industries like telecommunications or electricity. This economic success in the context of early privatization and liberalization measures made unions less important in the eyes of the workers. Hence, their organizational density was only low, which in turn facilitated further reform steps.

After 1989, Hungary took over basic elements of the tripartite systems of Austria and Germany by way of social emulation. A typical neo-corporatist element of the Hungarian system is the *Economic Council* (Gazdasági Tanács) which aims at the intermediation of the various interests of the state, the workers and the entrepreneurs. Similar, a characteristic sector-specific tripartite institution is for example the forum for interest mediation in communications (TÉF), which was founded by Act LXXII of 1992. Its primary goal is the definition and promotion of the public interest. The fact that the TÉF had to be established by law demonstrates impressively the weakness of the Hungarian civil society. A similar structure also exists in the electricity sector with the energy interest representation council (EET) which is controlled by *MEH*.

Although corporatist elements exist in the Hungarian system, the overall importance of tripartite negotiations has been rather small. Instead, the bilateral representation of business interests was dominant in course of the regulatory reform process. For example, the electricity suppliers associations, the *MÁE* (Magyar Áramszolgáltatási Egyesület), was actively promoting a more independent NRA, especially in the field of price regulation. Since 1994, *Stratosz* represents the former state monopolists in network infrastructures, i.e. *MVM*, *MALÉV* and *MOL*. Nevertheless, the most important influence was exerted by the former state monopolists themselves: for instance, the strategic interests of *MVM* were against rapid liberalization because of their fear that cheap electricity from the West could swap to Hungary. It thus demanded monopoly rights until the *de facto* EU accession of Hungary. *Matáv*, in contrast, favoured sector reforms, especially privatization and liberalization, and emphasized the chances associated with them.

In Slovenia, unionization has traditionally been very strong. And also after 1989, the dense *network of self-organized groups* that originated in the old Yugoslav system of self-management continued to exist. Thus, the representation of workers continued to be a significant aspect in Slovenian politics. In contrast to Hungary, the high proportion of unionized workers, which amounts to about 60 per cent of the total workforce, and the extensive rights to strike point to the continued importance of unions in Slovenia even today (Bertelsmann Stiftung 2003b). The high unionization rate and corresponding

workers rights are also an expression of the strong Slovenian civil society that aims at consensus among the different societal interests (cf. Ramet 1995).

Compared with other CEECs, the pace of civil society development in Slovenia has been one of the most dynamic, quickest and thorough in creating the "missing middle" (Agh 1996: 241). Also in Slovenia corporatism was strong. Interest groups gained importance in the 1990s through the creation of a meso-system, which acts partly *ad hoc* and in personally determined policy networks. This meso-system is already embedded in stable and institutionalized frameworks of social partnership and other forms of neo-corporatist arrangements. Agh (1996: 245) describes this phenomenon as the "Austrianization of Slovenia". As empirical research demonstrates, since 1991 the role of interest groups in the processes of policy-making in Slovenia has constantly grown (Fink-Hafner 1998: 290).

In course of the creation of a parliamentary democracy in Slovenia, the access of interest groups to the major constitutional actors, i.e. the National Assembly, the National Council or the government, was facilitated. Especially the parliament experienced considerable influence by the largest interest groups, i.e. trade unions or the Chamber of Commerce, in the 1990s. We saw above that until the adoption of new Standing Orders in July 2002, the legislative process was very slow due to the fact that three readings in Parliament were necessary for a law to pass. Since amendments were possible at all stages of the policy-making process, interest groups considered the National Assembly to be an important lobbying target and thus to be even more accessible than the executive (Fink-Hafner 1998: 291-293).

The judiciary has become a relatively important target for organized interests in Slovenia. Three reasons are responsible for this development. First, parliament has adopted an enormous number of laws in the 1990s, and in combination with the weaknesses of parliamentary procedures bills are often ill-prepared. Hence, initiatives to amend these laws, i.e. through recourse in front of the court soon after adoption, are not uncommon. Second, consultative politics has not yet won an adequate place in the process of policy formulation. Many laws do not reflect all the relevant issues in the area they regulate, and

thus interest groups bring the issues before the court. And third, whenever an interest groups has tried to modify a bill or prevent its implementation, the political elite has often not been prepared to change its position. In case the court reviews the bill, the interest group may be strengthened.

Based on the corporatist tradition of Slovenia, public companies have for a long time played an important role in policy formulation because of their direct involvement in the decision-making process. Before NRAs were established, all major decisions, i.e. prices, licences, market opening, had been taken by ministers or senior officials. The former incumbent companies in network infrastructures, in turn, were part of a distinctive policy network characterized by frequent contacts of their representatives with the ministries. Thus, large state-owned companies, like *Telekom Slovenije* or *Elektro Slovenija*, had enough opportunities to influence the reform process through these institutionalized contacts. And they also made use of these opportunities by trying and also achieving to delay privatization in the electricity and market liberalization in the telecommunications sector (Fink-Hafner 1998: 295).

7.3. Summary and Conclusion

Based on a regime definition that goes beyond the narrow perspective of existing case studies, the study focused on a combined analysis of privatization, liberalization and reregulation policies in network infrastructures. By pointing to the individual role of each of the three dimensions as well as their interconnectedness, we were able to analyze the emergence of distinct regulatory regimes at the European and at the national level. In this study, regulatory reform was perceived as the transformation of public ownership regimes of the 1960s and 1970s to new regime forms, i.e. private competition regimes. This specific form of regime change got a foothold in all member countries of the EU, revealing at the same time significant cross-national differences.

Especially the telecommunications and the electricity sector are archetypical for the privatization of state-owned companies, the opening of product and service markets and

the establishment of new regulatory institutions whose task is to ensure fair competition between the incumbent and new market entrants. The EU-15 were first confronted with regime change in the 1980s in the telecommunications sector, so that they were able to gradually become acquainted with new forms of infrastructure regulation over almost two decades. Parallel to national reform undertakings, new regulatory frameworks emerged at the EU-level: except for privatization, which is explicitly exempted from the provisions of the Treaty, Secondary law called upon the member states to liberalize and reregulate their monopolistic infrastructure businesses. The CEECs faced a completely different situation: after 40 years of Socialist rule, their national identities were largely eliminated and regulatory traditions did in many cases not exist anymore. Thus, in the early years of transition priority was put on (re-)establishing democracy and state building, and not so much on active infrastructures reform.

The empirical analysis set out to answer research questions that had been derived from the discussion of the regulation literature. Using the information provided by an Infrastructure Data Set that was exclusively compiled for this study, distinct characteristics of the reform process could be revealed: between 1980 and 2003, reforms in the EU-15 have produced comparatively similar outcomes along all three dimensions. While privatization was a little more encompassing in telecommunications, liberalization has progressed somewhat further in electricity. As regards reregulation, the EU-15 show a medium reform level in both sectors. In the CEEC-10, have progressed less intensively along all three reform dimensions of the two sectors: while the scope of privatization and liberalization is significantly more encompassing in the telecommunications sector, NRAs are in average stronger in the electricity sector.

Time series data set made it possible to analyze in some detail the *pattern of state retreat* across countries and sectors. According to the timing and scope of privatization, we can indeed ascertain an encompassing retreat of the state in both infrastructure sectors of the EU-15. Although in the past two decades the reform development in electricity was somewhat less dynamic, at the end of 2003 the level of state ownership was comparable to that in the telecommunications sector. For the CEEC-10, in contrast, it does not seem adequate to speak of a general retreat of the state. This is mainly due to the development of

state ownership in the electricity sector which stagnates at a very high level. In telecommunications, however, state retreat has occurred in a similar pace and scope as in the Western EU countries, although it set in somewhat later.

The second research question asked whether regulatory reform did indeed result in similar national regimes across the member countries of the enlarged EU or whether diversity prevailed. The analysis revealed that in both sectors *regime similarity* is higher among the EU-15 than among the CEEC-10. Hence, the outcomes of the reform process are more homogenous among the EU-15 than among the CEEC-10 countries. In other words, regulatory regimes are more diverse among the new member and applicant countries than among the old member states. This difference in regime similarity is again slightly more pronounced in the telecommunications than in the electricity sector. In addition to greater regime similarity, Western EU members also show a significantly larger scope of reform than the CEEC-10. In average, telecommunications and electricity sectors in the EU-15 more closely resemble the characteristics of private competition regimes than the respective sectors in the CEEC-10. According to these results, the general validity of the regulatory state hypothesis should be questioned.

The third research question asked for the *factors behind regime diversity* among the CEEC-10. Using the example of Hungary and Slovenia, two first-round accession countries, it became clear that neither vertical policy transference nor horizontal policy diffusion can account for the observable differences in reform outcomes. Although the logic of *Europeanization* helps us to explain why and when the two countries liberalized their markets, neither of the two sub-mechanisms – policy imposition and domestic preference change – can explain why Hungary started to privatize much earlier than Slovenia, and why Hungary had already established NRAs long before the *acquis* required it. What is more, by analyzing vertical mechanisms we can not understand why Hungary has progressed substantially further than Slovenia as regards the scope of reforms. For instance, although both countries began to liberalize their telecommunications sector in 2001, Hungary managed to almost completely open its market by the end of 2003 while at that time the Slovenian market was still largely closed.

And also *diffusion theory* cannot explain the striking differences in the timing and scope of reform, especially along the privatization and reregulation dimension. Basically, policy emulation from Western countries was highly appealing because of the need to fully take over the *acquis* and a parallel lack of own regulatory traditions. In Hungary, social emulation and later policy learning played an important role, but also Slovenia engaged in horizontal policy transference furthered by the country's early openness to the West. Hence, the example of Hungary and Slovenia demonstrates that similar diffusion mechanisms, i.e. social emulation based on common cultural ties, do not necessarily lead to similar results. The reason for this is twofold: first, the capability to implement foreign policy concepts and the propensity to learn can vary considerably across countries; and second, domestic factors, i.e. the political system, might mediate exogenous input in a way that eventually only fragments of the original policy are adopted.

In sum, the analysis of regulatory reform outcomes in the CEECs demonstrated impressively that exogenous forces alone can not determine a countries course of reform and that domestic variables do indeed matter. First, the *institutional environment* in Hungary was much more favourable for reforms than in Slovenia. In the latter, the preference was put on state building and not so much on infrastructure reform. In addition, slow parliamentary processes and a high number of actors involved in the processes of decision-making, characterized by weak or almost no coordination, posed a severe obstacle to rapid and fundamental regime change. In Hungary, in contrast, a governance structure with a low level of fragmentation and relatively strong central coordination bodies facilitated the implementation of reform measures.

A second difference was the *role of civil society*. The consensus-orientation of the Slovenian society demanded a gradual reform approach organized around the goal of finding a just balance between winners and losers of the process. In addition, in Slovenia there existed a general mentality against radical reforms, mainly because of the relatively good economic situation in the past and general agreement of the public with a continued involvement of the old elite in politics. In Hungary, in contrast, the civil society was rather weak, and especially trade unions have constantly lost influence over time. Hence, the lack of opposition from the public explains why reforms were more easily realizable. In

addition, the early establishment of NRAs allowed the general public better access to and influence on decision-makers.

A third difference between Hungary and Slovenia was the high *continuity of party rule* in the latter and the breaks in government constellations in Hungary. In Slovenia, the LDS continued as the dominant political party even after 1989 and stayed in power throughout the 1990s and beyond. Since the old elite was mainly content with the progress their country made on the way to EU membership, the ruling party did not signal any need for fundamental infrastructure reform. Again, the picture looked different in Hungary, where constantly changing majorities and shifting party constellations were characteristic of the political developments between 1990 and 2003. These changing constellations led to new reform impulses after each election when the winning parties tried to implement their political goals. In later years, this became more difficult because the realization of these goals was severely contained by imperatives of EU enlargement.

Fourth, we found that *differences in party ideology* played a role in regulatory reform. In Slovenia, the dominant belief was that protection against Western companies, especially in the electricity sector, would only be possible through vertical integration of the incumbent. There existed a general reluctance of all major parties towards FDI because of the potential danger of destabilization of the consensus-oriented Slovenian society. However, due to strong pressure from the EU, party lines became less important over time. In Hungary, reforms depended to a large degree on the colour of the government, but inversely as one might have expected: while the Socialist Horn (MSZP) privatized actively, the centre-right Prime Minister Orbán (FIDESZ) opposed major infrastructure reforms. However, in course of the enlargement negotiations the Orbán government also had to abide to the acquis, mainly in the areas of liberalization and reregulation.

Finally, strong *unionization* in Slovenia prevented major reform efforts while a weak civil society in Hungary facilitated reforms. The high fragmentation of the union landscape and the decentralization of wage bargaining in Hungary resulted in complex systems characterized by different organizations and policy positions. The relatively good economic development and the general consensus about market-oriented reforms made

unions less attractive for workers. As a consequence, the representation of business interests was dominant in the policy-making process. In sharp contrast to the Hungarian situation we found a high level of unionization and a high pace of civil society development in Slovenia. In addition, major decisions about privatization in the electricity and liberalization in the telecoms sector were blocked due to the continued influence of public corporations.

The study employed a research design that proved fruitful for answering the questions that were raised at the beginning: a combination of quantitative and qualitative analysis. While the former provided a structuration of the sectoral regime landscape in the EU-15 and CEEC-10, a systematic cross-country comparison of central domestic variables, such as actor characteristics or formal institutions, revealed the origins of regime diversity. We could once more see that exogenous forces such as Europeanization or policy diffusion are necessary but in no way sufficient elements of an explanation for regime dissimilarity in infrastructures. In sum, the evaluation confirmed the assumption that domestic factors need to be considered for an exhaustive analysis of regulatory reform also in the CEECs.

Although the CEEC-10 might have been more exposed to direct Europeanization and globalization pressures than the old member countries, exogenous mechanisms alone are not powerful enough to explain regime diversity. Similar to studies on the EU-15, investigations of differences in reform outcomes across the new and applicant countries need to entail the decision to compare thoroughly the role of domestic variables. Hence, it should be most promising if future studies continue to focus not only on the independent role of domestic variables but also on their mediating influence, especially in processes of policy imposition and diffusion. This will help us to further refine our understanding of the central factors and mechanisms behind regime change in the CEECs in course of enlargement.

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Appendix

Table A.1 NRA Coding-Scheme Telecommunications Sector

Variable	Abbreviation	Values
Country Number	CR	Countries from 1 to 25
Country Name	CN	Name of Country
Staff/1 mill. inhabitants	ST	0-19,9 = 1; 20-39,9 = 2; 40-59,9 = 3; 60-79,9 = 4, 80-99,9 = 5
Reports to	RT	M = 1; G or P = 2; G+P or M+P or other = 3; No one = 4
Overturning of Decisions	OD	Politically dependent institutions = 1; politically independent institutions = 2; Courts = 3
Approval of Budget	AB	M or G = 1; P = 2; NRA= 3
Form of Financing	FF	Appropriation = 1; Fees or Contributions = 2; Contributions and Appropriation or Fees and Appropriation = 3; Fees and Contributions = 4
Collegial Body	CB	No = 1; small (=<4) = 2; medium (=<7) = 3; large (>7) = 4
Appointment of Head	AH	M or G = 1; P = 2; P+G = 3; NRA = 4
Term of Office	TO	<4 = 1; >=4 = 2; >=6 = 3
Licensing Fees	LF	M = 1; M + NRA = 2; NRA = 3
Technical Standards	TS	M = 1; M + NRA = 2; NRA = 3
Merger Approval	MA	M or C = 1; NRA+C = 2; NRA = 3
Interconnection Charges	IC	M or OP = 1; M+NRA or OP+NRA = 2; NRA = 3
Dispute Resolution	DR	M = 1; M+NRA = 2; NRA = 3
Spectrum Allocation	SA	M = 1; M+NRA = 2; NRA = 3
Tariff Proposal	TP	M or OP = 1; M+NRA or OP+NRA = 2; NRA = 3
Tariff Approval	TA	M or OP = 1; M+NRA or OP+NRA = 2; NRA = 3
Numbering Planning	NP	M = 1; M+NRA = 2; NRA = 3
Monitoring of Service Quality	MS	M = 1; M+NRA or C+NRA = 2; NRA = 3

Notes: M = Ministry; G = Government; P = Parliament; NRA = National Regulatory Authority; C = Competition Authority; OP = Operator

Table A.2 NRA Independence Levels Telecommunications Sector

CR	CN	Organizational Characteristics								Functional Characteristics									Independence Value
		ST	RT	OD	AB	FF	CB	AH	TO	LF	TS	MA	IC	DR	SA	TP	TA	NP	MS	
1	AUT	1	3	3	3	4	3	1	2	3	3	1	3	3	1	1	3	1	3	**42**
2	BEL	1	4	3	1	2	1	1	3	1	3	1	2	3	3	1	3	3	2	**38**
3	BUL	2	3	3*	1	3	3	3	2	1	2	1	1	1	3	1	3	3	3	**36**
4	CZE	3	1	3	2	1	1	1	2	3	1	3	3	2	3	2	3	3	3	**40**
5	DEN	3	1	2	1	3	2	1	3	3	3	1	3	3	3	1	3	2	3	**41**
6	EST	5	1	3*	2	1	1	1	3	1	2	1	1	3	2	1	1	2	3	**31**
7	FIN	3	1	3	3	2	1	1	3	1	1	1	3	3	3	1	1	3	3	**37**
8	FRA	1	3	3	2	2	3	3	3	1	1	2	3	3	3	1	2	3	3	**42**
9	GER	2	3	3	2	3	1	1	2	3	3	2	3	3	2	1	3	3	3	**43**
10	GRE	1	1	3	3	2	4	3	2	1	1	1	3	3	1	1	3	1	3	**37**
11	HUN	3	2	3*	1	3	3	1	2	3	2	1	1	3	2	2	2	1	3	**35**
12	IRL	2	1	3	3	2	1	1	3	3	3	1	3	3	3	1	3	3	3	**42**
13	ITA	1	3	3	3	3	4	3	3	3	3	1	3	3	1	1	3	2	3	**46**
14	LAT	2	4	3*	3	2	2	2	2	1	1	1	2	3	2	2	3	2	3	**37**
15	LIT	2	3	3*	2	1	3	1	2	3	2	1	2	3	3	2	2	2	3	**37**
16	LUX	3	-	-	-	2	2	-	3	-	-	-	3	3	3	1	-	3	3	**26**
17	NEL	1	1	3	1	2	2	1	2	3	3	1	3	3	1	3	3	1	3	**37**
18	POL	1	1	3	2	1	1	1	2	1	3	1	3	3	3	1	2	1	1	**31**
19	POR	2	1	3	1	2	2	1	1	3	3	1	3	3	3	1	3	2	3	**38**
20	ROM	1	2	3*	1	2	1	1	2	2	3	1	2	3	1	1	3	3	3	**32**
21	SLK	2	2	3*	1	1	1	2	3	3	1	1	1	3	3	1	3	3	3	**34**
22	SLO	2	1	3*	1	1	1	1	3	1	1	1	1	2	2	1	1	1	2	**26**
23	SPA	1	1	3	2	2	4	1	2	3	3	1	3	3	1	2	2	1	1	**36**
24	SWE	2	1	3	3	2	4	1	3	3	3	1	3	3	3	1	3	3	3	**45**
25	UKM	1	1	2	1	3	1	1	2	1	2	1	3	3	3	2	1	3	3	**34**

Notes: The independence-values are the sum of the values of all organizational and functional variables; * = value estimated; a total of eight organizational (variable 'Sources of Financing' omitted) and ten functional variables.

Table A.3 NRA Structuples Telecommunications Sector

CR	CN	P-Facet	L-Facet	R-Facet	Structuple
1	AUT	4	6	4	{464}
2	BEL	3	5	3	{353}
3	BUL	1	1	3	{113}
4	CZE	3	6	4	{364}
5	DEN	6	5	4	{654}
6	EST	4	5	2	{452}
7	FIN	5	5	3	{553}
8	FRA	3	6	4	{364}
9	GER	4	4	4	{444}
10	GRE	4	5	3	{453}
11	HUN	6	5	3	{653}
12	IRL	6	6	4	{664}
13	ITA	5	6	4	{564}
14	LAT	3	5	3	{353}
15	LIT	5	6	3	{563}
16	LUX	1	5	2	{152}
17	NEL	5	4	3	{543}
18	POL	5	5	2	{552}
19	POR	6	6	3	{663}
20	ROM	4	6	2	{462}
21	SLK	4	6	3	{463}
22	SLO	3	3	2	{332}
23	SPA	6	6	3	{663}
24	SWE	4	4	4	{444}
25	UKM	6	5	3	{653}

Table A.4 NRA Coding-Scheme Electricity Sector

Variable	**Abbreviation**	**Values**
Country Number	CR	Countries from 1 to 25
Country Name	CN	Name of Country
Staff/1 mill. inhabitants	ST	0-4 = 1; 5-9 = 2; 10-14 = 3; 15-19 = 4, >= 20 = 5
Budget (in mill. €)/1 mill. inhabitants	BU	0-0,4 = 1; 0,41-0,8 = 2; 0,81-1,2 = 3; 1,21-1,6 = 4; > 1,6 = 5
Budget change vs. 2002	BC	< 0% = 1; 0% = 2; > 0% = 3; > +10% = 4; > +25% = 5
Form of Financing	FF	Appropriation = 1; Fees or Contributions = 2; Contributions and Appropriation or Fees and Appropriation = 3; Fees and Contributions = 4
Collegial Body	CB	No = 1; small (=<4) = 2; medium (=<7) = 3; large (>7) = 4
Appointment of Head	AH	M or G = 1; P = 2; P+G = 3; NRA = 4
Term of Office	TO	<4 = 1; >=4 = 2; >=6 = 3
Mode of Regulation	MR	ex post = 1; ex ante = 2
Licensing	LI	M = 1; M + NRA = 2; NRA = 3
Network Access Conditions	NA	M = 1; M + NRA = 2; NRA = 3
Technical Standards	TS	M = 1; M + NRA = 2; NRA = 3
Dispute Resolution	DR	M or C = 1; M + NRA = 2; NRA = 3
Monitoring of Service Quality	MS	M = 1; M + NRA = 2; NRA = 3

Notes: M = Ministry; G = Government; P = Parliament; NRA = National Regulatory Authority; C = Competition Authority

Table A.5 NRA Independence Levels Electricity Sector

CR	CN	Organizational Characteristics							Functional Characteristics						Indep. Value
		ST	BU	BC	FF	CB	AH	TO	MR	LI	NA	TS	DR	MS	
1	AUT	2	3	1	2	4	1	2	2	1	3	3	3	3	**30**
2	BEL	3	5	4	2	3	1	3	2	3	3	3	3	3	**38**
3	BUL	3	1	2	2	3	1	2	2	3	3	3	3	3	**31**
4	CZE	2	1	4	1	1	1	2	2	3	3	3	3	3	**29**
5	DEN	2	2	1	3	3	1	2	1	1	3	1	3	3	**26**
6	EST	2	1	1	1	1	1	1	2	3	3	3	3	3	**25**
7	FIN	1	1	4	3	1	1	1	1	3	3	1	3	1	**24**
8	FRA	1	1	4	1	3	3	3	2	3	1	3	3	3	**31**
9	GER	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
10	GRE	1	1	3	2	3	1	2	2	1	1	1	3	3	**24**
11	HUN	2	2	5	2	1	1	3	2	3	1	3	3	3	**31**
12	IRL	3	5	5	2	2	1	3	2	3	3	3	3	3	**38**
13	ITA	1	1	5	2	3	3	3	2	1	3	3	3	3	**33**
14	LAT	5	2	5	2	3	2	2	2	3	3	3	3	3	**38**
15	LIT	3	1	1	1	3	1	2	2	3	3	1	3	3	**27**
16	LUX	5	2	2	2	2	1	1	2	1	1	1	3	3	**26**
17	NEL	1	1	4	3	1	1	1	2	3	3	3	1	1	**25**
18	POL	2	2	1	1	1	1	2	2	3	3	1	3	3	**25**
19	POR	2	1	1	2	2	1	2	2	3	3	3	3	3	**28**
20	ROM	1	1	1	4	1	1	2	2	3	3	3	3	1	**26**
21	SLK	2	1	1	1	3	3	3	2	3	3	1	3	1	**27**
22	SLO	3	2	1	1	1	1	2	2	3	3	1	3	1	**24**
23	SPA	2	2	3	2	4	1	3	2	3	3	3	3	3	**34**
24	SWE	2	1	2	1	1	1	1	1	3	3	3	3	3	**25**
25	UKM	2	3	1	2	4	1	2	2	3	3	3	3	3	**32**

Notes: The independence-values are the sum of the values of all organizational and functional variables; * = value estimated; a total of seven organizational and six functional variables.

Table A.6 NRA Structuples Electricity Sector

CR	CN	P-Facet	L-Facet	R-Facet	Structuple
1	AUT	3	6	4	{364}
2	BEL	6	5	5	{655}
3	BUL	1	2	4	{124}
4	CZE	3	3	3	{333}
5	DEN	6	6	3	{663}
6	EST	1	2	3	{123}
7	FIN	3	6	3	{363}
8	FRA	1	4	4	{144}
9	GER	6	6	1	{661}
10	GRE	3	4	3	{343}
11	HUN	4	4	4	{444}
12	IRL	6	4	5	{645}
13	ITA	3	5	4	{354}
14	LAT	1	5	5	{155}
15	LIT	2	2	3	{223}
16	LUX	4	4	3	{443}
17	NEL	6	6	3	{663}
18	POL	1	4	3	{143}
19	POR	4	6	3	{463}
20	ROM	1	3	3	{133}
21	SLK	1	4	3	{143}
22	SLO	1	4	4	{144}
23	SPA	6	6	4	{664}
24	SWE	1	6	3	{163}
25	UKM	6	6	4	{664}

Table B.1 State Ownership Telecommunications Sector (EU-15)

No.	Country	Ccode	State Ownership (in % of former PTO) at the end of the year																							Year of Privatization	PTO
			1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	**2003**		
1	Austria	AUT	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	75	75	75	75	62	**42,2**	1998	Telekom Austria
2	Belgium	BEL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	50,1	50,1	50,1	50,1	50,1	50,1	50,1	50,1	50,1	**50**	1994	Belgacom
3	Denmark	DEN	100	100	100	100	100	100	100	100	100	100	100	100	89	51	51	51	51	0	0	0	0	0	0	**0**	1992	TDC
4	Finland	FIN	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	77,8	57,6	52,8	52,8	19,4	**19,1**	1998	TeliaSonera
5	France	FRA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	77	62	62	55,5	55,5	56,5	**54,5**	1997	France Télécom
6	Germany	GER	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	74	74	72	65	60	43	43	**43**	1996	Deutsche Telekom
7	Greece	GRE	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	92	65	65	65	51	41,7	33,7	**33,7**	1996	OTE
8	Ireland	IRL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	80	80	50,1	50,1	0	0	0	**0**	1996	Eircom
9	Italy	ITA	100	100	100	100	87,9	84,8	84,8	84,8	84,8	84,8	63,6	59,9	51,7	50	50	50	44,7	3,5	3,5	3,5	3,5	3,5	3,5	**3,5**	1984	Telecom Italia
10	Luxembourg	LUX	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	P&T Luxembourg
11	Netherlands	NEL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	66	48	45	43,3	43,3	43,3	34,7	31,4	31,4	**19,3**	1995	KPN Telecom
12	Portugal	POR	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	72,7	50,7	25	25	11,2	0	0	0	**0**	1995	Portugal Telecom
13	Spain	SPA	100	100	100	100	100	100	100	47	47	47	47	35	35	35	33,6	21	21	0	0	0	0	0	0	**0**	1987	Telefonica
14	Sweden	SWE	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	70,6	70,6	46	**45,3**	2000	TeliaSonera
15	United Kingdom	UKM	100	100	100	100	49,8	49,8	49,8	49,8	49,8	49,8	49,8	21,9	21,9	0	0	0	0	0	0	0	0	0	0	**0**	1984	British Telecom
	Simple Average	**EU-15**	**100**	**100**	**100**	**100**	**95,8**	**95,6**	**95,6**	**92,1**	**92,1**	**92,1**	**90,7**	**87,8**	**86,5**	**82,4**	**76,7**	**72,9**	**67,2**	**54,5**	**48,3**	**45,5**	**36,9**	**34,9**	**29,7**	**27,4**		

Data Sources: Companies' homepages, Annual Reports, DFG-Project Data Set (2003).

Table B.2 State Ownership Telecommunications Sector (CEEC-10)

No.	Country	Ccode	State Ownership (in % of former PTO) at the end of the year																							Year of Privatization	PTO
			1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	**2003**		
16	Bulgaria	BUL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	2004	BTC
17	Czech Republic	CZE	100	100	100	100	100	100	100	100	100	100	100	100	100	100	70	51,1	51,1	51,1	51,1	51,1	51,1	51,1	51,1	**51,1**	1994	Ceský Telecom
18	Estonia	EST	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	27,3	27,2	27,2	27,2	**27,2**	1999	Eesti Telekom
19	Hungary	HUN	100	100	100	100	100	100	100	100	100	100	100	100	100	69,7	69,7	32,6	32,6	6,6	6,6	6,6	0	0	0	**0**	1993	Matáv
20	Latvia	LAT	100	100	100	100	100	100	100	100	100	100	100	100	100	100	51	51	51	51	51	51	51	51	51	**51**	1994	Lattelekom
21	Lithuania	LIT	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	40	35	10	10	10	**8**	1998	Lietuvos Telekomas
22	Poland	POL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	85	70	35	22,6	17,9	**4**	1998	TPSA
23	Romania	ROM	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	65	65	65	65	65	**45**	1998	RomTelecom
24	Slovak Republic	SLK	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	49	49	49	**49**	2000	Slovak Telecom
25	Slovenia	SLO	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	73,9	73,9	66,5	66,5	62,5	**62,5**	1998	Telekom Slovenije
	Simple Average	**CEEC-10**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**97,0**	**89,1**	**83,5**	**83,5**	**80,9**	**67,3**	**58,0**	**45,5**	**44,2**	**43,4**	**39,8**		

Data Sources: Companies' homepages and Annual Reports, DFG-Project Data Set (2003)

Table B.3 Market Opening Telecommunications Sector (EU-15)

No.	Country	Ccode	Year of Market Liberalization		Market Structure (2003)													Level of Market Opening (2004 in %)**
			Fixed-Voice Telephony	Mobile-Voice Telephony	Local Services	Domestic Long Distance	International Long Distance	XDSL	Wireless Local Loop	Mobile Voice (digital)	Leased Lines	Paging	Mobile Satellite	Fixed Satellite	Cable TV	GMPCS	IMT 2000	
1	Austria	AUT	1998	1996	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
2	Belgium	BEL	1998	1996	c	c	c	c	p	p	c	p	c	c	c*	c	p	**81,8**
3	Denmark	DEN	1995	<1992	c	c	c	c	c	p	c	c	c	c	c	c	p	**94,8**
4	Finland	FIN	1993	<1992	c	c	c	c	c	p	c	c	c	c	c	c	p	**94,8**
5	France	FRA	1998	1989	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
6	Germany	GER	1998	1991	c	c	c	c	p	p	c	p	p	p	p	p	c*	**74**
7	Greece	GRE	2001	1993	c	c	c	c	c	p	c	p	p	c	c	p	p	**86,9**
8	Ireland	IRL	1998	<1998	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
9	Italy	ITA	1998	1994	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
10	Luxembourg	LUX	1998	1998	c	c	c	c	c	p	c	c	c	c	c	c	p	**94,8**
11	Netherlands	NEL	1997	1995	c	c	c	c	p	p	c	c*	c*	c*	p	c	p*	**61,4**
12	Portugal	POR	2000	1991	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
13	Spain	SPA	1998	1994	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
14	Sweden	SWE	1993	1986	c	c	c	m	p	p	c	m	c	c	p	c*	p	**66,5**
15	United Kingdom	UKM	1982	1984	c	c	c	c	p	p	c	p	c	c	c	c	p	**89,5**

Data Source: ITU (2004)
Notes: * value estimated; ** Coding: m=0%, d=33%, p=66%, c=100%

Table B.4 Market Opening Telecommunications Sector (CEEC-10)

No.	Country	Ccode	Year of Market Liberalization		Market Structure (2003)													Level of Market Opening (2004 in %)**
			Fixed-Voice Telephony	Mobile-Voice Telephony	Local Services	Domestic Long Distance	International Long Distance	XDSL	Wireless Local Loop	Mobile Voice (digital)	Leased Lines	Paging	Mobile Satellite	Fixed Satellite	Cable TV	GMPCS	IMT 2000	
16	Bulgaria	BUL	2003	2003	p	***	***	***	***	***	***	***	***	***	***	***	***	**0**
17	Czech Republic	CZE	2001	1996	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
18	Estonia	EST	2001	1990	c	c	c	c	c	p	c	c	c	c	c	c	p	**94,8**
19	Hungary	HUN	2001	1999	c	c	c	c	c	p	c	p	c	c	c	c	p*	**87,1**
20	Latvia	LAT	2003	1996	c	c	c	c	c*	c	c	c	c	c	c	c	c	**92,3**
21	Lithuania	LIT	2003	2003	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
22	Poland	POL	2001	1996	c	c	c	c	c	c	c	c	c*	c*	c	c*	c	**76,9**
23	Romania	ROM	2003	1997	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
24	Slovak Republic	SLK	2003	1997	c	c	c	c	c	c	c	c	c	c	c	c	c	**100**
25	Slovenia	SLO	2001	2001	m	m	m	p*	p*	d	c	c	c	c	c	c*	c*	**41**

Data Source: ITU (2004)
Notes: * value estimated; ** Coding: m=0%, d=33%, p=66%, c=100%; *** Remark: 6 operators are licensed for fixed public telephone network and for provision of fixed voice telephone service, 5 of them do not operate yet (not including VOIP). XDSL: out of regulation; ADSL is provided only by the incumbent operator, BTC EAD, since February 2004; unbundled access - as of 2005. Data: 6 operators have individual licenses with allocated numbers of the National Numbering Plan Mobile satellite and GMPCS: out of regulation. ISPs out of regulation; 173, CRC estimation.

Table B.5 NRA Organizational Characteristics Telecommunications Sector (EU-15)

No.	Country	Ccode	Sector Regulator	Year of Foundation	Legal Basis	Policy Maker	Staff	Decision-Making Authority		Financing			Head of NRA		
								Reports to	Overturning of Decisions	Approval of Budget	Form of Financing	Sources of Financing	Collegial Body (members)	Appointment of Head	Term of Office
1	Austria	AUT	Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR / Rundfunk und Telekom Regulierungs-GmbH)	1997	Telecommunications Act BGBI No. 100/97 idF BGBI No. 26/2000)	Federal Ministry for Science and Transport	61	Legislature and Federal Ministry for Science and Transport	None	Supervisory Board	Fees, contributions from operators, and appropriation	License fees: 2% Contributions: 92% (turnover-related annual contribution of operators) Government appropriation: 6%	Yes (6)	Cabinet	5
2	Belgium	BEL	Institut belge des services postaux et des télécommunications (IBPT)	1993	Law of 21 March 1991 on the reform of public enterprises (as revised in 1997)	Ministry of Telecommunications	180	No reporting responsibility except for the publication of an annual report.	None	Inspection of Finance, Ministry of the Budget	Fees	License fees: 4%, Numbering fees: 7%, Spectrum fees: 88% Other: 1% (Reclamations)	No	Ministry	6
3	Denmark	DEN	National IT and Telecom Agency (NITA)	1991 (Reorg. 2002)	Finance Act 2002	Ministry for Science, Technology, and Innovation	250	Ministry for Science, Technology, and Innovation	Telecommunications Complaints Board and Telecommunications Consumer Board	Ministry for Science, Technology, and Innovation	Fees and appropriation	Award/auction of mobile license: 48% Numbering fees: 31% Spectrum fees: 19% Government appropriation: 2%	Yes (4)	Ministry	indefinite
4	Finland	FIN	Finnish Communications Regulatory Authority (FICORA)	1988 (Reorg. 2001)	Act on Telecommunications Administration 1987	Ministry of Transport and Communications	220	Ministry of Transport and Communications	None	Director-General	Fees	License fees: 18% Numbering fees: 8% Spectrum fees: 18% Other: 56% (Refund from the State Radio and Television Fund for collection of television fees (40%); control, approval and other fees)	No	Council of State	indefinite

Table B.5 NRA Organizational Characteristics Telecommunications Sector (EU-15) - continued

5	France	FRA	Autorité de régulation des télécommunications (ART)	1997	Loi No. 96-659	Ministère de l'Economie, des finances et de l'Industrie	149	Government and Parliament	None	Parliament (through Finance Act)	Fees	Numbering fees: 100%	Yes (5)	President of the Republic: ART-President and 2 members President of the Senate: 1 member, President of the National Assembly: 1 member	6
6	Germany	GER	Regulatory Authority for Telecommunications and Posts (RegTP)	1998	Telecommunications Act (TKG)	Federal Ministry of Economics and Technology	2430	Legislature (every two years)	None	Parliament	Fees and contributions from operators	License fees: 10%, Numbering fees: 19%, Spectrum fees: 12%, Contributions: 59% (§ 48 TKG)	No	Cabinet	5
7	Greece	GRE	National Telecommunications and Post Commission of Greece (EETT)	1993	Law 2075	Ministry of Transport and Communications	55	Ministry of Transport and Communications	None	E.E.T.T. is only obliged to submit a financial report to the Ministry of Transport and Communications	Fees	License fees: 18%, Spectrum fees: 1%, Other: 81% (Fines, Past Reserves, Interest, etc.)	Yes (9)	Minister (nomination by the Body of Parliament Presidents)	5
8	Ireland	IRL	Office of the Director of Telecommunications Regulation (ODTR)	1997	Telecommunications (Miscellaneous Provisions) Act, 1996	Minister for Communications, Marine & Natural Resources	85	Ministry of Public Enterprise	None	The Director	Contributions from operators	Award/auction of mobile license: 59%, Contributions: 41% (turnover-related annual contribution of operators)	No	Minister	Indefinite
9	Italy	ITA	Autorità per le Garanzie nelle Comunicazioni (AGC)	1996	249/1997 Law	Ministry of Communications	240	Prime Minister and Legislature	None	The Authority itself; the budget can be inspected and verified by the Corte die Conti (General Accounting Office).	Fees and appropriation	Contributions: 39% Government appropr.: 60%	Yes (9)	Parliament (Commissioners) and Prime Minister (President)	7
10	Luxembourg	LUX	Institut Luxembourgeois de Régulation (ILR)	1997	Loi modifiée du 21 mars 1997 sur les télécommunications	Ministry of Communications	28	-	None*	-	Fees	Award/auction of mobile license: 20%, License fees: 20% Numbering fees: 10% Spectrum fees: 50%	Yes (3)	-	Indefinite
11	Netherlands	NEL	Independent Posts and Telecommunications Authority (OPTA)	1997	OPTA Act 1997	Ministry of Transport, Public Works and Water Management	107	Ministry of Transport, Public Works and Water Management	None	Ministry of Transport, Public Works and Water Management	Fees	License fees: 85%, Other: 12% Payments from Sector Ministry for advice and handling complaints/appeals	Yes (3)	Ministry	4

Table B.5 NRA Organizational Characteristics Telecommunications Sector (EU-15) - continued

12	Portugal	POR	ICP-Autoridade Nacional de Comunicações (ICP-ANACOM)	1989	Decree-Law 188/81 from the 2nd of July 1981, partially amended by Decree-Laws 88/89 and 102/99.	Ministry of Equipment, Planning and Territorial Administration	371	Ministry of Equipment, Planning and Territorial Administration	None	Ministry of Equipment, Planning and Territorial Administration and Ministry of Finance	Fees	License fees: 1% Spectrum fees: 93% (of which 71% are for mobile service and 21% are for other services) Other: 6% (operating subsidies, financial and extraordinary income, etc.)	Yes (3)	Cabinet (proposal by the Minister)	3
13	Spain	SPA	Comisión del Mercado de las Telecomunicaciones (CMT)	1997	Ley 12/1997 de Liberalización de las Telecomunicaciones	Ministry for Development (*Secretaria General de Comunicaciones*)	94	Ministry for Development (*Secretaria General de Comunicaciones*)	None	Parliament	Contributions from operators	Other carrier or final service charges: 64,4%, Value-added service charges: 32,9%, Data switching service charges: 1,9%, Cable telecommunication service charge: 0,3%, Authorization or License fees: 0,5%	Yes (9)	Cabinet (proposal by the Minister)	5
14	Sweden	SWE	National Post and Telecom Agency (PTS)	1993	Telecommunications Act 1993	Ministry of Industry, Employment and Communication	190	Ministry of Transport and Communications	None	Director-General	Contributions from operators	Licence fees: 56% Government appropriation: 7% Contributions from operators: 37%	Yes (10)	Cabinet	6
15	United Kiingdom	UKM	Office of Communications (OFCOM)	1984 (Reorg. 2003)	Telecommunications Act 1984	Department of Trade and Industry	886	Department of Trade and Industry	The Monopolies and Mergers Commission	HM Treasury	Fees and appropriation	License fees: 19% Government appropriation: 56% Contributions from operators: 15%	No	Secretary of State for Trade and Industry	5

Data Sources: NRA homepages, Annual Reports, ITU (2004)all data for 2004
Notes: M=Ministry, NRA=National Regulatory Authority, OP=Operator, x=not regulated; all data for 2004

Table B.6 NRA Organizational Characteristics Telecommunications Sector (CEEC-10)

No.	Country	Ccode	Sector Regulator	Year of Foundation	Legal Basis	Policy Maker	Staff	Decision-Making Authority		Financing			Head of NRA		
								Reports to	Overturning of Decisions	Approval of Budget	Form of Financing	Sources of Financing	Collegial Body (members)	Appointment of Head	Term of Office
16	Bulgaria	BUL	Communications Regulation Commission (CRC)	2002	Telecommunications Law	Ministry of Transport and Communications	237	Head of State and Other: National Assembly, Council of Ministers, Council for Electronic Media	-	Ministry of Finance	Fees and contributions	License fees: 28,7% Numbering fees: 2,7% Spectrum fees: 27,3% Fines/penalties: 0,7% Contributions from regulated telecom operators based on turnover: 40,6%	Yes (5)	Chairman: Council of Ministers, Deputy Chairman + 2 members: National Assembly, 5th Member: President	5
17	Czech Republic	CZE	Czech Telecommunication Office (CTO)	2000	Act No. 151/2000 Coll., on Telecommunications and Amendments to Others Acts	Ministry of Informatics of the Czech Republic	476	Government through the Minister of Transport and Communications	None	Parliament	Appropriation	Government appropriation: 100 %	No	Government	4
18	Estonia	EST	Estonia National Communications Board (ENCB)	1998	Government of the Republic Act	Ministry of Economic Affairs and Communications	137	Ministry	Ministry	Parliament	State budget	State budget: 100 %	No	Minister of Economic Affairs and Communications	indefinite
19	Hungary	HUN	National Communications Authority Hungary (NCAH)	1993 (reorg. 2004)	Governmental Decree No. 142 of 1993, Governmental decree No. 248 of 2001, Act XL of 2001 on Communications	Ministry of Transport, Communication and Water Management	431	Government	-	Ministry and Parliament	Fees and other	License fees: 2 %, Numbering fees: 15 %, Spectrum fees: 63 %, Other: 20 % V.A.T. reimbursed	Yes (7)	Prime Minister on suggestion of the Minister	3 to 5
20	Latvia	LAT	Public Utilities Commission (PUC)	2001	Law on Regulators of Public Services	Ministry of Economy	78	-	None	No one	Contributions	Contributions from regulated telecom operators based on turnover: 100 %	Yes (4)	Parliament	5
21	Lithuania	LIT	Communications Regulatory Authority (CRA)	2001	Law on Telecommunications	Ministry of Transport and Communications / Post and Telecommunications Division	132	Parliament and Government	-	Parliament	Appropriation	100% through state budget appropriation which obtains all administrative fees from operators	Yes (5)	President on the recommendation of the Prime Minister	5

Table B.6 NRA Organizational Characteristics Telecommunications Sector (CEEC-10) - continued

22	Poland	POL	Office of Telecommunications and Post Regulation (URTiP)	2000 (Reorg. 2002)	Telecommunications Law of July 2000	Ministry of Infrastructure	641	Ministry	None	Parliament	Appropriation	Government appropriation: 99,982 %	No	Prime Minister	5
23	Romania	ROM	National Regulatory Authority of Romania (ANRC)	2002	Government Emergency Ordinance No. 79/2002, Law 591/2002	Ministry of Communications and Information Technology	185	Prime Minister	-	Government	Contributions and loans	Contributions from regulated telecom operators based on turnover: 61%; Other: 39% Loans (8%), amounts not spent in 2002 (26%), contributions from regulated postal services operators (5%)	No	Prime Minister	5
24	Slovak Republic	SLK	Telecommunication Office	2000	Act No. 195/2000 Col. on Telecommunications	Ministry of Transport, Posts and Telecommunications	197	Legislative Branch	-	Ministry of Finance	Appropriation	Government appropriation: 100%	No	Parliament	6
25	Slovenia	SLO	Telecommunications, Broadcasting and Post Agency (ATRP)	2001	Telecommunications Act	Ministry of Information Society	71	Ministry	-	Min istry of Finance	Appropriation	Appropriation from the Telecommunications Fund: 100%	No	Government	indefinite

Data Sources: NRA homepages, Annual Reports, ITU (2004)
Notes: M=Ministry, NRA=National Regulatory Authority, OP=Operator, x=not regulated; all data for 2004

Table B.7 NRA Functional Characteristics Telecommunications Sector (EU-15)

No.	Country	Ccode	Sector Regulator	Year of Foundation	Licensing			Interconnection		Spectrum	Tariffs		Numbering	Monitoring of Service Quality
					Fees	Technical Standards	Merger Approval	Charges	Dispute Resolution	Allocation	Proposal	Approval	Planning	
1	Austria	AUT	Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR / Rundfunk und Telekom Regulierungs-GmbH)	1997	NRA	NRA	C *	NRA	NRA	M	OP	NRA	M	NRA
2	Belgium	BEL	Institut belge des services postaux et des télécommunications (IBPT)	1993	M	NRA	C	M (NRA)	NRA	NRA	OP	NRA	NRA	NRA, C
3	Denmark	DEN	National IT and Telecom Agency (NITA)	1991 (Reorg. 2002)	NRA *	NRA	C	NRA	NRA	NRA	OP	NRA	NRA, M	NRA
4	Finland	FIN	Finnish Communications Regulatory Authority (FICORA)	1988 (Reorg. 2001)	M	M	C	NRA	NRA	NRA	OP	OP	NRA	NRA
5	France	FRA	Autorité de régulation des télécommunications (ART)	1997	M	NRA	C, NRA	NRA	NRA	NRA	OP	M, NRA	NRA	NRA
6	Germany	GER	Regulatory Authority for Telecommunications and Posts (RegTP)	1998	NRA	NRA	C, NRA	NRA	NRA	NRA, M	OP	NRA	NRA	NRA
7	Greece	GRE	National Telecommunications and Post Commission of Greece (EETT)	1993	M	NRA	C	NRA	NRA	M	OP	NRA	M	NRA
8	Ireland	IRL	Office of the Director of Telecommunications Regulation (ODTR)	1997	NRA	NRA	C	NRA	NRA	NRA	OP	NRA	NRA	NRA
9	Italy	ITA	Autorità per le Garanzie nelle Comunicazioni (AGC)	1996	NRA	NRA	C	NRA	NRA	M	OP	NRA	NRA (M)	NRA

Table B.7 NRA Functional Characteristics Telecommunications Sector (EU-15) - continued

10	Luxembourg	LUX	Institut Luxembourgeois de Régulation (ILR)	1997	x	x	C*	NRA	NRA	NRA	OP	x	NRA	NRA
11	Netherlands	NEL	Independent Posts and Telecommunications Authority (OPTA)	1997	NRA	NRA	C	NRA	NRA	M	NRA	NRA	M	NRA
12	Portugal	POR	ICP-Autoridade Nacional de Comunicações (ICP-ANACOM)	1989	NRA	NRA	C	NRA	NRA	NRA	OP	NRA	NRA, M	NRA
13	Spain	SPA	Comisión del Mercado de las Telecomunicaciones (CMT)	1997	NRA	NRA	C	NRA	NRA	M	OP, NRA	M, NRA	M	M
14	Sweden	SWE	National Post and Telecom Agency (PTS)	1993	NRA	NRA	C	NRA	NRA	NRA	OP	NRA	NRA	NRA
15	United Kingdom	UKM	Office of Communications (OFCOM)	1984 (Reorg. 2003)	M	M, NRA	C	NRA	NRA	NRA	OP, NRA	OP	NRA	NRA

Data Sources: NRA homepages, Annual Reports, ITU (2004)
Notes: M=Ministry, NRA=National Regulatory Authority, OP=Operator, x=not regulated; all data for 2004

Table B.8 NRA Functional Characteristics Telecommunications Sector (CEEC-10)

No.	Country	Ccode	Sector Regulator	Year of Foundation	Licensing			Interconnection		Spectrum	Tariffs		Numbering	Monitoring of Service Quality
					Fees	Technical Standards	Merger Approval	Charges	Dispute Resolution	Allocation	Proposal	Approval	Planning	
16	Bulgaria	BUL	Communications Regulation Commission (CRC)	2002	M	M, NRA	C	OP	M	NRA	OP	NRA	NRA	NRA
17	Czech Republic	CZE	Czech Telecommunication Office (CTO)	2000	NRA	M	NRA	NRA	M, NRA	NRA	OP, NRA	NRA	NRA	NRA
18	Estonia	EST	Estonia National Communications Board (ENCB)	1998	M	M, NRA	C	OP	NRA	M, NRA	OP	OP	M, NRA	NRA
19	Hungary	HUN	National Communications Authority Hungary (NCAH)	1993 (reorg. 2004)	NRA	M, NRA*	C	M	NRA	M, NRA	OP, NRA	M, NRA	M	NRA
20	Latvia	LAT	Public Utilities Commission (PUC)	2001	M	M	C	NRA, OP	NRA	M, NRA	OP, NRA	NRA	NRA	NRA
21	Lithuania	LIT	Communications Regulatory Authority (CRA)	2001	NRA	M, NRA	C	NRA, OP	NRA	NRA	NRA, OP	NRA, OP	NRA	NRA
22	Poland	POL	Office of Telecommunications and Post Regulation (URTiP)	2000 (Reorg. 2002)	M	NRA	M	NRA	NRA	NRA	OP	M, NRA	M	M
23	Romania	ROM	National Regulatory Authority of Romania (ANRC)	2002	M, NRA	NRA	C	OP, NRA	NRA	M	OP	NRA	NRA	NRA
24	Slovak Republic	SLK	Telecommunication Office	2000	NRA	M	C	OP	NRA	NRA	OP	NRA	NRA	NRA
25	Slovenia	SLO	Telecommunications, Broadcasting and Post Agency (ATRP)	2001	M	M	C	OP	M, NRA	M, NRA	M	M	M	M, NRA

Data Sources: NRA homepages, Annual Reports, ITU (2004)
Notes: M=Ministry, NRA=National Regulatory Authority, OP=Operator, x=not regulated; all data for 2004

Table C.1 State Ownership Electricity Sector (EU-15)

No.	Country	Ccode	State Ownership (in % of former national electricity company)																							Year of privatization	Former National Electricity Company(ies)
			1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	**2003**		
1	Austria	AUT	100	100	100	100	100	100	100	100	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	**51**	1988	Verbundgesellschaft
2	Belgium	BEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	<1980	Electrabel
3	Denmark	DEN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	<1980	SK Power Company
4	Finland	FIN	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	97,5	75,5	70,7	70,7	70,7	60,8	**60,5**	1997	Fortum
5	France	FRA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Electricité de France (EDF)
6	Germany	GER	39,3	39,3	39,3	39,9	25,5	25,5	25,5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	<1980	EnBW, E.ON, RWE
7	Greece	GRE	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	90,3	71	**51,5**	2001	Public Power Corporation DEH
8	Irland	IRL	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0	0	0	0	**0**	1993	Electricity Supply Board (ESB)
9	Italy	ITA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	67,6	67,6	67,6	67,6	**61**	1999	Ente nazionale per l'Energia elettrica (ENEL)
10	Luxembourg	LUX	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	**42**	<1980	Compagnie Grand Ducal de l'ectricité (Cegedel)
11	Netherlands	NEL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	**0**	1999	Essent
12	Portugal	POR	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	70	50,8	50,8	31,3	30,9	30,9	**30,9**	1997	Energias de Portugal (EDP)
13	Spain	SPA	100	100	100	100	100	100	100	100	75,6	75,6	75,6	75,6	75,6	75,6	66,9	66,9	66,9	41,9	0	0	0	0	0	**0**	1988	Endesa
14	Sweden	SWE	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Vattenfall
15	United Kingdom	UKM	100	100	100	100	100	100	100	100	100	100	100	40	40	40	40	0	0	0	0	0	0	0	0	**0**	1991	National Power, PowerGen
	Simple Average	**EU-15**	**78,8**	**78,8**	**78,8**	**78,8**	**77,8**	**77,8**	**77,8**	**76,1**	**71,2**	**71,2**	**71,2**	**67,2**	**67,2**	**60,6**	**60**	**57,3**	**57,3**	**53,5**	**48**	**38,8**	**37,5**	**36,8**	**34,9**	**33,1**		

Data Sources: Companies' homepages, Annual Reports, DFG-Project Data Set (2003).

Table C.2 State Ownership Electricity Sector (CEEC-10)

No.	Country	Ccode	State Ownership (in % of former national electricity company)																								Year of privatization	Former National Electricity Company(ies)
16	Bulgaria	BUL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Natsionalna Elektricheska Kompania (NEK)
17	Czech Republic	CZE	100	100	100	100	100	100	100	100	100	100	100	100	100	73	73	67,6	67,6	67,6	67,6	67,6	67,6	67,6	67,6	**67,6**	1993	Ceske Energetická Zavody (CEZ)
18	Estonia	EST	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Eesti Energia
19	Hungary	HUN	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	71,9	63,1	43,8	43,8	43,8	43,8	43,8	43,8	**43,8**	1995	Magyar Villamos Múvek (MVM)
20	Latvia	LAT	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Latvenergo
21	Lithuania	LIT	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	95	86,1	86,1	85,7	85,7	**96,6**	1998	Lietuvos Energija
22	Poland	POL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Polskie Sieci Elektroenergetyczne (PSE)
23	Romania	ROM	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Termoelectrica, Hydroelectrica, Transelectrica, Electrica
24	Slovak Republic	SLK	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Slovenské elektrárne (SE)
25	Slovenia	SLO	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**100**	-	Elektro-Slovenija (ELES)
	Simple Average	**CEEC-10**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**97,3**	**97,3**	**94**	**93,1**	**91,1**	**90,6**	**89,8**	**89,8**	**89,7**	**89,7**	**90,8**		

Data Sources: Companies' homepages, Annual Reports, DFG-Project Data Set (2003).

Table C.3 Market Opening Electricity Sector (EU-15)

No.	Country	Ccode	Year of Market Liberalization	Level of Market Opening (2004 in %)	TSO unbundling
1	Austria	AUT	1999	100	legal
2	Belgium	BEL	2000	90	legal
3	Denmark	DEN	2000	100	legal
4	Finland	FIN	1995	100	ownership
5	France	FRA	2000	70	legal
6	Germany	GER	1998	100	legal
7	Greece	GRE	2001	62	legal
8	Ireland	IRL	2000	56	legal
9	Italy	ITA	1999	79	ownership
10	Luxembourg	LUX	2000	57	management
11	Netherlands	NEL	2000	100	ownership
12	Portugal	POR	1999	100	ownership
13	Spain	SPA	1998	100	ownership
14	Sweden	SWE	1996	100	ownership
15	United Kingdom	UKM	1991	100	ownership
	Simple Average			**87,6**	

Data Sources: European Commission (2005b)

Table C.4 Market Opening Electricity Sector (CEEC-10)

No.	Country	Ccode	Year of Market Liberalization	Level of Market Opening (2004 in %)	TSO unbundling
16	Bulgaria	BUL	2002	22	accounts
17	Czech Republic	CZE	2001	47	legal
18	Estonia	EST	2001	10	legal
19	Hungary	HUN	2003	67	legal
20	Latvia	LAT	2000	76	accounts
21	Lithuania	LIT	2002	17*	legal
22	Poland	POL	2002	52	legal
23	Romania	ROM	2002	33	legal
24	Slovak Republic	SLK	2002	66	legal
25	Slovenia	SLO	2001	75	legal
	Simple Average			**44,8**	

Data Sources: European Commission (2005b)
Note: * Data for 2003

Table C.5 NRA Organizational Characteristics Electricity Sector (EU-15)

No.	Country	Ccode	Sector Regulator	Year of Foundation	Regulatory Situation	Policy Maker	Number of Staff	Financing		Head of NRA			
								Annual Budget (2003, Mio. Euro)	Budget Increase since 2002 (Mio. Euro)	Sources of Financing	Collegial Body (members)	Appointment of Head	Term of Office
1	Austria	AUT	E-Control GmbH+ E-Control Commission (ECC)	2001	Separate	Ministry of Economy and Labour	60	8	-1	Transmission fees	yes (3+9)	Government	5
2	Belgium	BEL	Commission de Régulation de l'Electricité et du Gaz (CREG)	2000	Separate	Ministry of Energy	99	17	2	Transmission fees	yes (6)	Government	6
3	Denmark	DEN	Danish Energy Regulatory Authority (DERA)	2000	Separate	Ministry of Economics and Business Affairs	25	2,5	-0,5	Consumption tax, production and transmission fees	yes (7)	Ministry	4
4	Finland	FIN	Energy Market Authority (EMA)	1995 (reorg. 2000)	Ministerial Agency	Ministry of Trade and Industry	16	1,25	0,25	Licence Fees, Government Appropriation	no	Ministry	indefinite
5	France	FRA	Commission de régulation de l'énergie (CRE)	2000	Separate	Ministère de l'Economie, des finances et de l'Industrie	96	12	3	Government Appropriation	yes (7)	Government (2), Parliament (2), Senate (2), other (1)	6
6	Germany	GER	n.e.	-	-	-	-	-	-	-	-	-	-
7	Greece	GRE	Regulatory Authority for Energy (RAE)	2000	Advisory Agency	Ministry of Development	40	4,4	0,4	Consumption tax	yes (5)	Government	5
8	Ireland	IRL	Commission for Energy Regulation (CER)	1999	Separate	Ministry of Communications, Marine & Natural Resources	39	10	4	Contributions from operators	yes (2)	Ministry	7
9	Italy	ITA	Autorità per l'Energia Elettrica et il Gas (AEEG)	1995	Separate	Ministry of Industry	104	18,6	0,6	Contributions from operators	yes (5)	Government and Parliament	7
10	Luxembourg	LUX	Institut Luxembourgeois de Régulation (ILR)	1997	Advisory Agency	Ministry of Economy	28	0,3	0	Contributions from operators	yes (3)	Ministry	indefinite
11	Netherlands	NEL	Dienst Uitvoering en Toezicht Energie (DTE)	1998	Ministerial Agency	Ministry of Economic Affairs	55	7	1	Contributions from operators, Government Appropriation	no	Ministry	indefinite

Table C.5 NRA Organizational Characteristics Electricity Sector (EU-15) - continued

12	Portugal	POR	Energy Services Regulatory Authority (ERSE)	1997 (reorg. 2002)	Separate	Ministry of Economy	53	6,4	-0,3	Contributions from operators	yes (3)	Government	5
13	Spain	SPA	National Energy Commission (CNE)	1999	Ministerial Agency	Ministry of Economy	187	21	2	Consumption tax	yes (9)	Ministry	6
14	Sweden	SWE	Swedish Energy Agency (SEA)	1998	Ministerial Agency	Ministry of Industry, Employment and Communication	42	3	0	Government Appropriation	no	Government	indefinite
15	United Kingdom	UKM	Office of Gas and Electricity Markets (OFGEM)	1999	Separate	Department of Trade and Industry	302	57	-1	Licence Fees	yes (5+7)	Ministry	5

Data Sources: Regulators homepages, Annual Reports, European Commission (2004b), European Commission (2005a), Genoud and Finger (2002), ERRA (2005), enerCEE.net (2005)
Notes: M=Ministry, NRA=National Regulatory Authority, OP=Operator, x=not regulated; all data for 2004

Table C.6 NRA Organizational Characteristics Electricity Sector (CEEC-10)

No.	Country	Ccode	Sector Regulator	Year of Foundation	Regulatory Situation	Policy Maker	Number of Staff	Financing		Head of NRA			
								Annual Budget (2003, Mio. Euro)	Budget Increase since 2002 (Mio. Euro)	Sources of Financing	Collegial Body (members)	Appointment of Head	Term of Office
16	Bulgaria	BUL	State Energy Regulatory Commission (SERC)	1999	Separate	Ministry of Energy and Energy Resources	87	0,7	-	Licence Fees	yes (7)	Prime Minister	5
17	Czech Republic	CZE	Energy Regulatory Office (ERU)	2001	Separate	Ministry of Industry and Trade	90	3,8	0,6	Government Appropriation	no	Government	5
18	Estonia	EST	Energy Market Inspectorate (EMI)	1998	Separate	Ministry of Economic Affairs and Communications	11	0,3	0	Government Appropriation	no	Ministry	indefinite
19	Hungary	HUN	Hungarian Energy Office (MEH)	1994	Ministerial Agency	Ministry of Economy and Transport	93	6,2	1,8	Licence Fees	no	Prime Minister	6
20	Latvia	LAT	Public Utilites Commission (PUC)	2001	Ministerial Agency	Ministry of Economy	78	1,7	1,2	Contributions from operators	yes (6)	Parliament	5
21	Lithuania	LIT	Control Commission for Prices and Energy (NCC)	1997	Ministerial Agency	Ministry of Economy	48	0,6	0	Government Appropriation	yes (5)	President	5
22	Poland	POL	Energy Regulatory Office (URE)	1997	Ministerial Agency	Ministry of Economy, Labour and Social Policy	257	6,7	-1,3	Government Appropriation	no	Prime Minister	5
23	Romania	ROM	National Electricity and Heat Regulatory Authority (ANRE)	1999	Separate	Ministry of Industry and Commerce	80	1,6	-	Licence Fees, Contributions from operators	no	Prime Minister	5
24	Slovak Republic	SLK	Regulatory Office for Network Industries (RONI)	2001	Separate	Ministry of Economy	50	1,5	0	Government Appropriation	yes (6)	President + Parliament	6
25	Slovenia	SLO	Energy Agency of the Republic of Slovenia (SEA)	2001	Separate	Ministry of Economic Affairs	22	1,5	-0,4	Government Appropriation	no	Government	5

Data Sources: Regulators homepages, Annual Reports, European Commission (2004b), European Commission (2005a), Genoud and Finger (2002), ERRA (2005), enerCEE.net (2005)
Notes: M=Ministry, NRA=National Regulatory Authority, OP=Operator, x=not regulated; all data for 2004

Table C.7 NRA Functional Characteristics Electricity Sector (EU-15)

No.	Country	Ccode	Sector Regulator	Year of Foundation	Mode of Regulation	Licensing	Network Access Conditions	Technical Standards	Dispute Resolution	Ministry Involvement	Monitoring of Quality Standards
1	Austria	AUT	E-Control GmbH+ E-Control Commission (ECC)	2001	ex ante	M	NRA	NRA	NRA	general guidelines	NRA
2	Belgium	BEL	Commission de Régulation de l'Electricité et du Gaz (CREG)	2000	ex ante	NRA	NRA	NRA	NRA	no	NRA
3	Denmark	DEN	Danish Energy Regulatory Authority (DERA)	2000	ex post	M	NRA	M	NRA	yes	NRA
4	Finland	FIN	Energy Market Authority (EMA)	1995 (reorg. 2000)	ex post	NRA	NRA	M	NRA	no	M
5	France	FRA	Commission de régulation de l'énergie (CRE)	2000	ex ante	NRA	M	NRA	NRA	tariff approval	NRA
6	Germany	GER	n.e.	-	ex post	-	-	-	C	yes	-
7	Greece	GRE	Regulatory Authority for Energy (RAE)	2000	ex ante	M	M	M	NRA	tariff approval	NRA
8	Ireland	IRL	Commission for Energy Regulation (CER)	1999	ex ante	NRA	NRA	NRA	NRA	no	NRA
9	Italy	ITA	Autorità per l'Energia Elettrica et il Gas (AEEG)	1995	ex ante	M	NRA	NRA	NRA	general guidelines	NRA
10	Luxembourg	LUX	Institut Luxembourgeois de Régulation (ILR)	1997	ex ante	M	M	M	NRA	yes	NRA
11	Netherlands	NEL	Dienst Uitvoering en Toezicht Energie (DTE)	1998	ex ante	NRA	NRA	NRA	C	issues instructions	M
12	Portugal	POR	Energy Services Regulatory Authority (ERSE)	1997 (reorg. 2002)	Separate	NRA	NRA	NRA	NRA	no	NRA
13	Spain	SPA	National Energy Commission (CNE)	1999	Ministerial Agency	M	M	M	NRA	yes	M
14	Sweden	SWE	Swedish Energy Agency (SEA)	1998	Ministerial Agency	NRA	NRA	NRA	NRA	no	NRA
15	United Kingdom	UKM	Office of Gas and Electricity Markets (OFGEM)	1999	Separate	NRA	NRA	NRA	NRA	no	NRA

Data Sources: Regulators homepages, Annual Reports, European Commission (2004b), European Commission (2005a), Genoud and Finger (2002), ERRA (2005), enerCEE.net (2005)
Notes: M=Ministry, NRA=National Regulatory Authority, OP=Operator, x=not regulated; all data for 2004

Table C.8 NRA Functional Characteristics Electricity Sector (CEEC-10)

No.	Country	Ccode	Sector Regulator	Year of Foundation	Mode of Regulation	Licensing	Network Access Conditions	Technical Standards	Dispute Resolution	Ministry Involvement	Monitoring of Quality Standards
16	Bulgaria	BUL	State Energy Regulatory Commission (SERC)	1999	ex ante	NRA	NRA	NRA	NRA	no	NRA
17	Czech Republic	CZE	Energy Regulatory Office (ERU)	2001	ex ante	NRA	NRA	NRA	NRA	no	NRA
18	Estonia	EST	Energy Market Inspectorate (EMI)	1998	ex ante	NRA	NRA	NRA	NRA	no	NRA
19	Hungary	HUN	Hungarian Energy Office (MEH)	1994	ex ante	NRA	M	NRA	NRA	tariff approval	NRA
20	Latvia	LAT	Public Utilites Commission (PUC)	2001	ex ante	NRA	NRA	NRA	NRA	supervision	NRA
21	Lithuania	LIT	Control Commission for Prices and Energy (NCC)	1997	ex ante	NRA	NRA	M	NRA	instruction	NRA
22	Poland	POL	Energy Regulatory Office (URE)	1997	ex ante	NRA	NRA	M	NRA	supervision	NRA
23	Romania	ROM	National Electricity and Heat Regulatory Authority (ANRE)	1999	ex ante	NRA	NRA	NRA	NRA	no	M
24	Slovak Republic	SLK	Regulatory Office for Network Industries (RONI)	2001	ex ante	NRA	NRA	M	NRA	no	M
25	Slovenia	SLO	Energy Agency of the Republic of Slovenia (SEA)	2001	ex ante	NRA	NRA	M	NRA	no	M

Data Sources: Regulators homepages, Annual Reports, European Commission (2004b), European Commission (2005a), Genoud and Finger (2002), ERRA (2005), enerCEE.net (2005)
Notes: M=Ministry, NRA=National Regulatory Authority, OP=Operator, x=not regulated; all data for 2004