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Telecom regulation in the EU facing change of tack: Competition requires a clear policy line

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Telecom regulation in the EU facing change of tack

Competition requires a clear policy line

July 8, 2008



With the introduction of sector-specific regulation in the EU, competition in the telecommunications sector intensified appreciably.

This is reflected in falling end-consumer prices, the declining share of the former incumbents in total market volume and numerous new communication lines set up by new market players.

Competition on services without regulatory intervention is only possible if there is competition on infrastructure. Service competition hinges directly on the price charged for access to communication infrastructure. As long as there are no alternatives, though, regulatory interventions will remain necessary at regular intervals for both infrastructure and services. Policymakers must therefore link promotion of service competition with promotion of infrastructure competition in order to ultimately achieve liberalisation of the telecommunications market.

Regulation coordinated at supranational level promotes competition and innovation in the European telecommunications industry. Owing to the cross-border effects of the telecom business, regulation geared to national borders alone does not go far enough. Supranational coordination of regulation is therefore necessary. This, however, does not require any new central authority. Instead, existing coordinating bodies could assume a greater degree of responsibility.

Only a reliable telecommunications policy can hope to fully unlock the enormous potential of the industry. Competition in the telecommunications industry relies on regulation which follows a clear line in both institutional terms (centralised or decentralised) and time frame (ex post or ex ante). Politically motivated delays and ensuing uncertainties in the market must be avoided if innovation is to make noticeable advances.

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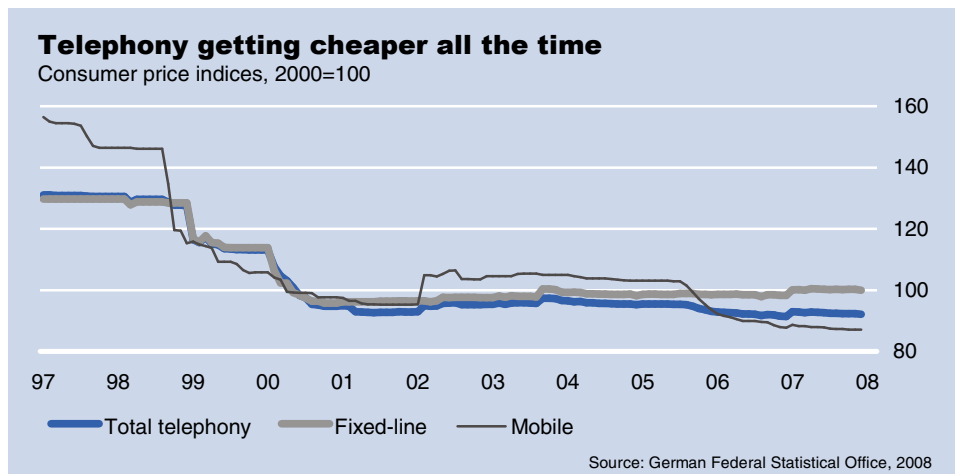
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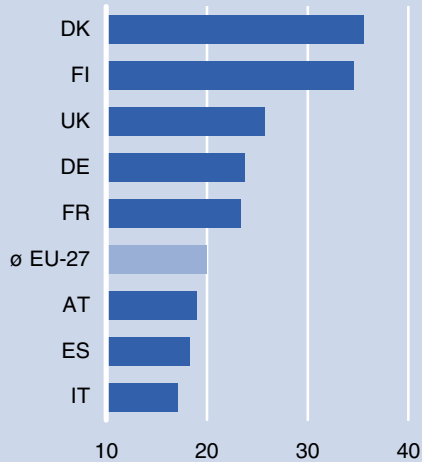
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Germany and France currently neck and neck

Broadband lines per 100 inhabitants

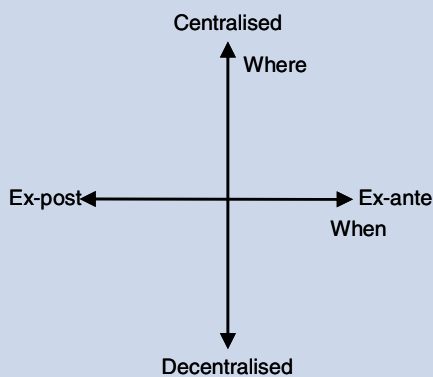


As of January 2008
Source: Communications Committee EU, 2008

1

Regulation is a multi-dimensional issue

Dimensions of regulation



Source: DB Research, 2008

2

As formulated in the Lisbon Agenda of 2000, the European Union has set its sights on becoming the world's most competitive knowledge-based economy by 2010. Whether this ambitious target can be met will be partly decided by the performance capacity of the cross-sectional technology telecommunication. For telecommunication impacts through a variety of direct and indirect mechanisms on a country's innovation performance, productivity and attractiveness in the international competition for investment. This means that broadband¹ communication technologies play an important role. As broadband supply improves, numerous production processes increase in efficiency. Furthermore, an extensive broadband network paves the way for companies to enter new markets (see figure 1).

Since the introduction of sector-specific regulation in the telecommunications industry, telephone customers in the EU are meant to have the possibility of choosing from a variety of alternative providers, access technologies and services. In fact, though, in many countries the alternatives to the services and infrastructure offered by the former incumbent have spread more slowly than originally expected. The former incumbents still play a prominent role in telecommunications activities. Sector-specific regulation has so far failed miserably to achieve the degree of competition between telecom providers targeted when the market was opened in 1998. Therefore, regulatory intervention in the telecommunications sector is still necessary today at regular intervals.

This report addresses the issue of the best form of regulation in terms of institution and time frame. In this context we describe the development of the German telecommunications market on the basis of several parameters. Our comparison with countries pursuing a differing regulatory approach is of particular interest here. Subsequently, we will discuss the current proposals for better regulation. At this time we will dissect the arguments favouring a centralised regulatory authority in the EU and the instrument of ex-ante regulation² (see figure 2).

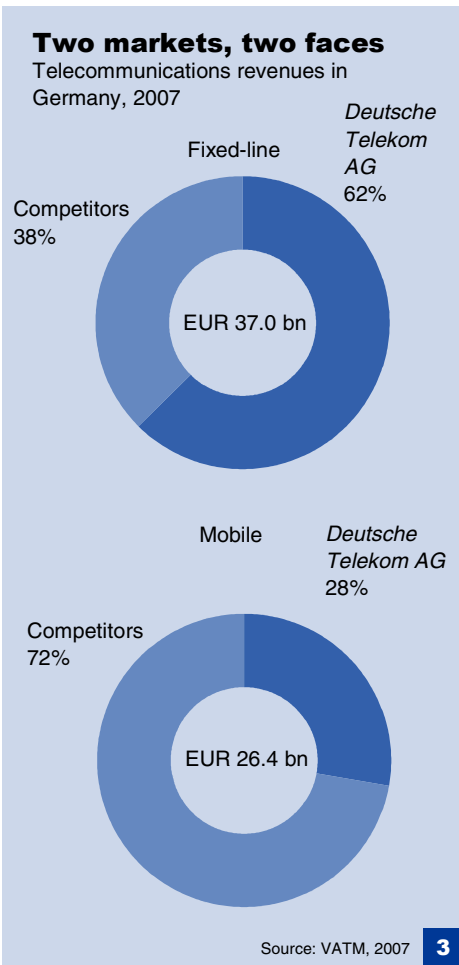
Rocky road, but still impressive

Matthias Kurth, the president of the Bundesnetzagentur (BNetzA, Germany's Federal Network Agency), once said the road to more competition was "long and bumpy". Current statistics show that since the introduction of sector-specific regulation competition in the European telecommunications industry has intensified noticeably. End-consumer prices and market splintering document the changes.

With the growing intensity of competition, end-consumer prices have fallen by a total of 28% since 1998; telephone services in the fixed-line network alone are down 22%. During this period, charges for fixed-line local calls fell 2%, long-distance calls within Germany 55% and international calls 60%, while national mobile fees declined by 37% in total. In the less competitive market for end-consumer lines, though, prices have risen by 19% since 1998.

¹ According to the currently valid convention, broadband means all transmission technologies with a data transfer rate of over 128 kbit/s. However, this convention is increasingly coming under fire. For broadband always has to be considered in relation to the state of technology. This means that as technical transfer rates grow higher, so do the basic expectations on broadband technology.

² Ex-ante regulation means that the competent authority sets the specific values of the relevant market parameters (especially prices) in advance. In ex-post regulation, by contrast, the competent authority refrains from setting such targets and relies instead on the monitoring of misuse after it has been established.



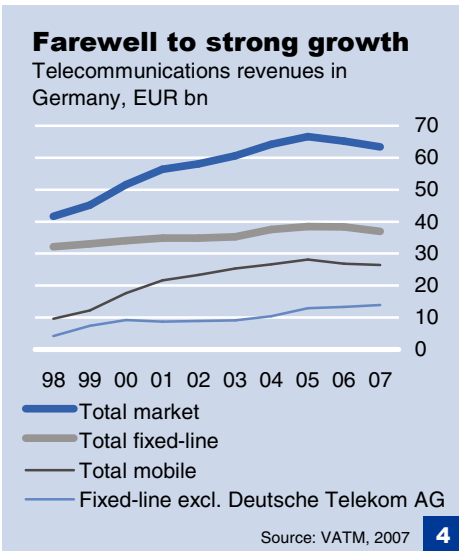
These differences in the development of the various market segments emerge even more clearly in a longer-term comparison. Since 1995, end-consumer prices for long-distance domestic calls in the fixed-line network have fallen by 61% and for international calls by 68%, while for national mobile telephony they are down by a total of 61%. By contrast, the price of an end-consumer line has risen by 31%, and the price of a local call by 15%.

Liberalisation started overseas

The US, the UK and Japan pressed ahead with the liberalisation of the telecommunications market back in the mid-1980s, while Germany did not venture to launch its first reform until 1989. However, Germany did not take the decisive steps until three following reforms in the middle of the 1990s.

- The first Postal Reform of 1989 separated the business aspects from the sovereign mandate. The successor companies to Deutsche Bundespost (DBP) took over the three areas of postal services, postal bank and telecommunications. These measures only constituted the beginning of a reform process, though. The direct government influence and the monopoly on network and services remained in place.
- The second Postal Reform of 1994 targeted the privatisation of the companies. Articles 87 f and 143 b came into force in January 1995 in the framework of an amendment to the Basic Law. Telecommunications is no longer considered to fall under sovereign functions. The reform paved the way towards changing the previously split (three) corporate divisions into the public limited companies Deutsche Telekom AG, Deutsche Post AG and Deutsche Postbank AG.
- The third Postal Reform of 1996 responded to the EU requirements with the Telecommunications Act (TKG). The enactment of the TKG in 1998 ended the monopoly on network operation and services legally guaranteed for over a century.

At the start of liberalisation in 1998 the German government established the Regulatory Authority for Telecommunications and Posts (RegTP). This agency assumed responsibility for the new job of sector-specific regulation. As part of the expansion of the scope of duties to include the network industries electricity, gas and railways, the RegTP has been known since July 2005 as the Bundesnetzagentur (BNetzA).



Competitors making up ground

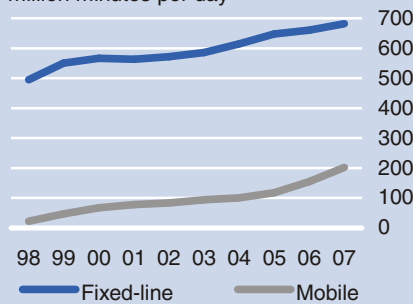
No less impressive than the price declines is the competition on turnover, communication lines (e.g. telephone channels, subscriber lines) and connection times. With sector-specific regulation, the new service providers were able to grab sizeable market shares from the former incumbent. For instance, in 2007 the roughly 100 competitors combined generated a total turnover of EUR 33 bn and thus more than Deutsche Telekom AG (EUR 30 bn) (see figures 3 and 4).

On the score of telephone channels (analogue line, ISDN line), roughly 96% were held by Deutsche Telekom AG in 2002; the reading in 2007 was down to only 76%. Besides, Deutsche Telekom AG set up only 950,000 subscriber lines for its competitors in 2002, while the reading was over 6 million in 2007, so the total was 5.5 times higher than before. Furthermore, since 1998 the volume of connection times in the fixed-line network has increased by 27%, with the bulk of this increase attributable to the competitors of Deutsche Telekom AG. Today, Deutsche Telekom AG claims only 45% of the total connection times in the fixed-line network. On international calls, Deutsche Telekom AG has a share of 25%, on domestic calls 55%.

Unlike the fixed-line segment, Deutsche Telekom AG was the sole provider in the mobile telephony segment for only a short time. As early as 1990, no less than 8 years before the fixed-line starting

Mobile telephony remains buoyant

Connections in Germany, million minutes per day

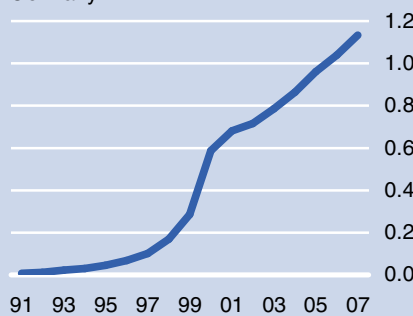


Source: VATM, 2007

5

Contracts have long out-numbered population

Mobile contracts per inhabitant, Germany*

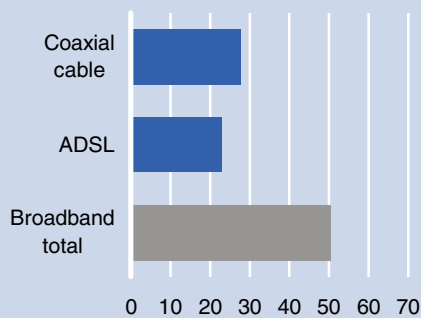


*Up to 2000 incl. C-Network; from 2005 incl. UMTS
Source: Bundesnetzagentur, 2007

6

Americans prefer cable

Lines per 100 households, US, 2006



Sources: EITO, 2007, DB Research

7

date, competition was introduced in this budding segment with the granting of the D2 licence in the digital mobile telephony standard *Global System for Mobile Communication* (GSM). Today, four companies hold transmission licences. The newcomers were quick to snap up market share. At the end of 2007 *Deutsche Telekom AG* and its *T-Mobile* subsidiary claimed only 38% of the over 96 million mobile lines.

The statistics document the increasing telecoms competition, but there is still a long way to go before competition can get by without regulatory intervention at regular intervals. When looking at the data though it has to be borne in mind that these are average values for Germany as a whole. The pronounced regional differences in the telecommunications market are not reflected here. In fact, competition has already made much greater advances in some of the urban agglomerations. In Hamburg, Cologne, Munich and Oldenburg, for instance, regionally based companies already outrank *Deutsche Telekom AG*.

Other regulatory approaches also harbour risks

Two examples of regulatory policy constantly cited at the international level are the US and Swiss models, which pursue fundamentally different approaches. Unlike the EU, which focuses on ex-ante regulation, these two countries increasingly rely on ex-post regulation. A comparison shows that the US and Switzerland have, on the one hand, achieved intensive competition at the infrastructure level between xDSL and TV coaxial cable (see figures 7 and 9). On the other hand, though, competition at the services level is less pronounced in these two countries than in the EU. The regulators in the US and Switzerland turn the EU investment ladder model (see box on following page) upside down and expect infrastructure competition ultimately to always drive service competition, too. Owing to the strong emphasis on ex-post regulation and infrastructure competition, the approach of the US and Switzerland harbours the risk that the existing market clout in services might become more firmly entrenched and thus result in less investment in the medium term than in the competitive situation.³

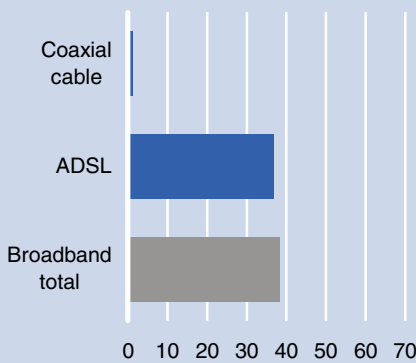
This suggests that the US and the Swiss approach is not the prototype of optimum regulatory practice. Compared with the EU approach, the model of these two countries lacks the explicit criteria, for instance, that make the necessity of regulatory intervention verifiable.

An international comparison shows that the models of all countries have inherent weaknesses. The comparisons should therefore not be understood as an international championship with one winner and many losers. Instead, it is key that one country learns from the experiences of others. For the time being, the prerequisite for optimum regulation is a constantly learning regulator.

³ Marcus, Scott J. (2005). Is the U.S. Dancing to a Different Drummer? In *Communications & Strategies* No. 60.

Germany is DSL country

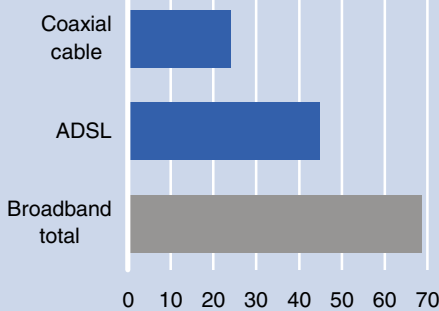
Lines per 100 households Germany, 2006



Sources: EITO, 2007, DB Research **8**

Switzerland open to both models

Lines per 100 households, Switzerland, 2006



Sources: EITO, 2007, DB Research **9**

VDSL paves the way to age of fibre-optic communication

In many countries, VDSL (Very High Bitrate Digital Subscriber Line) is a big investment and innovation project in the telecommunications industry. The currently common technologies of ADSL (Asymmetric Digital Subscriber Line) and SDSL (Symmetric Digital Subscriber Line) are based on copper lines which allow downstream bandwidths of 24 MBit/s at the maximum. With VDSL, fibre-optic lines replace the copper lines between the main distribution frame (MDF) and the street cabinets (SCs) where the subscriber lines branch off. This largely fibre-optic-based broadband network enables data transfer rates of up to 50 Mbit/s.

Investment ladder model describes the transition from service competition to infrastructure competition

The investment ladder model, which is at the core of EU regulation, outlines the time dimension of regulation. The model describes how a service provider is virtually compelled to become an infrastructure provider over time. The investment ladder model assumes that the new service provider initially uses the existing infrastructure of the former incumbent. To better tailor its product range to its own clientele, the service provider will in the course of time want to loosen the ties to the (technical and business) targets of the established infrastructure provider. This is why the service provider will invest part of its revenues to build up its own infrastructure, expand its business model to include infrastructure operations and thus compete also in this new field with the former incumbent.

Need for promotion of services and infrastructure

According to the EU's investment ladder model, service competition leads in the medium term (in the areas of voice and data telephony) to infrastructure competition (e.g. having a choice between xDSL and TV coaxial cable). Therefore, regulation should pursue a strategy that promotes competition in both services and infrastructure at the same time.

The difficulty of performing this balancing act is shown by the still smouldering conflict between the European Commission and the German government. The conflict centres on Section 9a of Germany's amended Telecommunications Act (TKG). If competition is not at risk "in the long term", Section 9a of the TKG provides that "new" or "newly developing markets" be excluded for a limited period from sector-specific ex-ante regulation.⁴ The German government hopes that attaching such strings to regulation will strengthen the innovation stimuli in the telecommunications industry.

Conflict has deeper roots

However, the conflict over the conditions attached to the regulation of new markets as anchored in Germany's TKG has much deeper roots. The core of the issue is whether a new transmission technology also automatically gives rise to a new market. In this case, the European Commission maintains that VDSL is a technology which merely enables faster access to services which have existed for a long time. It says VDSL does not raise hopes of fundamentally new services or fundamentally new markets being developed. Owing to the substitution relationships with the already existing services the European Commission sees no reason for VDSL to be exempted from the ex-ante regulation even temporarily. Ex-ante regulation is meant to ensure that the service providers obtain access to the newly developing VDSL network. In hopes of promoting competition and innovation in telecommunications, the EU is counting especially on service competition.

EU directives provide scope for interpretation

The legal anchoring of the promotion of competition and innovation has long been a major issue in the EU. In 2002, the European Parliament adopted a package of directives put forward by the European Commission "On competition in the markets for electronic communications networks and services". The package covers the framework, authorisation, access, universal service and data protection directives and the decision on frequencies.

⁴ So if there is a risk of the unequal market conditions taking root over the long term, regulatory intervention is also provided for by the amendment to Section 9a of the TKG.

EU counting on three instruments

The European Commission is counting on the following three instruments in the practical implementation phase:

1. The power of veto of the European Commission over the national regulators: this veto enables the Commission to rescind the measures of the national regulators when the relevant markets are determined or when a dominant market position is determined.
2. Regular audit of the measures: the national regulator should regularly check in the different markets to see whether ex-ante regulation is still really needed.
3. Increasing the penalty for market abuse: The fine for established abuse of market clout is to be geared to the size of the profits generated.

Member states want to rely on present institutions**Efficiency of centralisation is debatable**

With this package, the Commission wanted to further harmonise the legal framework in the single market, promote service providers operating EU-wide and intensify competition in the telecommunications market. To do so, the regulatory framework defines the principles of regulation within the EU. This is the basis on which the national regulators are to define the domestic markets, for instance, and analyse their market clout. The regulatory framework compels the national regulators to report, as part of the consultation and consolidation procedure (Section 12 of the TKG), to the European Commission on the result of the analysis and the planned regulatory measures.

EU cooks up idea of a central regulatory authority

After the hearing on the reworking of the applicable European regulatory framework in 2006 and the publication in November 2007 of the proposals, the European Commission proposes to extend its own right of veto to the operative national regulatory measures. This step would significantly curtail the current decision-making powers of the national regulatory authorities. In the meantime, the European Commission has gone even further than calling for this extended veto right and has demanded a supranational regulatory authority.

The EU member states reject the demand for a considerable extension of the Commission's power of veto to the veto on remedies of the national regulators associated with the call for a central European regulator. They point to the scope of remedies already available to the existing institutions. In particular, these are the European Regulators Group (ERG) and the Independent Regulators Group (IRG).⁵ The national regulators would like the ERG and/or the IRG to coordinate regulation in the EU. Therefore, they demand that, instead of a new central regulatory authority being set up, the resources and capacities of these two existing bodies be expanded. The intensified cooperation between the regulators is meant to ensure the consistent application of the EU's legal framework.

Europe needs "super" regulators, but not a super-regulator

When assessing the various regulatory approaches it has to be borne in mind that it was actually not until the EU installed its regulatory framework that the national regulators started to take account of the cross-border angle. Despite this success, though, it is unlikely that the achievements of the past can be replicated via the centralisation of regulation preferred by the European Commission. It is thus highly debatable whether a central regulatory authority can even handle the extensive tasks of the now 27 national regulators considering the big differences in national (and even regional) submarkets. In addition, the fundamental considerations on subsidiarity⁶ raise doubts that a central regulatory authority would take adequate notice of the regional specifics.

Furthermore, a central conflict facing the sector-specific regulator arises from the regulatory mandate formulated by the policymakers. According to the mandate, the sector-specific regulator should focus

⁵ The ERG is the representative body of the national regulators of the EU. By contrast, the IRG is the representative body of the national regulators of the EU and of the European Free Trade Association (EFTA).

⁶ Subsidiarity is a fundamental principle of the EU. According to this principle, decisions in this multi-state association should be made as decentrally as possible and only as centrally as absolutely necessary.

Central regulator has greater discretionary scope

all its actions on ensuring that competition develops in such a way that regulatory interventions at regular intervals become unnecessary. The sector-specific regulator thus has the mandate of making itself superfluous. So the target that goes hand in hand with the collective rationale of minimising regulatory activity is at odds with the interests of the regulator following the individual rationale of keeping his position. The regulator could thus interpret the discretionary scope of the complex market in such a way that sector-specific ex-ante regulation is maintained longer than is actually necessary. Because of the growing complexity of integration, such a procedure should be easier for a central regulator to handle than for a national regulator who is very much more directly confronted with the consequences of his decisions by the market participants.⁷

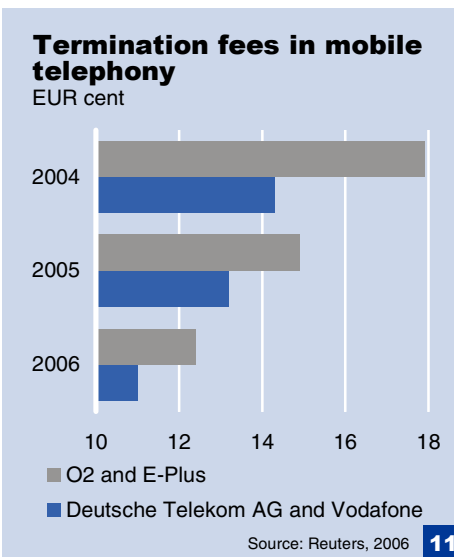
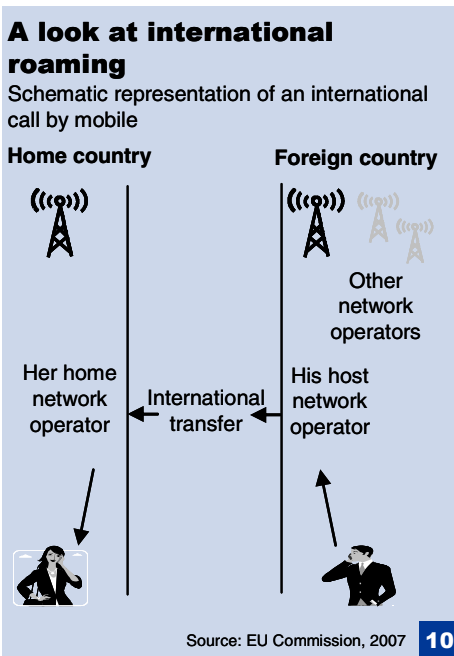
Centralisation dispenses with “competition as a process of trial and error”

Ultimately, centralised regulation dispenses with the option of identifying the best strategy through competition between different national approaches with a limited amount of risk.

Coordination does not necessarily require new bureaucracy

These disadvantageous aspects of a central regulator should not mislead anyone into rejecting all supranationally coordinated regulation in the EU out of principle. In fact, coordinated regulation may offer very good prospects depending on the market circumstances. Market circumstances which suggest coordinated regulation is appropriate are found, for example, in international roaming with mobile telephony. The effects of this business segment are not confined to a single national market. The regulatory approach geared to national borders does not go far enough in this instance.

Nevertheless, no central authority is required for such a coordinating job. By contrast, it could be an advantage that existing coordinating bodies such as the European Regulators Group (ERG) assume greater responsibility here.



International roaming: Long a controversial challenge

A further source of conflict besides inadequate access to the innovative fixed-line network has meanwhile been eliminated. For years, policymakers and consumers criticised the high fees charged for transferring mobile connections via the networks of foreign service providers (international roaming). For a long time, much higher fees were charged for mobile connections from abroad than for the domestic market. This situation was economically dubious since the higher fees were based not on the innovativeness of the network provider, but on market clout. Even though the challenge had long been recognised, the national regulators lacked the incentive to unilaterally clamp down on the domestic mobile providers on their own. It was argued that such cases would only serve to improve the standing of foreign mobile providers, but not the customers of the domestic providers. To solve this dilemma of national regulation, the European Commission decided to launch a concerted action for the single market and introduced the “Euro Tariff” in mid-2007. This tariff significantly lowers the roaming fees in EU-wide mobile telephony and thus improves the lot of all mobile customers in the EU.

Ex ante, if necessary, ex post, if possible

Besides the question as to the best approach to regulation in institutional terms, i.e. the division of competences between the national and supranational level, the regulatory institutions discuss

⁷ Haucap, Justus and Jürgen Kühling (2006). Eine effiziente vertikale Verteilung der Exekutivkompetenzen bei der Regulierung von Telekommunikationsmärkten in Europa. In: Zeitschrift für Wirtschaftspolitik, 55, 3.



Ex-ante regulation is a strong market intervention

the key issue of when the regulator should step in, whether ex post or ex ante.

Ex-ante regulation is correctly understood as being strong market intervention by the regulator. In order to keep from unnecessarily limiting market forces, the EU explicitly sets out the prerequisites for ex-ante regulation in its regulatory framework. According to this framework, ex-ante regulation is only necessary if the following three prerequisites are fulfilled (three-criteria test):

1. There are substantial barriers to market entry.
2. There is no visible trend towards the development of competition.
3. The ex-post interventions provided for in general competition law are unable to guarantee competitive structures.

The three-criteria test is meant to help the regulator to intervene at the right time with the right intensity in market activity. If the criteria of this test are not all met at once, the market will be regulated ex post in the framework of the TKG.

Efficiency becomes dynamic

Static approach points to drawback of parallel infrastructures

To assess regulatory approaches, economic science applies the efficiency yardstick. However, this criterion has been modified considerably over time. Originally, economists fully supported the concept of static efficiency. They assumed that competition in capital-intensive network industries with parallel infrastructures could not be efficient in general. With identical parallel networks the infrastructure costs would rise unnecessarily. Consequently, only one single infrastructure ought to be built up. In this situation a regulator is required who can ensure with ex-ante intervention that all service providers in the network industry will obtain access to the infrastructure at an appropriate price.

Doubts about static approach being voiced

Today, the static approach is criticised in many quarters as an oversimplification. Numerous economists doubt that competition can be described by a static model in the first place. Static efficiency looks solely for the existence of high profits. According to the static approach, no single market participant should ever be able to reap high profits.

Regulation model should factor in the market dynamic

The critics look at the dynamic model with its time dimension in juxtaposition with the static model. The dynamic efficiency approach assumes there is a continuing process of Schumpeter's "creative destruction" driven by ongoing product and process innovations. In this model, a market can be (dynamically) efficient even if a market participant generates high profits. The condition for the dynamically efficient situation is partly that high profits result from a company's innovative edge, and partly that the profits will be eaten up again in the foreseeable future via newly arising competitive structures. In practice, though, the challenge is to ensure that high profits are run down fairly soon.

Need to set appropriate price

Delicate decisions on appropriate price

If a company earns large profits in the market, the regulator has to determine the reason. If these profits are not attributable to temporary innovation leadership but rather to continuing market clout, the dynamic approach also sees the necessity of ex-ante regulation. If a regulator decides in favour of ex-ante regulation, it has to answer the complex question of what the appropriate price should be. If the price is too high or too low, this weighs on the

various segments of the telecommunications industry. If the regulator sets the price too high, this weighs on the service providers. An overly high price for the use of infrastructure lowers the attractiveness of developing new services and thus curbs the growth of the market for telecommunications services. If, however, the regulator sets the price of infrastructure use too low, this weighs on the competing infrastructure providers. As the price falls, so does the appeal of investments in infrastructure. Too low a price for the use of the infrastructure thus jeopardises its expansion and technological upgrading. If ex-ante regulation fails to take due account of investment risk by charging risk-adjusted fees, for instance, and instead focuses unilaterally on low end-consumer prices, this may cripple the innovativeness of the telecommunications industry. Caught between promoting service competition and promoting infrastructure competition, the regulator faces an ongoing learning process that requires prudent action founded on a clear basis.

**Promotion of competition
has to be balanced**

Regulation requires clear policy objectives

The EU telecommunications industry has made considerable progress since sector-specific regulation was introduced. However, the process of telecoms liberalisation still has a long way to go. Competition has to develop further in the EU. Since service competition depends directly on the price of access to infrastructure, the prerequisite for competition without regulatory intervention on services at regular intervals is competition on the communications infrastructure. Without alternative infrastructure for communications, regular intervention by the policymakers will remain a necessity. Policymakers must therefore link promotion of service competition with promotion of infrastructure competition in order to actually achieve a liberalised telecommunications market.

**Past successes must not be
interpreted falsely**

In the current conflict between the European Commission and the German government, the matter at issue is how centralised the coordination of regulation should be. In this context, supranationally coordinated regulation no doubt extends the national regulatory approaches to include the cross-border aspect. This is all the more important insofar as technological convergence and integration of the international markets are blurring the once clear dividing lines in telecommunications. In fact, the EU regulatory framework has noticeably boosted progress in European telecommunications. However, it would be premature to say that this points to the necessity of further centralising the job of regulation at the level of the European Commission. The proposal to set up a central European regulator thus contains two major drawbacks: (1) the looming tussle among the various regulatory bodies would cause time lags and uncertainties in the market; and (2) the geographical distance and the distance as regards content between a central regulator and the national submarkets could weigh on the quality of decision-making.

Reliability promotes competition

The debate on the new scenario facing European telecoms regulators shows that as far as the institutional (centralised or decentralised) and time-related (ex-post or ex-ante) focus is concerned, a clear policy line is required. Politically motivated delays and ensuing market uncertainties must be avoided. This is the only way to boost innovation and thus achieve competition in the telecommunications industry without regulatory intervention at regular intervals.

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⁸ I should like to thank Dr. Annegret Groebel, Manuel Kallies, Dr. Peter Knauth, Frank Krüger and Dr. Klaus Winkler for their invaluable commentary and pointers.

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