

SECTOR-SPECIFIC REGULATION: TRANSITORY OR AD INFINITUM? AN INTERNATIONAL STATUS REPORT ON REGULATORY INSTITUTIONS*

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Initial needs of sector specific regulation

In the process of privatising public monopolies, the EU Commission is pursuing policy reforms that are advancing both the standardisation of institutional and regulatory frameworks and the creation of competition-oriented European utility markets. Existing monopolies have to be dissolved as a precondition to opening up the markets. From the 1980s onwards numerous reforms have been instigated in the conviction that competition would lead to an improvement in service offerings in terms of both price and technology. The international telecommunications industry has been affected by these reforms from the very beginning.

The transition from a monopoly market to a competitive market in telecommunications has been fraught with problems:

- The former monopolist (incumbent) owned all essential rights – e.g., the access to the customer through the local loop. The introduction of competition was thus connected with interventions in property rights.
- The dominance of the incumbent would have allowed for various abuses of market power – be it through pricing strategies or the specification of technical requirements.
- Investments in this market are asset specific, i.e., they cannot be used otherwise. New competitors

will only consider the risk of sunk cost if framework conditions for an investment are promising.

- Networks are characterised by significant externalities. The utility of a communication network depends on the number of accessible subscribers. At the moment of liberalisation all subscribers were still in the incumbent's network. Competitors only had a chance if they were granted access to this network.
- Significant asymmetries existed regarding the information of market participants. Bilateral contracts would probably have been incomplete, pricing agreements problematic.
- Telecommunication services imply non-economic objectives like universal service and the consideration of social interest.

These initial problems could not be solved by the application of general competition law, which is typically applied after a detection of abuse (ex post); they require sector specific "ex ante" regulation.

To solve these problems, independent regulatory authorities with the power to enact sector-specific regulations were set up in most countries for the purpose of overseeing the transition. In the Interconnection Directive, European authorities specified that sector-specific regulation would be a transitional measure: "When effective competition is achieved in the market the competition rules of the Treaty will in principle be sufficient to monitor fair competition ex-post."¹ In response to repeated allegations of excessive bureaucracy, the European Commission stressed in 1999 that they were working to create a regulatory regime "which can be rolled back as competition strengthens, with the ultimate objective of controlling market power through the application of Community competition law."² The current 2006 review of the telecommunications regulatory framework also adheres to the transitory character of regulation: "The regulatory regime is designed to phase out regulation progressively as effective competition is established."³

New developments and problems

In the meantime, general economic conditions have changed drastically from the initial situation at the end of the 1990s: intense competition in all telecom-

* In a prior study at the beginning of the European liberalisation process, the Ifo Institute analysed the organisation of selected regulatory authorities: The Ifo Institute and the Centre for European Integration Research published an initial study comparing the legal framework of regulation of telecommunications markets (*Liberalisierung der Telekommunikationsordnungen – Ein Rechtsvergleich* 2000). This report continues the earlier work and includes an international comparison of regulatory institutions. The complete study is available in German. The Ifo Institute is grateful to Deutsche Telekom AG for providing initial financing for this study.

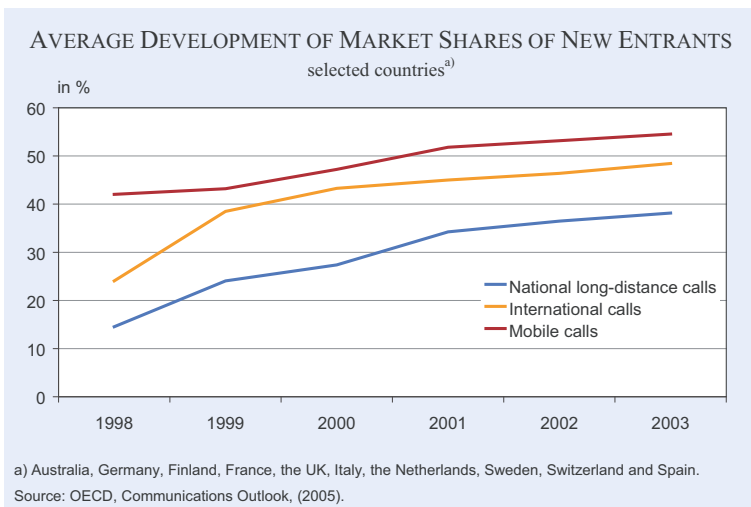
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¹ 97/33/EC, Recital 25.

² COM (1999) 539 final, Section 4.7 (Specific Competition Issues).

³ See COM (2006).

Figure 1



munication markets, rapid technological development with ever-shorter innovation cycles and amended laws now characterise the decision-making environment of national regulatory authorities. International markets have been marked by falling prices, an increasing number of competitors and the loss of market share by the former monopolist (incumbent; Figure 1).

New technologies (e.g., Next Generation Networks, IP, VDSL) are providing additional fuel for far-reaching changes in electronic communications. International analysts and market observers like Goldman Sachs predict that this trend will continue undiminished over the next few years, leading to additional business losses for the incumbents (Figure 2).

The influence of changing markets and increasing competition in telecommunications on the institutional structure of these authorities⁴ are analysed in this article. The question arises as to whether these extremely dynamic and innovative processes in the telecommunications sector were accompanied by institutional adjustments of national regulatory authorities – adjustments that will eventually lead to market supervision by general competition authorities. The underlying study (Schedl and Sülzle 2007)

⁴ These authorities often have other, statistically inseparable, tasks.

explored that question empirically as part of a review of institutions in eleven countries (Australia, Germany, Finland, France, the UK, Italy, the Netherlands, Sweden, Switzerland, Spain and Hungary). It provides an overview of the current state of structures of international regulatory institutions for telecommunications markets against the background of competitive situation. The study examines the character of regulation and observable successes, e.g. the increasing number of competitors, market shares and falling prices. At the

same time, it identifies new problem areas apparent in the regulated telecommunications sector: falling investment and lagging innovation in network infrastructure.

More than eighty annual reports were analysed for the study. Regulation experts were interviewed by telephone: employees of the regulatory authorities and ministries, as well as independent researchers well versed in matters of regulation. The interviews were based on a guideline developed by the Ifo Institute.

National regulatory agencies

Regulatory tasks

Among the eleven selected countries five different structures regarding regulatory tasks can be discerned (Table 1):

Figure 2

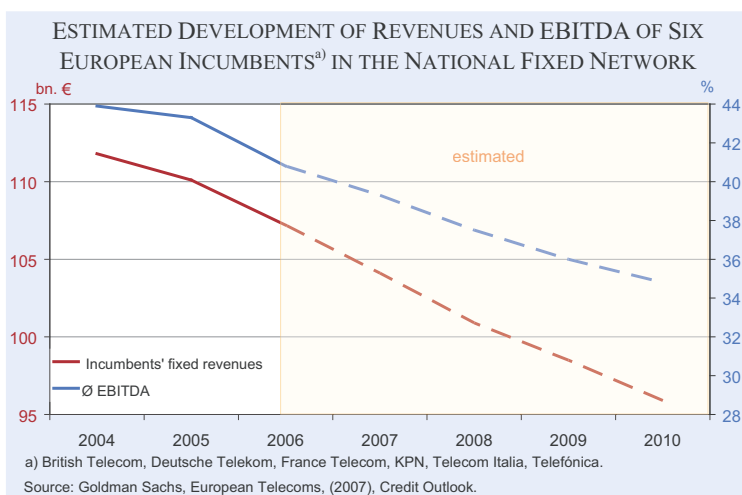


Table 1

Regulatory tasks

| | Telecommunication | | Post | Broadcasting | | | Energy | Rail |
|-------------|-------------------|--------|------|--------------|-------------|---------|--------|------|
| | Fixed | Mobile | | Frequencies | Competition | Content | | |
| Australia | (X)* | (X)* | | X | X | X | | |
| UK | X | X | | X | X | X | | |
| Switzerland | X | X | | X | X | X | | |
| Italy | X | X | | X | X | X | | |
| Finland | X | X | X | X | X | | | |
| Netherlands | X | X | X | X | | | | |
| France | X | X | X | | | | | |
| Sweden | X | X | X | | | | | |
| Hungary | X | X | X | | | | | |
| Germany | X | X | X | | | | X | X |
| Spain | X | (X)** | | | | | | |

(X)* = Price- and access regulation in the competency of the competition authority; (X)** = not yet founded.

Source: Country reports of the NRAs.

- Telecommunication and broadcasting regulation exists in Australia, Italy, Switzerland and the UK.
- Telecommunication and postal regulation is practised in France, Sweden and Hungary.
- Finland and the Netherlands have a mixed form of these models with reduced regulation of broadcasting.
- In Germany energy and rail regulation have been added to the tasks of telecommunication and postal regulation.
- Regulation in Spain is limited to the fixed network.

tory agencies differ considerably. Roughly three types of size can be discerned (Table 2):

- Agencies with very high employment in Germany and the UK.
- Those with employment figures between 300 and 500 (Switzerland, Netherlands, Australia and Hungary) and
- Agencies with comparably low employment (Sweden, Italy, Finland, France and Spain).

During the last ten years there have been several task extensions: the merger of broadcasting and radio communication with telecommunication regulation in the UK (2003) and Australia (2005), the inclusion of postal regulation in France (2005) and of energy and rail regulation in Germany (2006).

These figures may, in several cases, be misleading as some employees with regulatory influence have remained in ministries (e.g. in France, Italy or Spain).

The growth rates indicate a largely increasing trend in employment. A clear decrease was only evident for Germany, which, in our opinion, is linked to posts marked for no replacement due to the size of the

Modifications were made as a result of increasing obligations for the review of EU member states regarding market analysis and the examination of significant market power. Organisational modifications and extensions make it difficult to compare telecommunication regulations. They have led to significant increases in employment.

Employment

The size and development of employment in national regula-

Table 2

Number of employees (2005) and their growth (1999–2005)

| | Employment | | | | Growth in per cent |
|-------------|------------|---------|------|--------|--------------------|
| | 100–250 | 300–500 | >500 | >2,000 | |
| Germany | | | | 2,358 | –9.4 |
| UK | | | 776 | | +297.9 |
| Switzerland | | 441 | | | +6.5 |
| Netherlands | | 433 | | | +7.2 |
| Australia | | 417 | | | n.a. |
| Hungary | | 311 | | | n.a. |
| Sweden | 250 | | | | n.a. |
| Italy | 240 | | | | +238.0 |
| Finland | 232 | | | | +20.2 |
| France | 168 | | | | +20.0 |
| Spain | 142 | | | | +25.7 |

Source: Country reports and OECD DSTI/ICCP/TISP(2005)6/FINAL.

Table 3
Institutionalised advisory boards

| Orientation | Policy | | | | Other | User | | | |
|-------------|--------|---|---|---|-------|------|---|---|---|
| | 1 | 2 | 3 | 4 | | 4 | 3 | 2 | 1 |
| Australia | | | | | | X | X | X | X |
| UK | | | | | | X | X | X | X |
| Italy | | | | | X | | | | X |
| France | X | X | X | | | | | | X |
| Germany | X | | | | X | | | | |
| Spain | | | | | X | | | | |
| Switzerland | | | | | | | | | |
| Finland | | | | | | | | | |
| Netherlands | | | | | | | | | |
| Sweden | | | | | | | | | |
| Hungary | | | | | | | | | |

1, 2, 3, 4 = Number of boards. – X = Institutionalised boards.

agency. For three countries growth rates could not be calculated.

Advisory boards

Organisation charts reflect, as expected, flat structures for most of the smaller agencies – an exception is the French agency. Typically, mid-sized and large agencies additionally resort to institutionalised external advisory boards. These boards provide additional expert knowledge and contribute to stabilising the institution (Table 3).

Financing

With respect to financing, the agencies can be grouped into roughly three categories. Agencies with

- Nearly complete funding provided by contributions and charges passed on to the industry: Finland, Germany, Hungary, Netherlands (OPTA) and Spain.
- Mixed funding provided by industry fees and appropriation: Italy, Netherlands (AT), Sweden, Switzerland and UK.
- Nearly complete funding provided by appropriation: Australia and France.

Measurement problems

The data collection revealed several problems in measuring telecommunication regulation. Observable were

- *Imprecise measurements:* The merger of parts of the Federal Post Ministry and the Agency of Post

and Telecommunication as the national regulator in Germany resulted, compared internationally, in the creation of a large institution (about 2,500 employees). Only about 300 persons are actually involved in telecommunication regulation.

- *Other organisations that influence regulation:* In several countries ministerial departments with an influence on regulation continue to exist (e.g. France, Italy, Netherlands, Spain). In Australia the tasks of price and access control are under the competency of the competition authority. It was only possible to include in our data the figures for the Netherlands from the department of radio-communication.
- *Missing information or missing details:* This applies to employment and budget information in several countries.
- *Conflicting information in different sources:* Information on price and market share showed significant differences between OECD and EU sources.

This underlines the necessity for further research.

Institutional theory is used to analyse the changes that have taken place. They impute a generally high level of inertia for public institutions and postulate that state institutions use increasingly detailed interpretations of their mission or additional areas of competence they have acquired as evidence of their necessity to exist. The objective of this long-term project is the description of the institutional character of regulatory authorities and their introduction into the debate on European regulatory requirements.

Working hypotheses

Institutional theory led us to the formulation of the following hypotheses:

- *Persistency:* Regulatory authorities are not different from other public institutions. Once established, they are not easily dismantled. The abolition of tasks is compensated by an expansion of remaining tasks or the creation of new ones.
- *Low adaptability:* Regulatory authorities are characterised by an inbuilt moment of inertia. The assimilation of changing general conditions (e.g., technology, innovations) occurs, if at all, with significant delay. Changing tasks lead to enlargement in the case of new tasks and limited transfers in the case of expanded ones. The develop-

ment of competition or a changing market environment has no repercussions on the development of personnel in regulation.

- *Limited influence on organisation:* The possibilities for influencing cutbacks or the organisational change of independent regulatory authorities are limited.

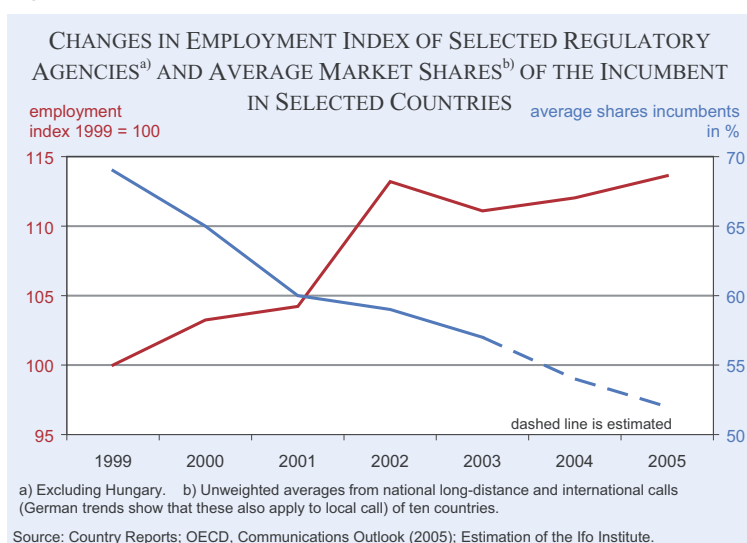
Results

Despite a strong increase in the intensity of competition in telecommunications markets after ten years of complete liberalisation, sector-specific regulation has not been phased out in favour of general competition law in any of the European countries studied. Falling prices, an increasing number of competitors, and the incumbents' loss of market share have led to reduced regulation in some areas, but any definite renunciation of regulation tied to success factors remains to be seen. On the contrary, ten years after the "transitory" introduction of regulation, structure-preserving behaviour, e.g., an expansion in regulatory scope and responsibility, a boost in personnel, and higher budgets for the authorities in question (Figure 3), can be observed.

Current analysis in selected countries shows that new, increasingly sophisticated regulation mechanisms, e.g., the procedures for the determination of significant market power (SMP, Article 14) and market analysis (Article 16), have been introduced.⁵ Both increasing specialisation and an increasing tendency for regulatory authorities to take their place next to existing supervisory organisations as equals with their own distinct identities were observed. These findings are consistent with institutional theory. Further observations are:

- Current trends show that personnel expansion at regulatory authorities predominates internationally. Measured by the number of employees, employment increased by an average of more than 60 percent between 1999 and 2005. This

Figure 3



increase is largely due to the establishment and strengthening of the regulatory authorities in their institutional environments.

- On average, the selected European regulatory authorities employed about 518 employees in 2005. Although Germany authorities lost employees against the overall trend (- 9.4 percent), total employment was at 2,358 (2005) employees, more than 600 percent above the average employment level of the regulatory authorities in the other ten countries. Given this order of magnitude, it seems unlikely that the reduction in workforce is a result of a shrinking scope of regulatory duties.⁶ It should be noted, however, that the employment figures may not reflect total employment in regulation.⁷ It can be assumed that the figures would be modified if the authorities were to provide information on the number and qualifications of the employees who work specifically on telecom market regulation issues.⁸
- The theory of persistent institutions is equally supported by the development of the scope of activity of regulatory authorities.
- The analysis of eleven regulatory institutions leads us to the conclusion that the goal of a transitional, sector-specific regulation, which would be reassigned to general competition law, is not fixed in the objectives and/or the corresponding legal basis of regulatory institutions. There are no

⁵ Directive 2002/21/EG of the European Parliament and of the Council dated 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive).

⁶ A much more likely scenario: this is an isolated effect of "limited-duration positions".

⁷ In some countries, there are still ministry departments that have complete regulatory power (such as AT in the Netherlands) or affect regulation (such as STSI and MEN in France).

⁸ E.g. at Germany's Federal Network Agency (Bundesnetzagentur), about 300 employees are estimated to be directly involved with telecommunications regulation.

concrete specifications for phasing out regulation de lege lata in the individual member states.

- The increased workload resulting from the EU regulatory framework has led to organisational adaptation on the part of the authorities, but there is still no sign that work is being shifted inside the regulatory authorities to new assignments.⁹
- In the face of a significant increase in competition, employment trends indicate that regulatory authorities have a low ability to adapt with respect to the gradual phasing out of regulation. However, one should keep in mind that different national regulatory institutions have varying amounts of freedom to act as they wish. The state's ability to shape and guide these institutions differs due to factors such as differing financing models for various authorities as well as differing civil service regulations and levels of protection from dismissal. The growing requirements of the EU Commission are probably a major factor as well.
- Generally it can be observed that regulatory institutions with a stronger element of self-financing (through fee revenue, etc.) have more leeway in their decision-making on organisational matters than authorities that depend predominantly on appropriation. Institutional theory would give the former authorities a better chance of breaking free and establishing themselves as separate entities over the long term than the latter group, which is more tightly controlled by government.
- Marked cross-relationships with institutionalised advisory bodies (as in Germany and France) or consumer organisations (as in Australia and the UK) support the regulators' ability to influence economic and competition-related policy. This creates an ever larger and closely-knit network of co-operation between the state and regulatory authorities, where network members sound the alarm for each other when structural intervention (e.g., in the form of budget cuts) threatens.

Undoubtedly, the competition sparked by regulation has created significant benefits for consumers. The initial goal of competing infrastructure providers was replaced by price competition within the existing telecommunications infrastructure. New broadband and next-generation network (NGN) technologies will further change the conditions of competition.¹⁰

Against this backdrop, the initial objective of self-supporting competition and supervisory agencies that restrict themselves to control and remedy abuse should not be abandoned. The currently observable degree of differentiation and the increasing scope of regulation, as well as the increasingly labour-intensive design of regulatory processes do not serve this objective. Given the results of this study, the latest call for centralisation of important regulatory functions at the European Commission is equally unconvincing, all the more so as competition and prices are pointing in the desired direction in the member states. It would be far better to focus again on the politically mandated transitory character of sector-specific regulation within a market economy regime.

This study was conceived as the first step towards a systematic status report. In the course of collecting and analysing the data, it became clear that more information is needed. In the hope that regulatory authorities will be willing to provide information, we will strive to describe more precisely their missions and structures in the future. With this pilot project, the Ifo Institute seeks to contribute to the discussion and provide an impetus for research papers that could, for example, empirically investigate the connection between market development and institutional change.

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⁹ Such as a shift from telecommunications regulation to energy regulation: the German Federal Network Agency even received approval for 60 new positions.

¹⁰ ARCEP, Rapport d'activité 2005, pp. 432–36.