

Knieps, Günther

Working Paper

Regulatory reforms of European network industries and the courts

Diskussionsbeitrag, No. 129 [rev.]

Provided in Cooperation with:

Institute for Transport Economics and Regional Policy, University of Freiburg

Suggested Citation: Knieps, Günther (2010) : Regulatory reforms of European network industries and the courts, Diskussionsbeitrag, No. 129 [rev.], Albert-Ludwigs-Universität Freiburg, Institut für Verkehrswissenschaft und Regionalpolitik, Freiburg i. Br.

This Version is available at:

<https://hdl.handle.net/10419/47445>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Regulatory Reforms of European Network Industries and the Courts

by **Günter Knieps**

Discussion Paper

Institut für Verkehrswissenschaft und Regionalpolitik

No. 129 – February 2010 – Revised Version: May 2010

Abstract:

Regulatory reforms in European network industries are strongly influenced by legal decisions. The cases considered in this paper not only initiated the liberalization process of the markets for network services but also provided an important signaling function for the remaining regulatory problems: localization of network-specific market power, abolishment of grandfathering rights, ex ante regulation of network-specific market power instead of negotiated unregulated network access, incentive regulation instead of cost-based regulation. The process towards sector-symmetric market power regulation based on economically founded principles gains increasing relevance. Nevertheless, there are further reform potentials to be exhausted in the future.

Prof. Dr. Günter Knieps
Institut für Verkehrswissenschaft und Regionalpolitik
Universität Freiburg
Platz der Alten Synagoge, 79085 Freiburg i. Br.
Phone: (+49) - (0)761 - 203 - 2370
Fax: (+49) - (0)761 - 203 - 2372
e-mail: gunter.knieps@vwl.uni-freiburg.de

The electronic version of this paper is available under:
[http://www.vwl.uni-freiburg.de/fakultaet/vw/publikationen/
diskussionspapiere/Disk129.pdf](http://www.vwl.uni-freiburg.de/fakultaet/vw/publikationen/diskussionspapiere/Disk129.pdf)

1. Introduction

The development of the legal regulatory framework in European network industries has been a time-consuming and path-dependent reform process. The evolution of regulatory reforms can be differentiated into two periods. The first period from the 1980s until 1998 can be characterized by the paradigm shift from legally protected global (end-to-end) regulated monopolies towards liberalized markets for network services with free entry to network infrastructure capacity markets. The second period from 1998 onwards can be characterized by the development of open access provision policies and subsequent regulation of access to network infrastructures. The roots of this reform process are laid down in the competition rulings of the Treaty of Rome in 1957. In the meantime a large body of European and national laws of the EU Member Countries has evolved, providing the legal basis for ex ante regulation in the different European network industries.

The basic hypothesis of this paper is that landmark decisions of the courts (European Court of Justice as well as National High Courts) played an important role in getting the bandwagon towards regulatory reform running. Such court cases are of particular interest because they are not only solving conflicts among parties in dispute, but at the same time they are revealing fundamental gaps in the existing regulatory law. Public attention to this signaling function of court decisions is rather modest in the European regulatory reform debate. In contrast, in the U.S. the recognition of the fruitful function of Supreme Court decisions within the process of reforming antitrust and regulation policy based on the Sherman Anti-Trust Act of 1890 has a long history.¹

In the following, several landmark law cases are considered which reveal the complementary dimensions of regulatory reform in Europe: free entry into network industries (section 2), proper identification of market failure (section 3), a competitive framework for network infrastructure capacities (section 4), the role of negotiated access versus regulated access (section 5), and finally, the fallacies

¹ See e.g. Sidak, Spulber (1998), pp. 216; Kovacic (2002); Kolbe, Tye, Myers (1993).

of cost-based access regulation (section 6). Each section starts with the relevant law case followed by the characterization of the regulatory reform process afterwards and the characterization of the remaining reform potentials.

2. Free entry into markets for network services

The reform process of the liberalization of network service markets in Europe has been initiated by the EC policy of liberalizing transportation markets.² The parties in dispute were the European Parliament supported by the Commission of the European Communities pleading for liberalization of the European transportation markets against the Council of the European Communities pleading for the status quo of legally protected entry barriers. Based on the result of a statutory control of the Treaty of Rome the European Court's judgment concluded that the Council failed to fulfill its obligation with respect to the common transport policy. With this decision the Member Countries of the European Community were obliged to abolish all legal entry barriers to transportation service markets, so that non-discriminatory free entry became possible.

In the following, the process of entry deregulation of European network service markets will be considered.

2.1. Judgment of the European Court: The British Telecom Case³

A cornerstone for the take-off of the development towards competition in European telecommunications markets was the Commission of the European Communities' British Telecom decision in 1982 and its confirmation by the

² Judgment of the Court of 22 May 1985. – European Parliament v Council of the European Communities. – Common transport policy – Obligations of the Council. – Case 13/83. European Court reports 1985, p. 01513.

³ Judgment of the Court of 20 March 1985. – Italian Republic v Commission of the European Communities. – Abuse of a dominant position (Article 86) – Public undertakings (Article 90) – International agreements (Article 234) – Article 222 – Article 190 of the Treaty. – Case 41/43. European Court reports 1985, p. 00873.

European Court in 1985. The point of contention was British Telecom's intention to prevent message-forwarding agencies from offering certain services to the detriment of their customers operating in other Member States. According to the decision, British Telecom should no longer be permitted to forbid the high-speed forwarding of telex messages between foreign countries by private message-forwarding agencies in Great Britain. The legal monopoly of British Telecom in public networks would not justify the prohibition of new services based on technical progress.

The procedural setting of this case was most unusual because the Italian government and not British Telecom appealed against the Commission's decision. Moreover, the British government intervened, taking sides not with the Italian government, but with the Commission. The important message of the British Telecom case was that the Commission of the European Community was able to apply the Treaty of Rome's competition rules to the public telecommunications administrations of the different Member Countries (Schulte-Braucks, 1986).

2.2. Liberalization of the markets for network services

After these decisions of the European Court in 1985 the debate on the liberalization of the European network services markets gained increasing momentum. Nevertheless, a longer transition period of phasing-out legal entry barriers to different service network markets occurred. It was only in 1998 that most statutory monopolies were transferred into constitutional guarantees of open markets. The liberalization of transport services in Europe was not only focussed on airlines, trucks and ships, but the role of (potential) entry to European railway networks was also taken into account.⁴ Since the British Telecom Case the market

⁴ For truck transportation services, see Council Regulation (EEC) No 3916/90 of 21 December 1990 on measures to be taken in the event of a crisis in the market in the carriage of goods by road, OJ L 375/10, 31. 12. 1990; for air transportation services, see the air liberalization package, in particular Council-Regulation (EEC) No 2410/92 of 23 July 1992 amending Regulation (EEC) No 3975/87 laying down the procedure for the application of the rules on competition to undertakings in the air transport sector, OJ L 240/18, 24. 08. 1992; for the market for train services, see

for telecommunications services has been gradually opened in all European countries, starting with value added network services in the eighties and finally, since January 1998, the voice telephone markets are completely open.⁵

The process of opening the markets for network services also reached the other network industries. In the meantime, in the electricity and gas sectors the free choice of final consumers (eligibility) has been guaranteed in all European countries.⁶ The market for postal services has been gradually opened since 1997;⁷ the introduction of full competition in all European countries is guaranteed for 2011.⁸

2.3. Remaining reform potentials

It is well known from regulatory economics that legal entry barriers, administrative price setting, prohibition of cabotage etc. is nothing but a publicly sanctioned monopoly or cartel agreement, and therefore counterproductive from the economic welfare point of view. Consequences of active and potential competition in the markets for network services are the abolishment of monopoly rents with a subsequent reduction of tariff levels, increasing incentives for cost effi-

Council-Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways, OJ L237/25, 24.08.1991.

⁵ Commission Directive 96/19/EC of 13 March 1996 amending Directive 90/388/EEC with regard to the implementation of full competition in the telecommunications markets, OJ L 74/13, 22. 3. 1996 (the 'Full Competition Directive').

⁶ Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC, OJ L 176/37, 15. 7. 2003 (Art. 21); Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal markets in natural gas and repealing Directive 98/30/EC, OJ L 176/57, 15. 7. 2003 (Art. 23).

⁷ Directive 2002/39/EC of the European Parliament and the Council of 10 June 2002 amending Directive 97/67/EC with regard to the further opening to competition of Community postal service, OJ L 176/21, 5.7.2002.

⁸ Directive 2008/6/EC of the European Parliament and of the Council of 20 February 2008 amending Directive 97/67/EC with regard to the full accomplishment of the international market of Community postal services, OJ L52/3, 27.2.2008.

ciency, optimization of service networks, more rapid reaction of prices to changes in the cost and demand structure, and increasing price-quality options.

Nevertheless, the reform process of liberalizing network services was strongly path-dependent. After all, the liberalization process took more than two decades and is still not completely finished. European postal markets will only be completely liberalized in 2011. The provision of local public transport cannot seriously be called competitive. In Germany, the markets for long-distance (inter-city) bus services are not competitive; entry to the markets as well as prices are still under public control (Monopolkommission, 2007, p. 33).⁹ The markets for water provision services in Germany are far from being liberalized (Rüttgers, 2009, pp. 177).

3. Localization of network-specific market power

The more the aim of liberalizing network services succeeded, the more did the focus of EC directives as well as the national sector-specific laws shift to the problems of access to network infrastructure. The division of labour between general competition law and sector-specific market power regulation became highly relevant. Remaining reform potentials therefore centre on the vertical perspective of non-discriminatory access to infrastructures complementary to the network service level.

3.1. Judgment of the European Court: The ‘Bronner’ Case

The starting point of this case was the question of the Higher Regional Court, Vienna raised to the European Court whether refusal of a media undertaking to include a rival daily newspaper of another undertaking in its newspaper home-delivery scheme was an abuse of a dominant position.¹⁰ The parties in dispute

⁹ § 45(2) in combination with § 9 Personenbeförderungsgesetz (PBefG).

¹⁰ Judgment of the Court (Sixth Chamber) of 26 November 1998. – Oscar Bronner GmbH&Co.KG v Mediaprint Zeitungs-und Zeitschriftenverlag GmbH&Co.KG,

were the newspaper group Mediaprint holding a substantial share of the market in daily newspapers and Oscar Bronner with a moderate market share. The claim of Oscar Bronner to get access to the home-delivery system of Mediaprint was denied by the European Court, in particular with the following reasoning (recital 44 of the Court decision): ‘Moreover, it does not appear that there are any technical, legal or even economic obstacles capable of making it impossible, or even unreasonably difficult, for any other publisher of daily newspapers to establish, alone or in cooperation with other publishers, its own nationwide home-delivery scheme and use it to distribute its own daily newspapers’.

Although the European Court did not refer to the essential facilities doctrine explicitly in his decision, Advocate General Jacobs in his opinion pointed out the relevance of this doctrine for the case.¹¹ The essential facilities doctrine has its origins in US antitrust law.¹² In accordance with this doctrine, a facility can only be regarded as essential if the following two conditions are fulfilled: (1) market entry to the complementary market is not actually possible without access to this facility, and (2) providers in the complementary market cannot, using reasonable effort, duplicate the facility; substitutes do not exist either (Areeda, Hoverkamp, 1988).

According to the findings of the Advocate General a newspaper’s home-delivery system does not fulfil the criteria of an essential facility.

Mediaprint Zeitungsvertriebsgesellschaft mbH&Co.KG and Mediaprint Anzeigengesellschaft mbH&Co.KG. – Reference for a preliminary ruling: Oberlandesgericht Wien – Austria. – Article 86 of the EC Treaty – Abuse of a dominant position – Refusal of a media undertaking holding a dominant position in the territory of a Member State to include a rival daily newspaper of another undertaking in the same Member State in its newspaper home-delivery scheme. – Case C-7/97. European Court report 1998, p. I-07791.

¹¹ Opinion of Advocate General Jacobs delivered on 28 May 1998, Case C-7/97, Oscar Bronner GmbH&Co.KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH&Co. KG and Others. European Court Report 1998, p. I-07791.

¹² The case that established this doctrine is: U.S. Supreme Court, *United States v. Terminal Railroad Association of St. Louis* (224 US 383 (1912) and 236 US 194 (1915)).

3.2. The evolution of access regulation

The essential facilities doctrine provided an important starting point for the question, in which network areas access regulation might be necessary. In European telecommunications policy the European Commission's Access Notice pointed out the importance of the concept of the essential facilities indispensable for reaching customers (section 68) within the context of EU competition law, in particular Article 82 of the EC Treaty.¹³ With the supply of access to the essential facility to one or more competitors, the emergence of new products or services should not be hampered (Ungerer, 2000, p. 217). Nevertheless, in the subsequent reviews of the EU regulatory framework for telecommunications the reference to the essential facilities doctrine lost relevance. The unspecific regulatory obligations based on the EU directives in the 1999 review package – in particular the Framework Directive¹⁴ and the Access Directive¹⁵ – resulted in increasingly complex and contradictory decisions and statements. In particular, in order to identify significant market power, the Commission's guidelines formulate a long list of criteria indicating the existence of a dominant position.¹⁶ In 2003, however, the European Commission made progress in identifying the regulatory basis, recommending the so-called 'three criteria test'. The Commission's criteria were as follows: 'The first criterion is the presence of high and

¹³ Notice on the application of the competition rules to access agreements in the telecommunications sector – framework, relevant markets and principles, OJ 1998 C 265/2-28.

¹⁴ Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), OJ 2002 L 108/33.

¹⁵ Directive 2002/19/EC of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive), OJ 2002 L 108/7.

¹⁶ These criteria include: overall size of the undertaking, control of infrastructure not easily duplicated, technological advantages or superiority, absence or low level of countervailing buying power, easy or privileged access to capital markets/financial resources, product/services diversifications, economies of scale, economies of scope, vertical integration, a highly developed distribution and sales network, absence of potential competition and barriers to expansion. Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications network and services, OJ 2002 C 165/6-31.

non-transitory entry barriers whether of structural, legal or regulatory nature. ... [T]he second criterion admits only those markets, the structure of which does not tend towards effective competition within the relevant time horizon. ... The third criterion is that application of competition law alone would not adequately address the market failure(s) concerned.’¹⁷ These criteria constitute a revival of the relevance of the essential facilities doctrine for the identification of market power.

3.3. Remaining reform potentials

Case-by-case identification of essential facilities by court judgments does not guarantee a consistent localization of market power in liberalized network industries. The proper design of ex ante regulation requires generalizing the concept of the essential facilities doctrine to a class of facilities characterized by network-specific market power. The concept of the monopolistic bottleneck provides an economically founded approach which can be applied consistently within a network industry as well as sector-symmetrically over all network industries (Knieps, 1997, pp. 328-331). The characteristics of a monopolistic bottleneck are:

- (1) A facility is necessary for reaching customers, i.e. no other facility exists as an active substitute. This is the case when a natural monopoly exists and a single provider is able to provide the facility more cheaply than several providers;
- (2) A facility cannot reasonably be duplicated in order to control the active provider; and there is no potential substitute. This is the case when the costs of the facility are irreversible and no longer decision-relevant for the incumbent provider.

¹⁷ Commission Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services (2003/311/EC), OJ 2003 L 114/45-49, recital 9.

In fact, the above mentioned ‘three criteria test’ in the Commission Recommendation of February 2003 is consistent with the concept of monopolistic bottlenecks. The presence of high and non-transitory entry barriers describes a natural monopoly in combination with irreversible costs (Blankart, Knieps, Zenhäusern, 2007, p. 423). Such monopolistic bottlenecks may arise with ‘earthbound’ networks and sub-networks, e.g. with route infrastructures (railway tracks, train stations, airports, electricity transmission grids etc.), but also with regional and local water, sewage and energy networks (Knieps, 2006, pp. 53-64). After global market liberalization, the regulation of market power in these monopolistic bottleneck areas remains an important task to prevent the distortion of active and potential competition in the complementary service markets. In particular, adequate regulation of access conditions such as quality and tariffs needs to be implemented to guarantee non-discriminatory access to monopolistic bottleneck components.

As long as monopolistic bottlenecks are not involved (e.g. in the newspapers home-delivery services at issue in the ‘Bronner’ Case), unregulated bargaining solutions on access conditions are not only beneficial to the carriers themselves, but also improve the market performance of the network services provided to the customers. Irrespective of the market size of the carriers involved, inefficient suppliers of access services are rapidly confronted with strongly decreasing market shares, due to the pressure of alternative (potential) network service providers.

4. Markets for infrastructure capacities

A central cornerstone of the EU Directives is the objective of non-discriminatory access to network infrastructures at transparent, non-discriminatory and reasonable tariffs.¹⁸ In order to realize these objectives the

¹⁸ For railway infrastructures see Directive 2001/14/EC, Art. 8; for electricity grids see Directive 2003/54/EC, Art. 19; for natural gas pipelines see Directive 2003/55/EC, Art. 18; for telecommunications networks see Access Directive 2002/19/EC, Art. 10; for slot allocation at Community’s airports see Council-Regulation (EEC) No. 95/93.

evolution of competition on markets for network capacities should not be hampered by grandfathering rights, and asymmetric access rules should be abolished.

4.1. Judgment of the British High Court: The Guernsey Transport Board Case

Competition on the airline service markets has been the leading principle laid down in the Commission Regulation of 23 July 1992.¹⁹ In January 1993 the Council of the European Communities adopted a Regulation²⁰ on common rules for the allocation of slots at Community airports which established a legally binding framework applicable in all Member States. The goal was that the allocation of slots at congested airports should be based on neutral, transparent and non-discriminatory rules. Article 8 (1a) states the maintenance of ‘grandfather’ rights, according to which the air carrier that has operated a slot in the previous scheduling period has priority over other air carriers in respect of that slot in the next scheduling period. Thus, primary exchanges of airport capacities, e.g. slot auctions are excluded. Article 8 (4) states that: ‘Slots may be freely exchanged between air carriers or transferred by an air carrier from one route, or type of service, to another, by mutual agreement or as a result of a total or partial take-over or unilaterally.’ The interpretation of the term ‘freely exchanged’ became the central conflicting point in the Guernsey Transport Board Case.²¹ This case became a landmark case for the more general question, whether secondary trading of airport slots including side payments would be consistent with the Council Regulation of 1993.

¹⁹ Council Regulation (EEC) No. 2408/92 of 23 July 1992 on access for Community air carriers to intra-Community air routes, OJ L 240/8, 24.8.1992.

²⁰ Council Regulation (EEC) No. 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports, OJ, L 014 of 22 January 1993.

²¹ R v Airport Co-Ordination Ltd. Ex P. The States Of Guernsey Transport Board; High Court of Justice, Queen’s Bench Division (Divisional Court), Maurice Kay J, 25 March 1999, European Law Reports 1999, pp. 745-754.

The starting point in this case was that Air UK stopped the regular flight service from Heathrow to Guernsey in 1998 moving all activities to Stansted. The exchange of Air UK's highly valuable prime slots to British Airways for valueless off-peak slots in combination with financial compensations raised the question, whether this transaction was in accordance with Council Regulation 95/93. The parties in dispute were The States of Guernsey Transport Board – interested in the continuation of flight service to Heathrow – and the Airport Coordination Ltd. – responsible for the allocation of slots according to Council Regulation 95/93. According to the British High Court the meaning of the term 'freely exchanged' set down in article 8 (4) Council Regulation 95/93 does not exclude financial compensations in slot exchange due to the absence of legal prohibitions of side payments. The application of the States of Guernsey Transport Board Case for juridical review by the European Court of Justice was refused by the High Court decision.

4.2. Secondary trading of airport slots

Since the British High Court Decision a continuing debate on the reform of airport slot allocation has evolved. In the year 2000 a proposal by the European Commission to allow for partial auctioning of slots and introduce the explicit legal right of secondary trading of slots was vetoed by some Member States and large airline companies. A new proposal was debated by the European Parliament in 2002, designating slots as government-controlled concessions, neither the property of airlines nor of airports (Boyfield, 2003, pp. 35). In 2004 Council Regulation 95/93 was followed up by Regulation 793/2004.²² The process of slot allocation has been improved for example by a strengthening of the use-it-or-lose-it rule, which determines under what conditions unused slots are reallocated to newcomers. According to article 8a/1c of the new Council Regulation slots may be 'exchanged one for one between air carriers'. Thus, the possibility of secondary trading in airport slots, including financial compensations, was

²² Regulation (EC) No 793/2004 of The European Parliament and of The Council of 21 April 2004 amending Council Regulation (EEC) No 95/93 on common rules for the allocation of slots at Community airports, OJ L 138/50, 30.4.2004.

again not mentioned explicitly. In 2008 the European Commission finally communicated that article 8a/1c of Regulation 793/2004 did not prohibit secondary slot trading.²³ This new interpretation of the law by the Commission is a reaction to the evolving grey markets for secondary slot trading at congested airports. The reasoning in the Commission's Communication pointing out the legal gap with respect to financial compensations in secondary slot trading uses the same arguments already provided in the British High Court Decision in the Guernsey Transport Board Case.

4.3. Remaining reform potentials

For competition on European air transport markets to operate efficiently, non-discriminatory access to airports must be available to all active and potential suppliers of airline services. At the same time efforts must be made to achieve efficient allocation of scarce infrastructure capacities and to cover the costs involved.

From this perspective the long overdue legal reform introducing secondary trading of airport slots can be considered as a first step in the right direction. At congested airports slots do not possess the characteristics of a homogenous good, but differ in market value depending on time. Depending on the flight characteristics (e.g. scheduled business flights, charter flights) airlines have different willingness to pay for slots in a peak period. Thus, regulatory constraints enforcing a one-for-one exchange of slots prohibit welfare improving buying and selling of slots. In contrast to an exchange, the possibility of selling slots increases the opportunity costs of hoarding slots or using them for a less lucrative flight because of the scarcity rents which can be obtained from selling.

²³ Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions on the application of Regulation (EEC) 95/93 on common rules for the allocation of slots at Community airports, as amended, Brussels, 30.4.2008, COM (2008) 227 final.

A more rigorous reform would be the abolishment of the ‘grandfathering rights’ of established airlines in favour of ex ante auctioning of takeoff and landing slots. This shift of the property rights of airport capacities from airlines to airports would provide important incentives for airport owners. In contrast to administrative allocation procedures, economically efficient allocation mechanisms may evolve applying congestion pricing and quality of service differentiation of airport capacities. Moreover, the revenues from the slot allocations could be used by airport owners as a contribution towards covering the decision-relevant costs of airport capacities including the capital cost of infrastructures.

Markets for infrastructure capacities evolve not only in airports but in most liberalized network industries. Infrastructure capacities of telecommunications, railroads, ports, electricity grids and gas pipelines etc. are provided on upstream markets depending on the demand characteristics on the different downstream markets for network services. Such markets are immediately disturbed if the capacities are not allocated in a non-discriminatory manner and price signals are disturbed, if congestion and scarceness are ignored. Thus, legal prohibitions of the allocation of infrastructure capacities, such as e.g. the prohibition of secondary trading are counterproductive and should be avoided in liberalized network industries.

5. Negotiated versus regulated access

It is an important difference whether network access is a result of private negotiations with regulatory oversight completely absent or mandatory with a corresponding set of regulations. It can be expected that private bargaining of unregulated access conditions between competitive network providers will lead to economically efficient solutions. In contrast to competitive networks, monopolistic bottlenecks in network infrastructures fundamentally disturb private bargaining on network access, due to the absence of economically viable alternatives.

5.1. Judgment of the German Federal Court of Justice: Juridification of the Associations' Agreement Electricity II plus

The European Electricity Directive from 1996 gave the Member States the choice between negotiated and regulated third party access (Art.17).²⁴ In the Gas Directive it was Article 15 that gave this choice.²⁵ The alternative of negotiated third party access was chosen only by Germany with the Energy Industry Act of April 1998.²⁶ According to section 6 of this act, German network owners are obliged to provide non-discriminatory access to energy providers. Access conditions have been negotiated among the parties involved and there has been no regulatory authority established (negotiated third-party access). The results of the negotiations on principles of access conditions were laid down in trade Associations' Agreements (Verbändevereinbarungen) between electricity respectively gas providers and industrial consumers. According to section 8 of the Energy Industry Act a review of the experience with negotiated third-party access and the relevant Court rulings was ruled to take place in 2003. As a result of this review regulated access was not enforced, instead the Associations' Agreements were even strengthened. This juridification of the Associations' Agreements was laid down in the amendment to section 6 of the Energy Industry Act of 20 May 2003 assuming that privately bargained third-party access based on the Associations' Agreements constitutes a 'good professional praxis'.

In May 1998 the First Electricity Agreement was reached, implementing the contract path principles. This Agreement was strongly criticised, in particular for not adequately taking into account the opportunity costs of network usage. The subsequent Second Electricity Agreement became effective on January 1, 2000, implementing a distance independent 'postage stamp' pricing system. Finally,

²⁴ Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity, OJ L 027/20, 30.1.1997.

²⁵ Directive 98/30/EC of the European Parliament and the Council of 22 June 1998 concerning common rules for the internal market in natural gas, OJ L 204/1, 21. 7. 1998.

²⁶ Gesetz zur Neuregelung des Energiewirtschaftsrechts vom 24. April 1998, Bundesgesetzblatt, Jg. 1998, Teil 1, Nr. 23, ausgegeben zu Bonn am 28. April 1998.

the Associations' Agreement Electricity II plus was effective during 2002 and 2003.²⁷ Although the Associations' Agreements only establish voluntary methods and criteria for setting charges, the Bundeskartellamt has expressed concerns that the Associations' Agreements could facilitate price agreements, in particular reducing incentives to choose lower access fees (OECD, 2004, p. 49).

In the Judgment of the German Federal Court of Justice (Bundesgerichtshof/BGH) of October 2005 the parties in dispute were a provider of electricity (Firma Lichtblick) and the local electricity network provider (Mannheimer Versorger/MVV) to whose network Lichtblick needed access.²⁸ In two earlier decisions the Higher Regional Court Karlsruhe and the Regional Court Mannheim came to the conclusion that the access fees of Mannheimer Versorger/MVV were not abusively high because they were calculated on the basis of the Associations' Agreements. Due to the juridification implemented in section 6 of the Energy Industry Act of May 2003 establishments by the Bundeskartellamt of violations of competition law would be ineffective because application of the Associations' Agreements would reveal 'good professional praxis'. In contrast, the German Federal Court of Justice rejected these decisions for several reasons. In this decision the claim that 'good professional praxis' of access pricing would exclude abuse of a dominant position or discrimination and thereby could not conflict with competition law was rejected by the Court. According to section 6 it has to be shown that the application of the Associations' Agreements in total, respectively the application of individual rules of the Associations' Agreements, does not conflict with effective competition (recital 26). In particular, the burden of proof that the required access charges were not excessively high rests with the provider of network infrastructure capacities and not with the user of this infrastructure (recital 23).

²⁷ Verbändevereinbarung über Kriterien zur Bestimmung von Netznutzungsentgelten für elektrische Energie und über Prinzipien der Netznutzung vom 13. Dezember 2001 (BAnz. Nr. 85b vom 8. Mai 2002).

²⁸ BGH, Urteil vom 18. Oktober 2005 – KZR 36/04 – OLG Karlsruhe, LG Mannheim.

5.2. Regulated access to network infrastructures

The decision of the German Federal Court of Justice provided strong signals on the conflict potential between the parties bargaining on the conditions of network access. Due to the absence of ex ante regulation the controversy centred on the applicability of abuse control under competition law. During these long-standing controversies in this law case it became obvious that the asymmetry of market power between network access providers and service providers resulted in never-ending struggles and the alternative of negotiated unregulated access would have failed.

Already in 2003 new EU directives were passed.²⁹ In contrast to the earlier directives of 1996 and 1998, respectively, the possibility of negotiated third party access was no longer considered as an alternative option to access regulation. Instead, national regulatory authorities responsible for ex ante regulation of access conditions were to be designated. As a consequence, a new Energy Industry Act was passed in Germany in 2005.³⁰ In July 2005 the former Regulatory Agency for Telecommunications and Postal Services (RegTP) was transformed into the Federal Network Agency (Bundesnetzagentur) taking responsibility also for the regulation of energy and railroads.

A transition of negotiated third party access to regulated access also took place in the German railroad sector. In the first decade after the German Railroad Reform of 1994 the access charges of Deutsche Bahn AG had been unregulated. Sector-specific regulation of the German railroad sector was introduced in 2005

²⁹ Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC, OJ L 176/37, 15. 7. 2003 (Art. 21); Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal markets in natural gas and repealing Directive 98/30/EC, OJ L 176/57, 15. 7. 2003 (Art. 23).

³⁰ Gesetz über die Elektrizitäts- und Gasversorgung vom 7. Juli 2005, BGBl I 2005, p. 1970.

by the new Rail Infrastructure Utilisation Regulation.³¹ Based on the new EU Rail Directives,³² a set of detailed requirements has been specified in order to improve the transparency of the principles and criteria for the allocation of track capacities as well as the principles of access tariffs. Negotiations concerning the level of infrastructure charges are only permitted, if they are carried out under the supervision of the national regulatory bodies.

5.3. Remaining reform potentials

Market power involved in monopolistic bottleneck infrastructures fundamentally disturbs private bargaining on network access. One extreme alternative could be (vertical) foreclosure of competitors on a complementary service market. Such a tying can be used as a method of price discrimination, enabling a monopolist to earn higher profits. Another way of abusing market power within the bargaining process on access conditions is to provide insufficient network access quality or demand excessive access charges. Thus, it is necessary to differentiate between those areas in which active and potential competition can work and other areas (monopolistic bottlenecks), where a natural monopoly situation in combination with irreversible costs exists.

The introduction of ex ante regulation of access to the electricity transmission networks as well as to railway infrastructure can be seen as a progress. However, ex ante regulation should be phased out as soon as the monopolistic bottle-

³¹ Verordnung zum Erlass und zur Änderung eisenbahnrechtlicher Vorschriften vom 3. Juni 2005, Bundesgesetzblatt Jahrgang 2005, Teil I Nr. 32, ausgegeben zu Bonn am 13. Juni 2005, S. 1566-1577.

³² The Rail Infrastructure Package contains 3 Directives: Directive 2001/12/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways, OJ L75/1, 15. 3. 2001; Directive 2001/13/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 95/18/EC on the licensing of railway undertakings, OJ L 75/26, 15. 3. 2001; Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification, OJ L 75/29, 15. 3. 2001.

neck disappears. The telecommunications sector provides an important example in this respect. For example, ex ante regulation of access to ducts of the last mile is only required as long as alternative interactive broadband infrastructures are not available (Blankart, Knieps, Zenhäusern, 2007).

6. The fallacies of cost-based access regulation

Regulated access centres on the access conditions for the provider of network services. Competitive supply of network services requires non-discriminatory access to network infrastructures, efficient allocation of infrastructure capacities, and viability of network owners. The incentives of entrants to invest in competitive network components should not be disturbed and the incentives of the incumbents to invest in monopolistic bottleneck components should not be disturbed either.

6.1. Judgment of the European Court: The ‘Arcor’ Case

The starting point of this case was the regulation applied to unbundled access to the local loop. According to Regulation (EC) No 2887/2000 rates for unbundled access to the local loops are to be set on the basis of cost-orientation (article 3 (3)).³³ The parties in dispute were the telecommunications provider Arcor, offering ISDN telephone extensions for end consumers on one hand and the Federal Network Agency (Bundesnetzagentur), Bundesrepublik Deutschland and Deutsche Telekom on the other hand.³⁴ By a decision of March 2001 the Federal Network Agency (partially) approved Deutsche Telekom’s rates for unbundled access to the local loop. In April 2001 Arcor rejected this decision complaining that the approved rates were too high in an action to the Administrative Court,

³³ Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop, OJ L336/4, 20.12.2000.

³⁴ Judgment of the European Court (Fourth Chamber), of 24 April 2008. - Arcor AG & Co. KG v Bundesrepublik Deutschland, intervening party: Deutsche Telekom AG - Case C-55/06. European Court Report 2008, p. I-02931.

Cologne (Verwaltungsgericht Köln). Since Regulation (EC) No 2887/2000 leaves open what the relevant cost concept is, how the relevant costs should be calculated, and how the costs should be related to the regulated access charges, in January 2006 the Administrative Court, Cologne asked the European Court of Justice for clarification of these questions and for a preliminary ruling.³⁵

The key conflicting point was the determination of the cost basis. According to Arcor the cost calculation should be based exclusively on historical costs with the subsequent possibility of an almost entirely depreciated network and resulting very low tariffs (recital 104). According to Deutsche Telekom and the Federal Network Agency the costs would have to be calculated based exclusively on current costs evaluated at forward-looking or current value of an efficient operator (recitals 89, 96).

The European Court decided in his judgment that the cost calculation for access to the local loop cannot be based exclusively on historical costs (recital 108). However, a clear statement in favour of the exclusive application of current cost accounting is also not given: ‘...the national regulatory authorities have to take account of actual costs, namely costs already paid by the notified operator, and forward looking costs, the latter being based, where relevant, on the estimation of the costs of replacing the network or certain parts thereof’ (recital 193, rule 2). Moreover, in the absence of complete and comprehensible accounting documents national regulatory authorities may determine the costs on the basis of an analytical bottom-up or top-down cost model (recital 193, rule 4). Furthermore, the national regulatory authorities have broad discretion concerning the assessment of the tariffs for unbundled access to the local loop including discretion to change the proposed tariffs (recital 193, rule 6).

³⁵ For the history of the case in the main proceedings and the questions referred see recital 32 ff. of the Judgment of the European Court, European Court Report 2008, p. I-02931.

6.2. Decision-based costing in liberalized network industries

In the context of the ‘Arcor’ Case it became obvious that in Regulation (EC) No 2887/2000 the economic criteria for the regulation of costing and pricing were missing. Socially efficient use of scarce resources requires a symmetric treatment of owners and users of infrastructures. Regulated access charges should not disturb incentives for socially efficient investments in network infrastructures, neither for the incumbents nor for the entrants. In particular, incumbents have no incentives to invest in infrastructure, if regulated access charges do not allow covering the decision-relevant costs.

In liberalized telecommunications markets, companies are under market pressure to make consistent business decisions (regarding investments, product design, pricing, etc.), which in turn is only possible through the consistent use of corporate current cost accounting (Salinger, 1998). Historical cost data – based on the purchase price of durable assets and (historical) accounting depreciation practices – cannot provide decision-relevant information on forward-looking access costs. The determination of forward-looking costs depends in large part on the company’s expectations regarding future market trends, technological progress, etc. The formation of such expectations should be left to the company that must also bear the consequences of the decisions made on that basis. As a matter of necessity, the company’s outlook is future-directed (“forward-looking”), making it necessary to re-evaluate plant and equipment and adjust the economic depreciation in accordance with the market opportunities expected (Knieps, Küpper, Langen, 2001, p. 768).

Current-cost accounting methods have to take into account the path-dependency of network evolution. As long as the incremental costs of upgrading of the established carrier are lower than the stand-alone costs of an entrant’s hypothetical new network, the required network capacity can be provided more efficiently by the historically grown network of the established carrier. Path-dependent investments of gradual upgrading strategies are then economically efficient and also relevant from a forward-looking perspective. In contrast, analytical cost models developed by engineering-economic methods are creating simulated

(hypothetical) data. By their very nature they are not able to take into account the path-dependency of the existing networks. Although analytical cost models can provide decision-relevant cost signals for newcomers faced with the decision of building a new network, these cost models are not able to derive decision-relevant costs for the historically grown network of the established carrier (Knieps, 2000, p. 112).

6.3. Remaining reform potentials

Although cost based access regulation in telecommunications markets is still the dominant instrument applied, the current debate on access regulation in network industries is increasingly moving towards incentive regulation.³⁶ Price cap regulation in the monopolistic bottleneck areas and accounting separation are sufficiently capable of disciplining the remaining market power and ensuring non-discriminatory access to monopolistic bottleneck components. This will not only reduce regulatory work, but also create entrepreneurial incentives to seek out cost savings and develop innovative pricing structures. A substantial price differentiation potential exists which should be exploited for the benefit of consumers (Willig, 1978). The welfare-increasing effects of price differentiation should not be impeded by regulatory intervention. The development of innovative rate structures must be an option open to all providers. All market participants should have the opportunity of providing optional rates, multiple rates, non-linear price structures, etc.

7. Concluding remarks

After the abolishment of legal entry barriers in European network industries the evolution of access regulation is an ongoing process strongly influenced by landmark court cases. The cases considered in this paper not only initiated the

³⁶ See, for example, the introduction of incentive regulation in the German energy sector: Verordnung über die Anreizregulierung der Energieversorgungsnetze (Anreizregulierungsverordnung – ARegV), 29. Oktober 2007.

liberalization process of the markets for network services but also provided an important signaling function for the major dimensions of remaining regulatory problems. As the ‘Bronner’ Case has shown, there is always the danger of a misspecification of the regulatory basis, resulting in unjustified regulation in competitive network areas. As the ‘Guernsey Transport Board’ Case has shown, regulators should not disturb the functioning of the markets for network capacities. As the ‘Associations’ Agreement Electricity’ Case has shown, negotiated unregulated access is not an adequate substitute for ex ante regulation of network-specific market power. Finally, the ‘Arcor’ Case has shown the fallacies of cost-based regulation. Although the law cases by their very nature focus on a specific regulatory problem raised by the parties in dispute, the court decisions not only influenced the regulatory framework in the underlying industry but also in the other network industries.

In the meantime the bandwagon towards sector-symmetric market power regulation based on economically founded principles is gaining increasing momentum. Free entry into network industries, limiting the regulatory basis to network-specific market power, reducing or phasing-out access regulation as a result of shrinking or vanishing monopolistic bottlenecks, and the disaggregated application of incentive regulation as a superior substitute for cost-based regulation are the major characteristics of these developments. Examples are the introduction of incentive regulation in the energy sector or the phasing-out of regulation of long-distance telecommunications markets. Nevertheless, further reform potentials are to be exhausted in the future. Phasing-out potentials in telecommunications markets are still not fully exploited, grandfathering rights of airport slots still exist, water networks are still not open, and a sector-symmetric application of incentive regulation is still missing.

References

- Areeda, Phillip E. and Herbert Hoverkamp (1988). An Analysis of Antitrust Principles and Their Application, *Antitrust Law*. Supplement: 736.2.
- Blankart, Charles B., Günter Knieps and Patrick Zenhäuern (2007). Regulation of New Markets in Telecommunications: Market Dynamics and Shrinking Monopolistic Bottlenecks, *European Business Organization Law Review*. 8: 413-428.

- Boyfield, Keith (2003). Who owns airport slots? A market solution to a deepening dilemma, in: Keith Boyfield (ed.), *A Market in Airport Slots*. London: The Institute of Economic Affairs: 21-50.
- Knieps, Günter (1997). Phasing out Sector-Specific Regulation in Competitive Telecommunications, *Kyklos*. 50/3: 325-339.
- Knieps, Günter (2000). Interconnection and Network Access, *Fordham International Law Journal*. 23/Symposium: 90-115.
- Knieps, Günter (2006). Sector-specific market power regulation versus general competition law: Criteria for judging competitive versus regulated markets, in: Fereidoon P. Sioshansi and Wolfgang Pfaffenberger (eds.), *Electricity Market Reform: An International Perspective*. Amsterdam/Boston: Elsevier: 49-74.
- Knieps, Günter, Hans-Ulrich Küpper and René Langen (2001). Abschreibungen bei fallenden Wiederbeschaffungspreisen in stationären und nicht stationären Märkten, *Zeitschrift für betriebswirtschaftliche Forschung*. 53: 759-776.
- Kolbe A. Lawrence, William B. Tye and Stewart C. Myers (1993). *Regulatory Risk: Economic Principles and Applications to Natural Gas Pipelines and other Industries*. Boston, Dordrecht, London: Kluwer Academic Publishers.
- Kovacic, William E. (2002). Economic Regulation and the Courts 1982 to 2001: Ten Cases That Made a Difference, *Journal of Regulatory Economics*. 21: 23-34.
- Monopolkommission (2007). *Wettbewerbs- und Regulierungsversuche im Eisenbahnverkehr*. Sondergutachten 48. Baden-Baden: Nomos.
- OECD (2004). *OECD reviews of regulatory reform – regulatory reform in Germany, electricity, gas and pharmacies, part I*. Paris.
- Rüttgers, Christian (2009). *Wettbewerb in der deutschen Trinkwasserwirtschaft?* Berlin: Duncker & Humblot.
- Salinger, Michael A. (1998). Regulating Prices to Equal Forward-Looking Costs: Cost-Based Prices or Price-Based Costs?, *Journal of Regulatory Economics*. 10: 149-163.
- Schulte-Braucks, Reinhard (1986). Das ‚British Telecom‘-Urteil: Eckstein für ein europäisches Fernmelderecht?, *Wirtschaft und Wettbewerb*. 3: 202-215.
- Sidak, J. Gregory and Daniel F. Spulber (1998). *Deregulatory Takings and the Regulatory Contract, The Competitive Transformation of Network Industries in the United States*. Cambridge: Cambridge University Press.
- Ungerer, Herbert (2000). The Case of Telecommunications in the EU, in: Claus D. Ehlermann and Louisa Gosling (eds.), *Regulating Communications Markets, European Competition Law Annual 1998*. Oxford/Portland (Oregon): Hart Publishing: 211-236.
- Willig, Robert, D. (1978). Pareto superior nonlinear outlay schedules, *Bell Journal of Economics*. 9: 56-69.

**Als Diskussionsbeiträge des
Instituts für Verkehrswissenschaft und Regionalpolitik
Albert-Ludwigs-Universität Freiburg i. Br.
sind zuletzt erschienen:**

- 105. G. Knieps:** Aktuelle Vorschläge zur Preisregulierung natürlicher Monopole, erschienen in: K.-H. Hartwig, A. Knorr (Hrsg.), Neuere Entwicklungen in der Infrastrukturpolitik, Beiträge aus dem Institut für Verkehrswissenschaft an der Universität Münster, Heft 157, Vandenhoeck & Ruprecht, Göttingen, 2005, S. 305-320
- 106. G. Aberle:** Zukünftige Entwicklung des Güterverkehrs: Sind Sättigungsgrenzen erkennbar? Februar 2005
- 107. G. Knieps:** Versorgungssicherheit und Universaldienste in Netzen: Wettbewerb mit Nebenbedingungen? erschienen in: Schriftenreihe der Deutschen Verkehrswissenschaftlichen Gesellschaft: Versorgungssicherheit und Grundversorgung in offenen Netzen, Reihe B, B 285, 2005, S. 11-25
- 108. H.-J. Weiß:** Die Potenziale des Deprival Value-Konzepts zur entscheidungsorientierten Bewertung von Kapital in liberalisierten Netzindustrien, Juni 2005
- 109. G. Knieps:** Telecommunications markets in the stranglehold of EU regulation: On the need for a disaggregated regulatory contract, erschienen in: Journal of Network Industries, Vol. 6, 2005, S. 75-93
- 110. H.-J. Weiß:** Die Probleme des ÖPNV aus netzökonomischer Sicht, erschienen in: Lasch, Rainer/Lemke, Arne (Hrsg.), Wege zu einem zukunftssträchtigen ÖPNV: Rahmenbedingungen und Strategien im Spannungsfeld von Markt und Politik, Erich Schmidt Verlag, Berlin, 2006, S. 119-147
- 111. G. Knieps:** Die LKW-Maut und die drei Grundprobleme der Verkehrsinfrastrukturpolitik, erschienen in: Schriftenreihe der Deutschen Verkehrswissenschaftlichen Gesellschaft: Die LKW-Maut als erster Schritt in eine neue Verkehrsinfrastrukturpolitik, Reihe B, B 292, 2006, S. 56-72
- 112. C.B. Blankart, G. Knieps, P. Zenhäusern:** Regulation of New Markets in Telecommunications? Market dynamics and shrinking monopolistic bottlenecks, erschienen in: European Business Organization Law Review (EBOR), Vol. 8, 2007, S. 413-428
- 113. G. Knieps:** Wettbewerbspotenziale im Nahverkehr: Perspektiven und institutionelle Barrieren, erschienen in: Schriftenreihe der Deutschen Verkehrswissenschaftlichen Gesellschaft: Warten auf Wettbewerb: ÖPNV in Deutschland, Reihe B, 2007, S. 11-23
- 114. F. Birke:** Universaldienstregulierung in der Telekommunikation heute: Herausforderungen, Chancen und Risiken – Ein historischer Ansatz, Mai 2007
- 115. G. Knieps, P. Zenhäusern:** The fallacies of network neutrality regulation, erschienen in: Competition and Regulation in Network Industries, Vol. 9/2, 2008, S. 119-134
- 116. G. Knieps:** Disaggregierte Regulierung in Netzsektoren: Normative und positive Theorie, erschienen in: Zeitschrift für Energiewirtschaft, 31/3, 2007, S. 229-236

- 117. G. Knieps, H.-J. Weiß:** Reduction of Regulatory Risk: A Network Economic Approach, erschienen in: in: U. Blum (Hrsg.), Regulatorische Risiken – Das Ergebnis staatlicher Anmaßung oder ökonomisch notwendiger Interventionen?, Schriften des Instituts für Wirtschaftsforschung Halle, Bd. 29, Nomos Verlag, Baden-Baden, 2009, S. 99-109
- 118. G. Knieps, H.-J. Weiß:** Regulatory Agencies and Regulatory Risk, Revised Version: January 2008
- 119. G. Knieps:** Regulatorische Entbündelung in Netzindustrien, erschienen in: Tagungsbände der Gesellschaft für Verkehrswissenschaft und Regionalpolitik an der Universität Freiburg e.V., 40. Freiburger Verkehrsseminar 2007, Entbündelung in Netzindustrien: Chancen und Risiken, Freiburg, S. 11-25
- 120. G. Knieps:** The Net Neutrality Debate and the German Communications and Competition Law, erscheint in: Proceedings of the 3rd Annual International Conference on „Net Neutrality“, Center for Law and Public Utilities, Seoul National University, 17 October 2008
- 121. G. Knieps:** Verkehrsinfrastrukturen zwischen Wettbewerb und Regulierung, erschienen in: Wirtschaftspolitische Blätter, 56/1, 2009, S. 11-21
- 122. G. Knieps:** Wettbewerb und Netzevolutorik, erschienen in: Vanberg, V.J. (Hrsg.), Evolution und freiheitlicher Wettbewerb – Erich Hoppmann und die aktuelle Diskussion, Walter Eucken Institut, Untersuchungen zur Ordnungstheorie und Ordnungspolitik, Band 58, Mohr Siebeck, Tübingen, 2009, S. 193-210
- 123. G. Knieps, P. Zenhäusern:** ‘Stepping stones’ and ‘access holidays’: The fallacies of regulatory micro-management, erschienen in: P. Baake, R. Borck (eds.), Public Economics and Public Choice: Contributions in Honour of Charles B. Blankart, Springer Verlag, Berlin u.a., 2007, S. 257-277
- 124. G. Knieps:** Qualitäts- und Preisdifferenzierung im Internet, erschienen in: Jörn Kruse, Ralf Dewenter, Hrsg., Wettbewerbsprobleme im Internet, Nomos Verlag, Baden-Baden, 2009, S. 103-113
- 125. G. Knieps:** Wettbewerb im transeuropäischen Eisenbahnverkehr, erscheint in: Zeitschrift für Verkehrswissenschaft, 2009
- 126. G. Knieps:** Sektorsymmetrische Regulierung in Netzsektoren: Ein Vergleich zwischen Gas und Elektrizität, erschienen in: Netzwirtschaften & Recht (N&R), 6. Jg., Nr. 3, 2009, S. 138-143
- 127. G. Knieps:** Theorie und Praxis der Price-Cap-Regulierung, erschienen in: Tagungsbände der Gesellschaft für Verkehrswissenschaft und Regionalpolitik an der Universität Freiburg e.V., 42. Freiburger Verkehrsseminar 2009, Anreizregulierung in Netzwirtschaften: Theorie und Praxis, Freiburg, S. 134-152
- 128. G. Knieps, P. Zenhäusern:** The reform of the European regulatory framework for electronic communications: The unexploited phasing-out potentials, Paper presented at the 2nd Annual Conference of Competition and Regulation in Network Industries, Brussels, Belgium, November 20, 2009
- 129. G. Knieps:** Regulatory Reforms of European Network Industries and the Courts, February 2010 – Revised Version: May 2010