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# **Regulation And Infrastructure Management:**

## **German Regulatory Regimes And The Eu Framework**

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### **Abstract (1)**

*In the aftermath of large-scale privatization and liberalization of infrastructure management in Europe, new regulatory institutions and ways of managing network industries such as telecommunications, electricity, and railways have been established. This paper challenges the prominent assumption that, following EU-driven liberalization, regulatory powers simply move from the national to the European level. The paper looks at the German case of transition to a 'regulatory state' in infrastructure management. Assessing the differential impact of Europeanization, it analyses the new institutional set-up of German regulation, and the tasks and problems faced by regulators across three sectors. The German case study indicates that a variety of sectoral (and national) regulatory regimes persist in the context of an EU regulatory framework in statu nascendi. A closer look at the institutional architecture of the EU framework reveals that European and national regulation interact in a complex and dynamic multi-level set-up, reflecting the specific characteristics of the European integration dynamic and of EU multi-level governance. The paper concludes by suggesting some tentative hypotheses on the shape of the European regulatory regime for infrastructure management.*

## **I. Introduction: Europe in the Age of Privatization and Liberalization**

Looking back on the recent transformations of the political economy of advanced industrial countries, the privatization of public enterprises and the liberalization of markets rank among the most important changes. The wave of privatization and liberalization has seized almost every European country, and it has cut deep into new areas hitherto sheltered from competition (Vickers and Wright, 1989; Wright, 1994; Lane, 1997). One of the most remarkable examples is the field of infrastructures and utilities, which, traditionally, were state-owned, state-run or at least exempted from market competition.

Infrastructures and utilities belong to those sectors for which the state traditionally took particular responsibility (*staatsnahe Sektoren*, see Mayntz and Scharpf, 1995). In a historical perspective, this responsibility has taken one of two forms: Either the state has acted as a direct provider or 'producer' of infrastructure services (e.g. public ownership), or public authorities have supervised and controlled - that is, regulated - the private provision of services. The former solution, which - according to Seidman and Gilmour (1986) - can be labeled the "positive state" (*Leistungsstaat*), has been the dominant form of infrastructure management in Europe. The latter solution, i.e. the "regulatory state", is typically found in the US (see Grande, 1993 and 1997; Majone, 1994 and 1997; Schuppert, 1997).

The privatization and liberalization movement in Europe has changed this traditional picture. The entire infrastructure sector has undergone rapid and radical changes, leading to the decline of the positive state. The general reasons for market-oriented reforms in infrastructure management are, by now, well known. The most important have been: the economic and fiscal crisis, which forced governments to deny financial assistance to ailing and inefficient state enterprises; the hegemony of neo-liberal policy frames, which favor market-based solutions; dynamic technological developments, which made market-reforms feasible; and, last but not least, the intensification of international competition, which exercised pressure on state monopolies (see Henig, Hemnett and Feigenbaum, 1988; Vickers and Wright, 1989; Hancher and Moran, 1989; Clarke and Pitelis, 1993; Wright, 1994).

In studies on European integration and European multi-level governance, the process of privatization and liberalization has been regarded as being affected by the recent 'Europeanization' of policies in two respects. On the one hand, the liberalization of markets has been interpreted as a direct result of the dynamics of European market integration, which called for an opening of nationally insulated markets. This development has been facilitated by the autonomous power of supranational actors such as the European Commission and the European Court of Justice (Schmidt, 1998). However, Europe is said to have played a role in this case in still another respect. Since the process of liberalization and privatization has been accompanied by the establishment of public regulatory powers, it has been argued that the liberalization of public utility markets would favor a transfer of competencies from the national to the European level (Majone, 1994 and 1996). Our argument in this paper is that both assumptions have to be qualified.

It is true that European actors and the process of European market integration have played a role in this sector. However, the effects of Europeanization on domestic infrastructure management were more important in countries known as liberalization laggards, such as France and Italy (in regard to telecommunications see Schneider, 2000). Here, 'Europe' often made a difference, in particular by empowering domestic reform coalitions. In other countries, EU policies did little more than amplify, or simply accompany, domestic reform processes. Also, the effects of Europeanization substantially differed across policy sectors. Thus, Europeanization should not be conceived as a mechanical lever for achieving member-state convergence (for a conceptual map of Europeanization see Cowles, Caporaso and Risse, 2000; Héritier et al., 2000).

In the case of Germany, market-oriented reforms used to be, until recently, rather slow and modest (Grande, 1986; König, 1988; Ambrosius, 1994; Esser, 1994; König and Benz, 1997). Compared to the radical reforms in Britain, German reforms looked "symbolic" or "half-hearted" (Esser, 1994; Grande, 1989), and they appeared to be no serious threat to the established pattern of the German social market economy (*soziale Marktwirtschaft*). At the end of the 1990s, however, things began to look quite different. We will show that, at least for the realm of infrastructures and utilities, the pattern of state-economy relations in Germany has changed quite dramatically over the last decade, and that

these changes contribute to a structural transformation of the German political economy. These domestic transformations cannot simply be attributed to EU pressures, and they have not led to a simple transfer of regulatory competencies to the European level either. Their immediate result has been the establishment of a variety of regulatory institutions on the national level. These national institutions are embedded in a developing EU multi-level regulatory framework which is still in flux and whose institutional architecture and political dynamics are still poorly understood.

This paper is organized as follows: First, we will locate the traditional positive state (*Leistungsstaat*) in infrastructures within the general context of the German political economy (par. II). Second, we will describe the decline and dismantling of this positive state in three central infrastructure sectors (telecommunications, railways, electricity), and assess the relative importance of EU reforms in each case (par. III). Third, we will show that the decline of the positive state does not result in a simple retreat of the state; rather, that state responsibility and infrastructure management take a new form. The infrastructural state has been reborn as a 'regulatory state', with a new institutional set-up and design, and facing new tasks and problems (par. IV). In the fourth part, we will discuss the institutional architecture and workings of the EU regulatory framework that is about to develop. While European regulatory institutions gain in importance, they do not simply replace national institutions and styles of regulation. Rather, European and domestic regulation interact in a complex and dynamic multi-level set-up. Finally, we will suggest a few tentative hypotheses on the shape of the European regulatory regime for infrastructure management (par. V.).

## **II. *Soziale Marktwirtschaft* and the Infrastructural State: The Janus-Face of the German Political Economy**

One of the characteristic features of the German political economy was the fact that, unlike some European neighbors, the West German state never engaged in any large-scale industrial ownership. There was no post-war nationalization of key industries, nor was nationalization the response to the crisis of some traditional industries (e.g. steel, ship-building) in the 1970s. Consequently, state-owned industrial en-

terprises in West Germany accounted for only 3,9 per cent of industrial turnover in 1978, as compared to 24,9 per cent in France (Esser, 1994: p. 109).

This pattern was in tune with the guiding principle of the 'social market economy', which strictly limits the role of the state in the economy. According to this economic philosophy, the state is to refrain from direct, *ad hoc* interventions into the free play of the market forces, let alone from replacing the market. Instead, the state's proper role is to define and protect the basic ordering principles of the market economy (*Ordnungspolitik*), and to compensate for the undesirable effects of the market, e.g. by social policy programs.

A second central feature of the German political economy – and the most important complement to the model of the social market economy – was that the state took a very active role in infrastructural management. Until recently, postal services and telecommunications, energy and water supply, transportation systems (roads, railways, air transport), as well as radio and television, education and research, were all state-owned, state-run, or at least exempted from market competition. These sectors were considered public services, with general access and provision rights for all citizens. In some cases, the public responsibility for infrastructure management was even enshrined in the constitution. And in most cases, the state acted as a direct – sometimes even the only – provider of services, i.e. as *Leistungsstaat* (Grande, 1993 and 1997).

German unification did not end this dual pattern; rather, it confirmed and reinforced it. On the one hand, the industrial sector was radically privatized under the auspices of the *Treuhandanstalt*, with more or less dire social consequences in terms of plant closures and unemployment (Czada, 1998). On the other hand, in the realm of infrastructure, the established institutions of the West German positive state were transferred to the East, and the resources of the "developmental state" (Johnson, 1982) were mobilized to modernize the infrastructures in Eastern Germany. In telecommunications, for example, state-owned *Deutsche Telekom*, in a last *tour de force* of the state monopoly (Robischon, 1998), launched a massive investment program, worth 55 billion DM, to modernize the telecommunications infrastructure in the New *Länder*.

However, this picture is about to change dramatically. The German political economy of the late 1990s is characterized not by the triumph of the *Leistungsstaat*, but rather by its decline and dismantling. The entire realm of German infrastructure underwent radical change (Denkhaus and Schneider, 1997; König and Benz, 1997). Public administrations were transformed into corporations (postal services, telecommunications, railways) and, provided they sold well, they were privatized on the stock market (telecommunications, air transport). State monopolies were liberalized and opened to private service provision (radio and TV, postal services and telecommunications), and publicly licensed utility monopolies were ended (telecommunications, electricity, gas). The 1998 change in government has not reversed this trend. Rather, the new government announced further plans for privatization (postal services and banks, airports; see Bundesministerium der Finanzen, 1998).

### **III. The Dismantling of the Positive State: Privatization and Liberalization in Telecommunications, Railways, and Electricity**

The most blatant example for the dismantling of the *Leistungsstaat* in Germany is provided by the telecommunications sector, which traditionally belonged to the core of public infrastructure responsibilities. As in most countries, telecommunications services were organized as a public administration on the national level. The Federal Ministry for Postal Services and Telecommunications (*Bundesministerium für Post und Fernmeldewesen*) combined political and regulatory powers with entrepreneurial tasks of service provision, while the operational activities were performed by the *Deutsche Bundespost*, and protected by extensive monopoly rights.

This model was radically transformed within one decade (Grande, 1989; Werle, 1990; Kubicek, 1994; Schmidt, 1996; Doll, 1997). The reform process started in 1989 and consisted of three steps. In a first step, postal services and telecommunications were separated and transformed into public corporations, and the telecommunications markets were partially liberalized. In a second step, these public corporations were transformed into joint-stock companies, which required a constitutional amendment. This paved the way for a first, partial privatization (25 per cent) of the public network operator on the stock market in 1996. Reforms culminated in the (EU-wide) complete liberalization of markets as of January 1<sup>st</sup>, 1998, at which date a new regulatory agency was established. In June 1999, another 10 per cent of shares were privatized on the stock market.

The two main driving forces for change were: far-reaching technological innovation, leading to the erosion of the natural monopoly (see Mansell, 1993; Steinfield, Bauer and Caby, 1994); and the international market dynamic, triggered by early US-liberalization. The active EU-Commission policy to promote liberalization and to provide new concepts for telecommunication management (see Fuchs, 1994) certainly supported the German reform process. However, as in other countries, EU measures were not leading German reforms, rather they were accompanying, following or, at most, accelerating these reforms (Thatcher, 1999).

In the public transportation sector, the dismantling of the positive state is most evident in the case of the federal railway company, the *Deutsche Bundesbahn* (DB), which was also organized as a public administration under the supervision of the Ministry of Transport. The DB enjoyed monopoly rights, but was also burdened with comprehensive 'public service' tasks, politically defined by *Bund* and *Länder* authorities.

As in other countries, the most important reform engine were financial problems, aggravated in the German case by the fusion of the DB with the ailing East German railways (Denkhaus, 1997; Lehmkuhl, 1996). The reform package came into effect in 1994 and required constitutional changes as well (Lehmkuhl and Herr, 1994; Lehmkuhl, 1996; Benz, 1997). It provided a) for the corporatisation of the DB, which was later (1999) split into independent joint-stock companies united in the DB AG (holding company), and b) for the organizational separation of the (natural monopoly element) track management from transport services. The latter measure was the condition for (c) the limited opening of the rail network to competitors. Unlike in telecommunications, company shares have not (yet) been sold on the stock market.

German reforms went beyond the modest liberalization requirements of the 1991 EU directive (91/440). While legal EU pressures for market opening (negative integration) were minimal, EU-driven debates on the need for and concepts of railway liberalization helped to 'frame' and focus domestic reform processes, providing reform coalitions with workable policy concepts (Knill and Lehmkuhl, 2000). In addition, more substantial EU liberalization moves in related transport sectors (air and land transport, Kassim, 1995; Héritier, 1997; Héritier et al., 2000) lent support and credibility to the railway reforms.

In the realm of public utilities, the case of electricity is the best illustration of the erosion of the positive state. Given some specific technical features, the entire electric power system has traditionally been considered a natural monopoly, requiring the exclusion of competition. The German system was characterized by formal decentralization and fragmentation, on the basis of regional monopolies. Through various capital links, private producer interests were strongly integrated with public bodies which played an active ('positive') role in ownership and management (Mez, 1997).



The new German energy law, which went into effect in April 1998, radically changed this picture of a cosy monopoly in favor of fierce competition. The law provided for an immediate and complete market opening. In this new context, state and municipal bodies progressively withdrew from their ownership and management role by way of privatizing utility shares, while the sector experienced rapid market consolidation and internationalization (Eberlein, 1999b).

How to explain such a radical change? Some economic and technological changes (e.g. the internationalization of energy markets and the combined-cycle gas turbine) favored market-oriented reforms. These focused on the separation of (natural monopoly) electric wires and grid management from generation and supply (Gilbert and Kahn, 1996; OECD, 1997; ICC, 1998). Liberalization pioneers, such as Britain, demonstrated the viability of market reforms, which lent fresh support to the market-liberal discourse of economic advisers. More importantly, electricity liberalization was linked to the broader debate on the competitiveness of the German industry. In this context, the 'European factor' was crucial to tip the German domestic balance in favor of liberalization. Again, however, the EU was not primarily important in terms of 'negative integration': the 1996 EU directive (96/92) prescribed only an incremental and moderate opening of electricity markets (effective as of February 1999). Rather, EU-level discussions on the merits of competition in electricity transformed the parameters of the German debate and led the Federal Ministry of Economics to revise its position in favor of liberalization. This unsettled the traditional sectoral interest coalition between public and private producer interests (Eising, 2000; Schneider, 1999).

#### **IV. The Rise of the Regulatory State: Institutional Design and Political Tasks**

The dismantling of the positive state does not signal the end of all public activities and responsibilities in infrastructure management. As in other countries, the privatization packages spelled out above do not amount to 'material privatization', i.e. to the complete retreat of the state (see, for example, the amended version of Art. 87 GG which ascribes public service responsibilities in telecommunications and railway management to the *Bund*). Rather, we witness a change in the mode of public intervention, from 'production' to 'regulation'. Regulation in this sense is a distinct form of external market control exercised on a con-

tinuous, case-by-case basis by public actors who use more or less formal procedures to develop and implement rules prescribed in the name of “public interest” (see Noll, 1985; Selznick, 1985).

If privatization and liberalization signal a transition from the “positive state” (*Leistungsstaat*) to the “regulatory state” (Grande 1994 and 1997; Majone 1990 and 1994; König and Benz, 1997; Schuppert, 1997; Gusy, 1998; Eberlein, 1999a), a number of questions arise both for research and for policy-making: What about the institutional architecture and functioning of the regulatory state? What about the performance and problem-solving capacity of the regulatory state, compared to its predecessor? Does the transition to the regulatory state imply a re-drawing of the boundaries between state and economy and lead to a significant redistribution of costs and benefits? And what about the distribution of powers between the nation state and the EU? Has the rise of the ‘regulatory state’ actually facilitated a transfer of competencies to the European level? This is not the place to answer these questions in detail. Thus, we take a first and tentative look at the regulatory solutions found in the German case and discuss general tasks and problems of the regulatory state, before turning to the European dimension of regulation.

#### **IV.1. Institutional Patterns of the Regulatory State in Infrastructure Management**

The transition from the “positive” to the “regulatory state” has triggered far-reaching processes of institution building and re-building. To bring some order to the complicated landscape of institutional solutions, we propose the following classification of regulatory institutions. In a first step, we suggest making a distinction between the cases where we find an independent regulatory agency (agency model) on the one hand, and those cases in which regulatory competencies are exercised by a ministry (ministry model), on the other hand. In a second step, both agency and ministry institutions are classified in regard to the question of whether or not they are sector-specific institutions. This yields a matrix of four ideal-type solutions. In what follows, we will apply this typology to characterize the variety of ‘regulatory regimes’ which have emerged in the chosen three infrastructure sectors in Germany.

The case of telecommunications fits into the mold of the sector-specific agency model. Following the complete liberalization of markets (as of January 1<sup>st</sup> 1998), regulatory powers were given to the newly established *Regulierungsbehörde für Telekommunikation und Post* (RegTP), an independent agency under the general supervision of the Federal Ministry of Economics. The agency enjoys great powers of market control and supervision (licensing, price control, etc.). Controversial issues are dealt with by court-like chambers, although decisions delivered by the agency may be challenged by third parties in (administrative) court. The RegTP has to share regulatory oversight (e.g. abuse of dominant position) with the Federal Cartel Office (*Bundeskartellamt*), an agency for competition matters; and in some cases, the Monopoly Commission (*Monopolkommission*) is involved as well. In addition, the Competition Directorate (DG IV) of the European Commission acts as a kind of European Ministry on the EU level, supervising the national implementation of European competition rules.

Railway regulation also follows the sector-specific agency model (Benz, 1997). Most regulatory powers (licensing, security, infrastructure planning) lie in the hands of the newly created *Eisenbahnbundesamt*, a regulatory agency under the general supervision of the Federal Ministry of Transport. As far as general transportation planning is concerned, the Federal Ministry continues to share policy responsibilities with the *Länder*, which are now in charge of regional railway passenger services.

The third sector, electricity, stands out as a regulatory exception (Schneider, 1999; Eberlein, 1999b and c). Following liberalization, no new regulatory agency was created. Instead, while *Bund* and *Länder* Ministries of Economic Affairs continue to exercise some regulatory powers (e.g. in terms of security of supply, price control), the new system basically relies on two institutional mechanisms: One, the *Bundeskartellamt* acts as a generalist guardian of competition; and two, the crucial issue of network access of competitors to electric wires has been entrusted to self-regulation by economic peak associations. These associations fixed the general rules for access and transmission in an inter-associational agreement (*Verbändevereinbarung*). Similar to telecommunications, this German electricity regime is subject to the competition review by the European Commission.

This brief sketch across three fields of German infrastructure regulation indicates, first of all, that the rise of the ‘regulatory state’ has resulted in an expansion of regulatory powers and institutions on the *national level*. Moreover, it illustrates the sectoral variety of public actors with different powers, resources, interests, and normative goals. Compared to the former regime, we find a much more varied and complicated architecture of specific regulatory regimes driven by different logics (hierarchy, bureaucratic competition, self-regulation).

## **IV.2. Tasks and Problems of the Regulatory State in Infrastructure Management**

Regulatory bodies are confronted with a characteristic conflict of interests or dilemma in infrastructure management. This is the tension between ‘economic efficiency’ and ‘social efficiency’.

The first goal of public regulation in the aftermath of privatization and/or liberalization is economic efficiency, that is to create and sustain effective market competition (market-making). Due to the specific features of infrastructure markets (market failures), the selling of shares or the abolition of market entry restrictions does not in itself create competition, but needs to be followed up by continuous public control. In the case of network-bound infrastructures (such as telecommunications, railways and electricity), the crucial challenge is to make sure that new competitors are granted non-discriminatory access to existing networks (e.g. electricity grids). The scope and intensity of effective competition will, therefore, depend on the ability of public regulation to guarantee equal access and non-discrimination by existing network monopolies.

An example from the German context may illustrate this point. After market liberalization in 1998, the former monopolist *Deutsche Telekom* tried to obstruct the entry of new competitors by charging those customers who wanted to permanently switch to a rival carrier (service provider) a substantial one-time fee. This policy was struck down by the new regulatory agency, which also has power to fix the charges rival carriers are required to pay for the use of the network owned by *Deutsche Telekom*.

The second central goal or task of public regulation is to guarantee social efficiency: on the basis of a politically defined concept of ‘pub-

lic interest', regulation is required to correct or compensate for the undesirable results of competitive markets (market-correction), which is to satisfy social and political 'liabilities' and citizen entitlements traditionally associated with infrastructures services (for example concerning the scope and quality of service provision). These demands cannot simply be cast aside following privatization and/or liberalization. Thus, in the German case, the amended article 87 of the constitution continues to assign important responsibilities for certain standards in service provision (telecommunications, railways) to the *Bund*.

In actuality, the goals of economic and social regulation do not simply co-exist, but may very well be in political conflict (see Prosser, 1999: p. 199). Pro-competitive regulation does not necessarily promote social equality. Sometimes, the goal of effective competition can only be pursued at the expense of social concerns on the whole. Examples for the inherent tension between the two goal functions abound. For example, the exclusive focus on effective competition in liberalized electricity markets will favor a mix of primary energy inputs (e.g. 'dash for gas') which may conflict with long-term environmental concerns.

In short, the regulatory state obviously faces a *dilemma*. If and how decision-makers will give priority to unfettered competition over the (social or environmental) correction of market results does not only hinge upon political preferences or *rappports de force*. Regulatory decision-making is also shaped by the institutional design of the regulatory state, since different regulatory bodies have different goal functions and are confronted with different clients. Recent German experience with liberalized telecommunications and electricity markets confirm the assumption that general competition authorities (e.g. the *Bundeskartellamt*) give greater consideration to economic efficiency than traditional ministries.

## **V. Towards a Multi-Level System of European Regulation**

The general transition from the positive to the regulatory state in European political economy has not produced a uniform, European model of regulation. Instead, as the given German case indicates, sector-specific regulatory regimes with different actors and logics emerge. Also, national patterns of sectoral regulation differ widely and persist,

despite market and EU pressures for convergence (for the case of electricity see Eberlein, 1999c).

These observations are far from trivial. They contradict the expectation, prominent in literature, that the transition from the positive to the regulatory state, in the aftermath of European-scale privatization and liberalization, would result in a concomitant shift of regulatory powers from the national to the EU level (Majone 1994, 1996). There are, no doubt, good reasons to expect, a priori, a centralization of regulatory functions on the European level in the context of the Common Market: First, on the demand side, centralization serves to correct policy externalities and to reduce transaction costs. Not only multinational companies operating in the European market prefer uniform rules. More importantly, the member states collectively benefit from self-commitment to a centralization of regulatory functions: centralization prevents national regulatory opportunism which reduces aggregate EU welfare. Second, on the supply side, regulation is the preferred avenue of supranational institutions, and notably of the European Commission, to advance European powers and policies. This is while regulatory expansion is not subject to fiscal restrictions. And thus, the EU can most easily grow as a regulatory state.

On closer inspection, however, this picture of an inevitable shift of regulatory powers to the EU level has several shortcomings. Its most important defect is that it underrates the asymmetric nature of the European integration process. Measures of 'negative integration' (market-creation or opening) can build on a strong legal and ideological footing in the supranational dynamic of integration, quite independent of member state control. 'Positive integration', that is (re-)regulation on the EU level, by contrast, is very difficult to achieve since it depends, in spite of qualified majority voting, on explicit political consensus among member states (Scharpf, 1996 and 1997).

It is true that the EU has been quite successful in building policies and agencies concerned with social regulation (environment, health, safety of the workplace, see for example Eichener, 1997; Kreher and Mény, 1997). While member states actively compete with each other to shape European regulatory solutions, so as to make them fit domestic interests and institutional traditions (Héritier et al., 1994), these conflicts do not prevent European regulations altogether. This success rests on the fact that social regulation is about product- or mo-

bility-related rules which complement the market-creating logic of negative integration (Scharpf, 1996: p. 119). Economic regulation, such as in the case of infrastructure management, is a different matter. It creates rules concerning the conditions of production and, ultimately, regulates market power, bringing the starkly different economic conditions in Europe, and, thus, diverging member states' interests into play and conflict. This is a formidable obstacle to regulation on the European level.

Moreover, in the particular field of infrastructures and utilities, not only positive integration seems hard to achieve, but the self-dynamic power of negative integration is limited as well. To be sure, the so-called 'services of general economic interest', of which technical infrastructures form a part, are subject, by virtue of the European Treaties (Art. 16 Amsterdam Treaty), to the same rules of negative integration. Nevertheless, liberalization reforms in these fields typically meet with particularly strong resistance (Schmidt, 1998; Levi-Faur, 1999). This is because these services are often considered a core component of public service responsibility, and little amenable to the market logic. This does not stop liberalization altogether, but it does tend to result in European liberalization schemes which leave considerable discretion to member states in terms of scope, time, and pattern of market opening. Therefore, it seems rather unlikely that the supranational dynamic of negative integration will produce something like a "community model of utility enterprise" (Prosser and Moran, 1994: p. 149).

To summarize, several specific conditions need to be met for a transfer of regulatory powers from the national to the European level to occur. However, this is not to say that the nation-state remains the sole locus of regulatory power and activity, and that we should limit our focus to national regulation.

European institutions exercise important regulatory powers in the aftermath of liberalization of infrastructure management. While there are, to this day, no sector-specific regulatory agencies on the EU-level, the Competition Directorate (DG IV) of the European Commission acts as a kind of 'European Ministry', supervising the national implementation of European competition rules. This concerns issues such as restrictive practices, market dominance, or state aids. They all revolve around the first goal of public regulation, i.e economic efficiency in terms of effective market competition. To a limited extent, European

institutions are also involved in promoting social efficiency, i.e. the second goal of public regulation as specified above. For example, in the case of electricity, the Commission's Energy Directorate (DG XVII) seeks to promote the use of renewables in electricity generation to respond to environmental concerns not catered to by market forces.

Thus, regulation in Europe is neither exclusively national nor European, nor do we see a neat separation of regulatory tasks and powers. Rather, regulation is characterized by the "parallel operation and incidence of supranational, national and subnational regulation" (Begg, 1996: p. 529). This shifts attention to patterns of interaction between different actors and levels of regulation. Both European and national regulatory institutions are still evolving, and the logic of interaction in this multi-level set up are still poorly understood.

To bring some analytical order to the issue of regulatory level interaction in European network industries, Coen and Doyle (1999) suggest a typology that distinguishes between four types of EU regulatory regimes. The first type of regime might be characterized as 'Regulatory Framework': the EU level defines a general framework of regulation which leaves member states substantial discretion to establish different national regulatory institutions. National authorities deal directly with firms and consumers, and develop normative solutions to balance economic and social efficiency. EU institutions primarily monitor national regulators (mainly in terms of competition policy), without, however, seeking to formally harmonize national regulatory institutions. In the case of public utilities, this model, by and large, represents the legal status quo. And the practice of utility regulation in recent years has already revealed some major shortcomings of the model. Among them is the great variety of national rules, the lack of co-ordination between national regulatory authorities, and, in some cases, the lack of power and organizational capacities on behalf of the national regulatory institutions. Some of these deficits are addressed by the other models for regulatory regimes in Europe.

The second type of regime builds on the creation of an independent Federal Regulatory Commission, presumably composed of national regulators, with powers to both co-ordinate and legislate on matters of EU economic regulation. It would serve, sector by sector, as an umbrella organization above national regulatory institutions which keep responsibility for implementation and compliance. The third type would carry



the idea of independent European institutions even further: the creation of an European Regulatory Agency, independent of European political and executive bodies and member states, and equipped with powers to establish a uniform set of rules across member states, as well as to directly enforce European regulations. Obviously, these two models, particularly the last one, would require member states to hand over substantial regulatory powers to a politically unaccountable European institution, and this in an area in which strong (national) public responsibility has deeply-entrenched traditions. It is mainly for this reason that any attempt to establish independent regulatory agencies in the realm of public utilities, as in the case of telecommunications, has been futile.

The last type of EU regime presented by Coen and Doyle (1999) is the 'Regulatory Forum' model. It is based on transnational regulatory networks, bringing together experts and officials from the national and EU levels, possibly assisted by industry and consumer representatives. On an informal basis they develop common, 'best-practice' standards, rules and procedures for sectoral governance. These forums successfully set the agenda for a formal endorsement by political and executive bodies, thus paving the way for some de-facto harmonization of regulatory strategies.

Using this typology as an analytical yardstick, preliminary evidence on regulatory practice in the EU multi-level system (2) suggests the hypothesis that de facto European infrastructure management is characterized by the growth of 'Regulatory Forum' patterns embedded in the European 'Regulatory Framework' model. Across different infrastructure sectors we find a general EU-level regulatory framework setting up, typically by way of a market directive, minimum requirements and rules concerning market opening, access to infrastructure networks, as well as the EU-level playing field for competition. Under this general 'roof', member states are given some margin of choice as to how they seek to achieve the defined goals. However, the scope and depth of the EU framework varies from sector to sector; and while it is rather elaborate and detailed in telecommunications, it is less so in the case of railways.

In all sectors, national regulatory patterns continue to vary, both in terms of organizational design (e.g. agency versus ministry solution) and substantial decision-making (e.g. balance between economic and

social efficiency). Any attempt to formally harmonize, or even centralize, domestic patterns is subject to strict limitations of 'positive regulation'.

Nevertheless, while the EU level respects the formal competencies of member states under subsidiarity as well as the variety of domestic solutions, the European Commission actively seeks to promote the emergence of common regulatory approaches. The preferred instrument is the sponsoring of transnational regulatory networks which develop common regulatory concepts and best-practice solutions, in short: the 'Regulatory Forum' pattern spelled out above. The forum pattern seems best suited to the reluctance of member states to accept formal, independent rule-making on the EU-level, while, at the same time, it accommodates the need for some coordination and harmonization of regulation in a Common Market.

A good example is the European Electricity Regulation Forum. Organized by the European Commission's Directorate General XVII (Energy), the informal forum brings together, on a bi-annual basis, national regulators and competition authorities, transmission system operators, as well as industry and consumer representatives. Through Commission agenda-setting and leadership, the sectoral experts and policy-makers have managed to develop a common understanding of regulatory needs, concepts and procedures, which is now widely accepted across the member states. On this basis, operational policies for European regulatory problems, such as transmission tariffication for cross-border trade in the internal energy market, are elaborated. The policy solutions produced by the Forum are, as a rule, favorably received and endorsed by the formally competent body, that is the Energy Council of Member States.

This forum method of 'soft harmonization' can also be found, for example, in the telecommunication sector. The Competition Directorate (DG IV) and the Directorate with sectoral responsibility for telecommunications (DG XIII) established forum groups such as the ONP (Open Network Provision) Committee, out of which have recently grown more informal forum-type working groups such as the EC Communication Committee and the EU Communication Regulatory Group. As Coen and Doyle (1999: p. 99) point out: "Such regulatory developments have the advantage of being incrementally accepted by member states, EU institutions and the public. Moreover, by avoiding hard political choices and

conflicts the networks allow for the development of trust and understanding". Obviously, these networks heavily rely on informal processes of information exchanges and contacts, and on 'interface actors' mediating across institutional boundaries and arenas.

While forum-based, 'best-practice' exchange and learning processes play an increasing role in regulatory relations between the EU and the national level, it is important to note that, in the overall regulatory architecture, different logics of interaction co-exist, ranging from collective regulatory learning to regulatory competition between national styles of regulation. Generally, the interaction of different actors and levels can produce both positive and negative effects. On the one hand, as seen above, the interaction between European and national regulators can encourage policy diffusion and regulatory learning through "network-building" (Dehousse, 1997). But on the other hand, we also observe bureaucratic competition, which can take both vertical and horizontal forms. There is some competition, within the German context, between regulatory agencies and the generalist competition authority (e.g. telecommunications). In the vertical perspective, the relationship between the European Competition Directorate and national executives and ministries equally includes elements of conflictual competition, as does the interaction between the European and the national competition authority.

These observations on variable interaction effects in regulatory policy-making feed into a growing consensus, in EU studies, that the European policy-making process is best understood as a complex system of multi-level governance (e.g. Hix, 1998; Kohler-Koch and Eising, 1999; Grande, 2000). Insights from the field of infrastructure regulation may help give a better analytical grounding to the multi-level concept. Obviously, it is far too early to draw final conclusions on the nature and consequences of the European regulatory regime for infrastructure management, let alone conclusions on the general properties and logics of the EU system of multi-level governance. Nevertheless, the empirical analysis outlined above might contribute to the recent efforts to provide an adequate understanding of the processes of EU multi-level policy-making.

## Notes

1. A first version of this paper was presented to the Regulation Initiative Conference: "Regulation in Europe", London Business School, London, 4-5 November 1999.
2. This evidence emerges from a comparative empirical research project ("Regulation and Infrastructure Management in Europe") that is conducted by the two authors at the Technische Universität München.

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