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Digital economy and structural change

More than “pretend competition” in German telecommunications

- **Telecommunication provides the basis for a strong division of labour** in a globally networked economy. A telecoms sector which allows more competition and makes technological and economic progress is a major asset in the international competition to attract business and investment.
- It is disquieting that **even today there is still not real competition among entirely equal players**. The former monopolist continues to dominate the market so strongly that critics speak of mere “pretend” competition. In the medium term, though, alternative technologies will further advance competition in communication. Today, mobile telephony is a segment whose dynamic is helping to break through the crusted structures in the overall industry.
- Given the shape of the market in Germany, the **liberalisation of the local loop will progress much more sluggishly** even after the introduction of free choice of operator than applied with long-distance service. At the local-network level, prices and the leader’s market share will probably decline only slightly.
- The ex ante regulation enabling the RegTP in Germany to supervise charges is an important instrument, but additional ones will undoubtedly be needed in view of the complex market structure. Current developments in the telecommunications sector demonstrate the necessity of having efficient sanction mechanisms that are a sufficient deterrent to stop competition being cramped. **It is still too early to attempt the** desired transition from sector-specific **ex ante regulation to** general, **technology-neutral supervision**.
- Up to now, liberalisation in Germany has concentrated more on services than on infrastructure. A re-orientation is under intense discussion, not least because self-sustaining **competition is barely conceivable without real alternatives for network access**.
- The related **EU directives** are not being **implemented fast enough**. While the liberalisation of telecommunications in Germany is making progress, there are still major challenges ahead particularly below the long-distance level.
- After the European Commission is granted a right of veto the ongoing development of the market **must by no means falter because of an unclear allocation of competences** between national and supranational authorities.

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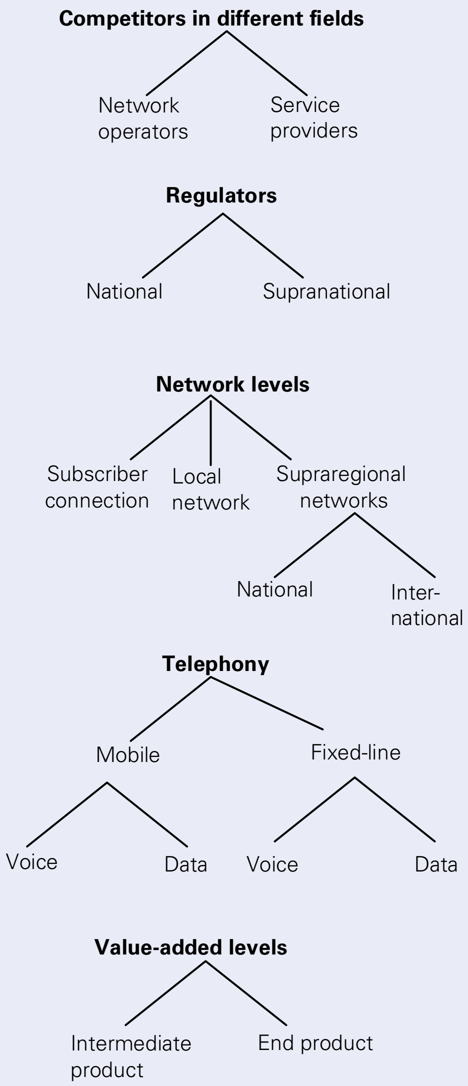
More than "pretend competition" in German telecommunications

Fresh breeze in telecommunications

For a long time, the view that the telecommunications market is a natural monopoly was considered sacrosanct. The market was therefore slow to change in many countries. The structure of this segment, which is key to the growth potential of an economy[1], has always been highly complex. Conflicts over technological, legal and economic aspects look very different, and in some cases totally irreconcilable, from the standpoint of network operators, service providers or national and supranational regulatory authorities. On top of that, the differences are amplified by the ever faster changes in the communications landscape as mobile telephony and the internet advance by leaps and bounds, and new substitution relationships emerge between previously discrete services in different segments.

In the years ahead, the further opening of the telecommunications market will remain a huge political and economic challenge. For a thorough assessment of the liberalisation efforts being made in different countries it is necessary to distinguish clearly between mobile telephony and fixed-line networks, between voice and data telephony, between subscriber connection, local network and supraregional network, and between intermediate and end products. We also examine how much truth there is in the comment of Hans-Jürgen Michalski from the Institut für internationale Telekommunikationsforschung (institute for international telecommunications research) who, in view of the still pronounced dominance of Deutsche Telekom AG (DTAG), described the German situation as "pretend competition"[2].

Players and levels in telecommunications



Rigid structures – heavy legacy

In most countries the entire telecommunications sector remained in the hands of a single state-run company for many years; in Germany this was Deutsche Bundespost, later DTAG. The rigid structures in the German industry stem from Articles 87 and 143b of the country's Basic Law, but their roots extend back to the Imperial Constitution of 1871, which regulated the complex and intertwining powers of the federal and state governments. The 1928 law on telephony established the monopoly of the posts and telegraph administration that had been defined in the constitution of 1871.

Up until the 1990s, demands that the telecommunications market be opened were virtually blocked by this framework. There was little room for competition to develop, either in telecommunications services, or between the phone network of DTAG and potential alternatives, such as broadband TV cable[3], the powerline network or the cellular network.

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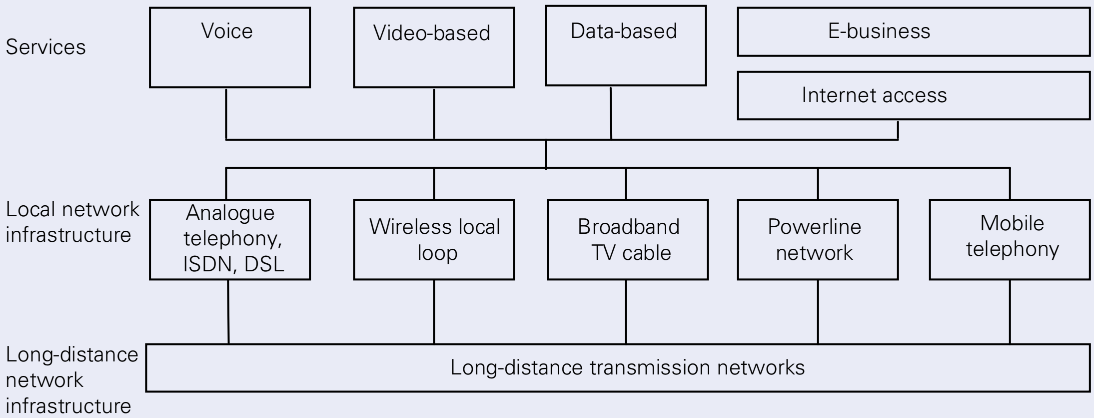
1 For further information on the importance of the telecommunications sector for economic growth see Auer, Josef, et al (2003): Traditional monopolies: growth through stronger competition, in Deutsche Bank Research, Frankfurt Voice – More growth for Germany, Frankfurt a. M.

2 Michalski, Hans-Jürgen (1999): Die Inszenierung von Wettbewerb – Die Liberalisierung des deutschen Telekommunikationsmarktes: Probleme, Auswirkungen, Perspektiven und Kritik der Regulierung, in: WSI Mitteilungen 5/1999, Frankfurt a. M.

3 Broadband refers to technologies that operate at a transmission speed of more than 64 kbit/s; this means they are more powerful than the ISDN service in the fixed-line network.

Connections between structural levels in telecoms



Sources: WIK, DBR, 2003

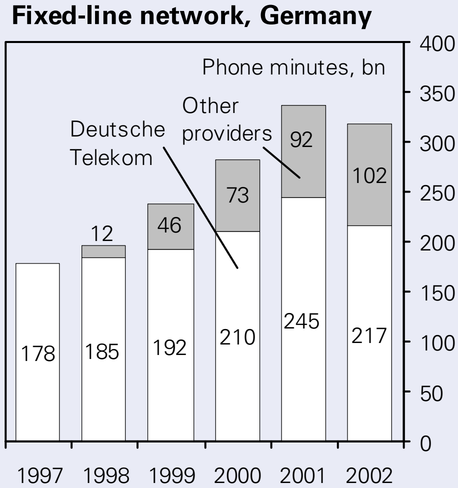
In 1984 the USA had broken up the monopolist AT&T to form one national company and seven independent regional companies – with the intention of triggering "competition as discovery procedure"[4] and pushing the development of the telecommunications sector, which was seen as essential to a globally networked economy. In the same year the telephone monopoly in the United Kingdom was abolished and British Telecom converted into a listed company; Japan also liberalised its telecommunications industry back in 1985. Continental Europe has limped along behind. It was 1998 before Germany's postal reform, based on legislation in 1989, 1994 and 1996, led to the demise of the constitutionally guaranteed monopoly for the fixed-line network.

Use of "competition as discovery procedure"

Liberalisation in Germany has concentrated primarily on competition among service providers; it has yet to focus on competition among network operators. This approach relies on service providers being able to use the existing telecommunications infrastructure on a sound business basis, which means primarily at an appropriate, non-discriminatory price. To ensure that charges – as the basis for the desired competition among services – are supervised effectively they are subject to prior approval (*ex ante* regulation).

Since the market was opened in 1998, phone users have been able to choose freely among providers for their long-distance and foreign calls. The experience with liberalisation in this segment is illustrated by the use being made of dial-around (call-by-call use of different providers), which has done even more to open the market than pre-selection (a contract with a single provider of choice). This empirical evidence should guide decisions on the direction of competition policy.

Fixed-line network, Germany



Source: RegTP, 2003

Still no sign of real competition

The sector-specific regulation of the German telecommunications market is the responsibility of the regulatory authority for telecommunications and posts (RegTP). This was set up in January 1998 in the context of the postal reform. RegTP is supposed to push

4 Hayek, Friedrich August von (July 5, 1968): Wettbewerb als Entdeckungsverfahren (competition as discovery procedure), address at the Kiel Institute for World Economics.

liberalisation and watch over the sector as it moves from a monopoly to real competition. It supervises, in particular, the interconnection of different telecommunications networks, shared use of technology locations (collocation), unbundling of subscriber lines ("last mile"), and number portability (the ability of users to retain their existing numbers when switching to another provider). The *ex ante* regulation enabling the RegTP to supervise charges[5] is not always enough on its own. In view of the complex market structure, additional instruments would undoubtedly make the supervisory authority much more effective. Moreover, the sanctions imposed so far have been pretty mild in relation to the advantages that may be gained through a breach of competition. At present they are not a sufficient deterrent to stop competition being cramped.

The RegTP faces the difficult task of finding a sustainable compromise between the demands of the different market participants and at the same time creating incentives to ensure that the infrastructure is upgraded and the whole sector makes technological and economic progress. At present the conflict of interests centres on third-party billing, a service that DTAG has so far provided for its rivals but which it wants to discontinue. An investigation is under way of the current practice, in use since 2001, whereby DTAG bills customers on its rivals' behalf but is not responsible for issuing reminders. DTAG's competitors argue that without third-party billing their costs would soar. The Association of Telecommunications and Value-Added Service Providers (VATM) calculates that dial-around calls already cost alternative providers interconnection fees of EUR 4 per user and month. If DTAG were completely absolved of the obligation to provide third-party billing, there would be additional costs of EUR 2. With revenues averaging EUR 6 per month, the average margin would thus move towards zero; some providers, especially small ones, would almost inevitably be forced out of the market. But, not only is there the cost argument: third-party billing seems to affect competition by directly influencing customer loyalty. The willingness of a user to dial around will probably dwindle if he receives a separate bill from each individual provider. There is reason to fear that if third-party billing is not retained intact, the market position of DTAG will be strengthened and the opening of the market will be held up.

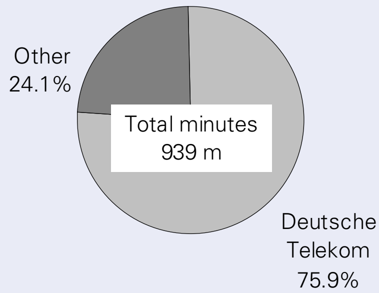
As indicated in the criticism of the "pretend competition", DTAG has continued to dominate the telecommunications segment in Germany even after the market was liberalised. A string of market data reflects the overbearing weight of the former monopolist.

Deutsche Telekom rules the roost

As use of the internet and mobile phones has increased, so too has the number of phone minutes in the fixed-line network: by 80% since 1997 (see chart, p. 4).[6] The market indicators suggest that telecommunication is an "experience good"[7] with strong customer

Total phone calls*) per day

Germany, 2002

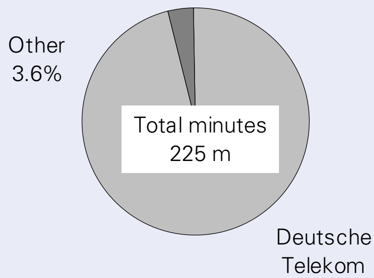


*) Measured in minutes

Source: VATM, 2002

Local phone calls*) per day

Germany, 2002

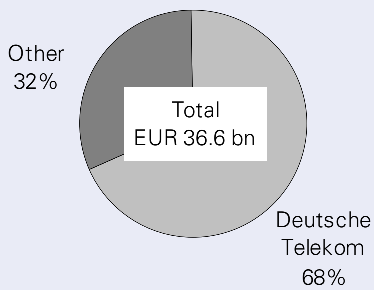


*) Measured in minutes

Source: VATM, 2002

Revenues from fixed-line services

Germany, 2002



Source: VATM, 2002

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[5] See Monopolkommission (2003): Hauptgutachten 2000/2001 - Netzwettbewerb durch Regulierung, Baden-Baden, p. 369ff.

[6] The true number of phone minutes is roughly one-third higher than the figure measured and reported in the statistics. This is partly due to the growing importance of flat rates (permanently online), as the statistics on these do not show the actual number of minutes.

[7] See Büllingen, Franz and Peter Stamm (2003): Sektorreport Telekommunikation, in: WIK-Consult Bericht, Bad Honnef, p. 37.

loyalty. The incumbent market leader enjoys a confidence bonus, whereas newcomers have to build confidence from square one over a period of time. DTAG's share of phone minutes comes to over 75% in total; in long-distance and foreign calls it is around 60%, and in local calls a staggering 96% (see charts, p. 5).[8] Like the number of phone minutes, revenues are a good indicator of the degree of market dominance. Even though some 250 companies now offer voice services in Germany's fixed-line network, the market leader captures more than two-thirds of total fixed-line revenues (see chart p. 5). The picture as regards the infrastructure is very similar. At the end of 2002 DTAG leased around 950,000 subscriber lines[9] to its competitors, which means it still provides nearly 96% of all fixed-line connections (see chart). In view of this glaring imbalance in infrastructure, it is obvious that the legal framework governing network access for competing companies will directly determine the development of the market. A comparison of the price that DTAG charges to end-customers with the intermediate prices DTAG's rivals have to pay for the termination, switching and assumption of a private subscriber connection gives food for thought: alternative providers pay EUR 12.48 per month merely to lease a standard subscriber line from DTAG, whereas a DTAG analogue connection costs the subscriber only EUR 11.83. Such charges make it difficult for newcomers to undercut the incumbent's prices to subscribers; real competition has no chance. But a turnaround here seems highly unlikely in the near future. While the other regional network operators are demanding that the monthly fee for a subscriber line be reduced to less than EUR 7, DTAG wants it raised to EUR 17.40. RegTP is to settle this issue by May.

Despite the conditions described above, the picture of a market totally dominated by DTAG is not entirely accurate. Contrary to the impression given by the nationwide statistics, the presence of DTAG varies greatly from region to region. In more than half of Germany's larger towns (over 50,000 inhabitants) telephone customers have been able to choose among several companies for their subscriber connection. In Hamburg 12% of all local telephone channels are provided by rivals of DTAG, in Cologne 21% and in Oldenburg an even higher 23%. Most of these competitors are municipal transport companies or utilities. Prominent examples of such carriers with a strong regional background are HanseNet, ISIS Multimedia Net and NetCologne.

Prices reflect success with market opening

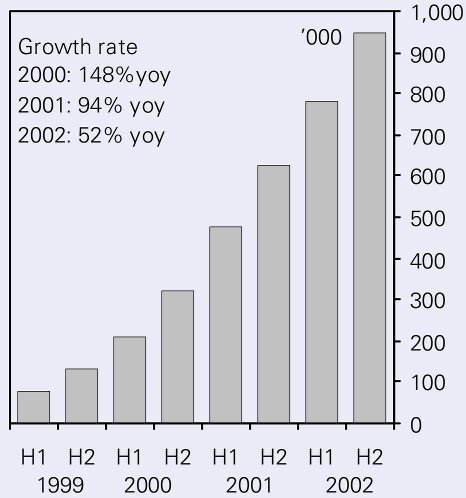
The degree of competition in a market cannot be measured by the number of telecommunications companies alone. A thorough analysis must also look at other indicators – especially prices, which vary from segment to segment – and identify the differences.

Since the German market was opened in 1998, telecommunications prices have dropped by 23% overall, and by over 14% in the fixed-line network (where foreign calls have become almost 50% cheaper, domestic long-distance calls 47%). The cost of mobile calls within Germany has fallen nearly 39%. In the same period the price of local calls rose by around 5% and subscriber line charges by 3%. Over the

[8] If the length of the calls made under flat rates could also be recorded accurately, the dominance of Deutsche Telekom – which provides the lion's share of flat-rate arrangements – would be even more obvious.

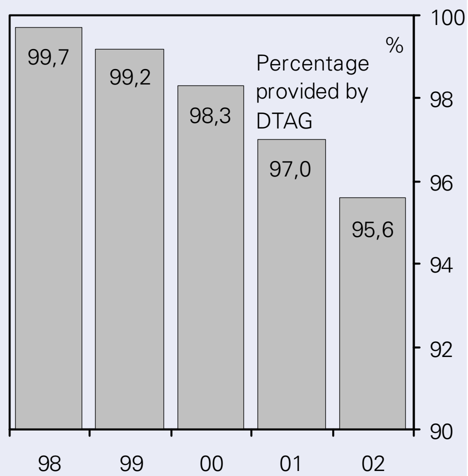
[9] See Regulierungsbehörde für Telekommunikation und Post (2003): Jahresbericht 2002, Bonn, p. 20.

Subscriber lines leased from Deutsche Telekom



Sources: DTAG, DBR, 2003

Fixed-line connections, Germany



Source: RegTP, 2003

Regional carriers in Germany*

Company	Licence area	Shareholders
HanseNet	Hamburg and environs	Hamburgische Elektrizitäts-werke AG
ISIS Multi-media Net	Düsseldorf, Neuss, Duis-burg, Essen etc.	Arcor, West LB, municipal utilities of Düsseldorf, Neuss and Duisburg, Rheinbahn
NetCologne	Cologne	GEW Köln, Spar-kasse Köln

* A selection
Source: RegTP, Nov 2002

longer period from 1995 to 2002 – which captures strategic changes made by the monopolist with an eye to the impending market opening – the difference between the various competitive segments is even more pronounced. From 1995 to 2002 the price for national mobile phone services plunged 63%, while subscriber line charges climbed 14% and local calls became 22% dearer.

The development of prices in the telecommunications sector shows up the areas in which liberalisation has not gone far enough. A comparison of the different segments highlights the need for action, especially in the local network and with regard to subscriber connections.

Germany praised and criticised

In the dispute over the next steps needed in liberalisation, it is not enough to compare the prices in different segments in Germany; a comparison with international telecommunications markets should also provide valuable arguments. The Scientific Institute for Communication Services (WIK), which has close links with RegTP, constructed an index that evaluates the progress made with liberalisation in different countries. The index includes the award of licences – an issue raised in EU directives – as well as prices for interconnection and line leasing, and prices charged to subscribers. In WIK's ranking of the liberalised markets in Europe, Germany takes third place – behind Denmark and the United Kingdom. Like the European Commission, WIK criticises the late start and repeated postponement of the opening of Germany's local networks due to technical problems. Initially planned for December 1, 2002, and then March 1, 2003, dial-around is now to become possible for local calls from April 25 and pre-selection from July 9.

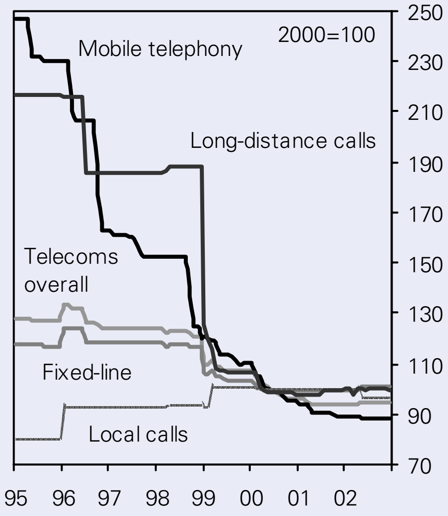
On the whole, the legislation in Germany sets the framework for voice telephony but makes no provision for many specific aspects of data telephony. With the use of data telephony growing and the importance of voice telephony declining accordingly, the focus needs to be shifted as soon as possible towards the new application areas.

EU directive increases dynamic

The EU would like to push ahead with the liberalisation of the market by means of a package of directives "on competition in the markets for electronic communications networks and services", which was adopted at the beginning of 2002 on the basis of a European Commission proposal. The overall package covers six areas and breaks down into the framework, authorisation, access, universal service, data protection and radio spectrum directives. It is to be transposed into the national law of the individual member states by the end of July 2003.

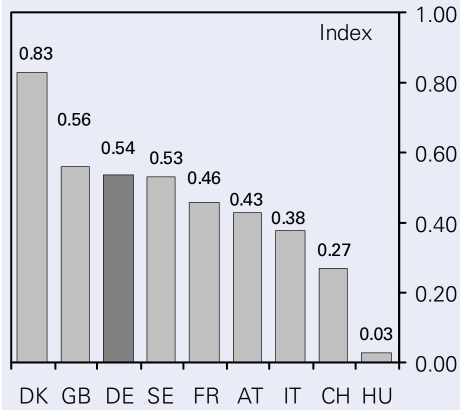
Generally, the directives aim to intensify the harmonisation of the telecommunications laws in the single market and widen the scope of competition to include the infrastructure. To this end, the EU states four key demands that can help achieve a shift away from sector-specific regulation towards the general, technology-neutral supervision of competition. First, the European Commission will have a right of veto over the national regulators in future. In cases where the internal market is affected directly, national solo ventures are to be nipped in the bud. Second, all telecommunications companies will have to commit to submit detailed reports to the national regulator about their own business situation. Thanks to this extended information basis the unfair use of market clout will probably be easier to recognise and the resultant

Consumer price index, telecom services



Source: Federal Statistical Office, 2003

Degree of liberalisation in fixed-line network*)



*) 1: fully liberalised; 0: not liberalised
Source: WIK, 2001, as of Q12001

Right of veto over national regulator in future

advantages enjoyed by the individual company will become easier to quantify from the viewpoint of the regulator. Third, the national authorities will regularly examine the necessity of continuing *ex ante* regulation in each of the telecommunications sub-markets, which still have to be defined in detail. Fourth, the punishment for abusing market power is to be increased significantly. Plans are afoot to orient the fine to the size of the illegally generated earnings, which the regulatory authorities will be better able to gauge thanks to the widened scope of company disclosure requirements.

More drastic punishment for abuse of market power

Commission not always consistent

The set of EU directives will generally allow much more extensive and detailed intervention in market activities of individual companies than before. However, it is debatable whether the division of competences is compatible with the principle of subsidiarity, which is held high by the Union. There is a risk that the foreseen allocation of competences between the national and supranational regulatory authorities will prolong the decision-making process and reduce planning certainty for companies.

Scope for more extensive intervention

All in all, the signals on further liberalisation in the sector are not thoroughly consistent; a major case of conflicting targets is emerging between the promotion of infrastructure and competition. On the one hand, the EU supports plans for investment in networks in structurally weak areas. It thus tends to favour more established telecommunications companies which may use this opportunity to complete their networks. This suggests that in this initiative the advancement of competition is overshadowed by the cohesion aspect and the general economic interest. On the other hand, the European Commission warns Germany – as well as the United Kingdom and Spain – not to drag its feet further on the opening of the telecommunications markets. It complains – entirely in the interests of competition – of monopolistic trends especially in the broadband network technology known as digital subscriber line (DSL). In Germany, over 100 companies offer DSL. Nevertheless, Deutsche Telekom holds the lion's share of the country's roughly 3.4 million DSL connections (nearly 95%).

Cohesion comes before competition

Companies need planning certainty

European Commission warns against delaying market opening

These facts indicate that the work of the national regulators would be very much easier if the EU followed a clear line.

Gordian knot with national regulation

Up to now, regulation of the telecommunications sector in Germany has concentrated more on services than on infrastructure. This could be explained economically by the fact that operation of the network is perceived as a natural monopoly. The argument does not go far enough, though, as it focuses solely on a purely static situation with no technological advances. It gives no consideration to contestable markets[10], i.e. the option of using alternative technologies (e.g. mobile phone, radio, cable or powerline networks) for telecommunications transmissions and competing in this way with the fixed-line network.

Natural monopoly

The term "natural monopoly" describes a constellation in which, owing to particular characteristics of a production process, it is more efficient for one single company to supply a market as a monopolist. The existence of a monopoly can be economically efficient and does not necessarily suggest market failure *a priori*.

Significant economies of scale and scope are the basis for a natural monopoly. Economies of scale mean that when the quantity of output increases, unit costs steadily decline. This can happen if production plant is indivisible, for instance. Economies of scope refer to when a bundle of different products that are made in coupled processes can be produced at lower unit costs than when each product is manufactured separately.

[10] The theory of the "contestable market" in the area of technological advances is based on two reports, i.e. Demsetz, Harold (1968): Why Regulate Utilities?, Journal of Law and Economics, Vol.2, pp. 55-65; and Baumol, William J., John C. Panzar, Robert D. Willig (1982): Contestable Markets and the Theory of Industry Structure, New York.

To justify its focus on competition in services, the RegTP cites not only the natural monopoly argument but also others. For example, it claims that the liberalisation of the telecommunications sector progresses faster if the newcomer is initially allowed to use the market leader's existing infrastructure and competes temporarily only on service aspects. It says that once the newcomer has become established in the services market and built up a customer base, the playing field would automatically widen to include infrastructure. This is by no means the only conclusion that can be drawn. The proposition of an only weak link between competition in services and competition in infrastructure is quite plausible. This is all the more problematic as the European Commission's medium-term target of shifting away from sector-specific regulation by the RegTP towards general technology-neutral supervision of competition by the antitrust authorities in Germany is barely conceivable without real competition on infrastructure.

Sector-specific regulation so far still a going concern

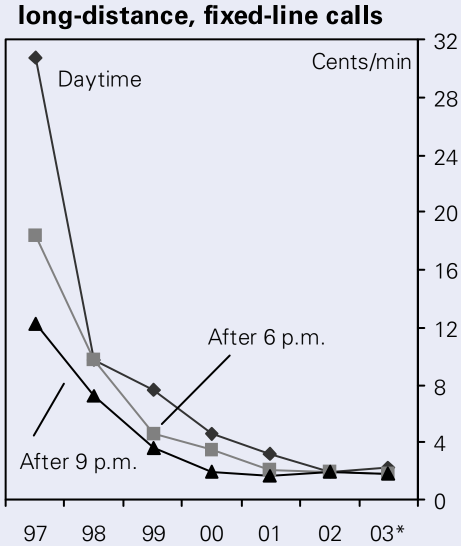
Intense jockeying for positions in the local network

The problem of a lack of competition on infrastructure can be seen very clearly at the local network level. The economic and political jockeying among network operators and service providers for their starting positions is intense. Terms and conditions for network access – especially the demands to compel service providers to shoulder a greater share of the actual infrastructure costs than hitherto – remain a particular point of controversy. So far, no new tariff schedules have been set – sector spokespersons expect a surcharge averaging EUR 0.003 per phone minute.

Service providers should shoulder a greater share of investment costs

The tariff model takes account of the network operators' criticisms. They say that service providers obtain considerable advantages simply from the fact that they do not have to maintain any cost-intensive infrastructure of their own. The service providers' rejoinder is that the infrastructure costs are sufficiently covered by the end-customer prices and the additional charge would make transmission overly expensive, increasing the price by over 50%. In the light of the narrow margins in the telecoms sector, numerous market exits – besides a decline in the intensity of competition – seem quite logical as a consequence of the additional charge. However, even ignoring the hurdle of infrastructure investment, it emerges that not only service providers have difficulties to gain a foothold in the local loop. Potential network operators must also first overcome substantial barriers before they can enter that market segment. For example, the government sets high standards for infrastructure build-up and network density – especially for the number of head-ends.[11]

Minimum charges for domestic long-distance, fixed-line calls



*Beginning of 2003
Source: RegTP, 2003

Given the barriers to competition DTAG would lose much less market share in the local loop than on long-distance calls in the course of the planned market liberalisation. In the local network area, declines of only 10% of phone-minute volume are realistic. Furthermore, the prices will fall by about one-fifth at most and thus not nearly as much as on long-distance calls. If, given this market development, DTAG manages to compensate for the expected losses by raising the subscriber line charge, it could in fact improve earnings performance under the amendment to the telecoms legislation.

[11] If the demand for a "local loop" feed for connections were to become law instead of a "near-origin" feed, the alternative infrastructure operators would have to have 475, instead of 23, head-ends to link with the DTAG network – and would have to invest correspondingly more in their network infrastructure.

The control over the "last mile" to the end-customer proves to set the tone here, too. Therefore, hopes repeatedly surface that alternative access technologies, such as the broadband cable or powerline networks[12] or especially the mobile telephony or radio networks, might break the DTAG's commanding grip on the last mile.

Hype over wireless local loop goes over the top

Technology was to challenge dominance in subscriber connections

Wireless local loop (WLL) has been termed extremely important as regards the dismantling of market barriers to the last mile. Great hopes were pinned accordingly on the distribution of new frequencies in August 1999. Normally, WLL refers to a point-to-point radio system which connects a home or office with the broadband data network. The bridge between subscriber connection and data network is set up by means of an antenna and WLL base station. A WLL base station can handle a large number of subscriber connections within a radius of several hundred metres. The technology should offer a higher transmission capacity than ISDN or even DSL and was thus launched with the claim of being able to challenge DTAG's dominance.

WLL fell victim to developments

But WLL fell victim to technological and economic developments. In the face of collapsing capital markets it was not possible to roll out the WLL infrastructure without delay across Germany as originally planned. The actual costs of a WLL connection substantially outstrip the originally estimated costs and severely constrict the market potential of this technology. Moreover, DSL, the competing broadband network technology, became rapidly established at a low price and left little room for the WLL alternative.

Technology disappointed high expectations

All in all, WLL was unable to meet the market's high expectations and currently has at best limited chances of success in some very narrowly defined niches. Against this backdrop, the providers who have remained in the market are seeking new application fields and strategic alliances for their products. People in the sector hope that the RegTP will grant permission to allow not only individual mobile subscribers but also hubs to be linked up via radio in future.

Strategic alliances being sought

WLL is not a success story as things stand today, but it should not be regarded as proof that all alternatives to fixed-line networks are doomed to fail from the outset. Mobile telephony is a good example to the contrary.

Optimistic signals from mobile telephony

Competition took root with advent of GSM

Disregarding the conflict over network access and interconnection, the fixed-line segment faces a serious competitor with the spreading growth of mobile telephony. Actually, the fixed-line network and the mobile network started historically from very similar positions. As with fixed-line technology, DTAG was initially the sole provider for mobile telephony until 1989. With the advent of the global system for mobile communication (GSM) as digital standard, competitors started to enter the mobile market. Four companies were granted a licence in Germany; the newcomers rapidly gained market share and even drew abreast of the market incumbent. Today, only two in five of Germany's roughly 60 million mobile subscribers have a contract with DTAG.

[12] For a discussion of the limited chances for the broadband cable and powerline networks as access technologies see Heng, Stefan (2003): Germany's broadband networks - innovation on hold, in: Deutsche Bank Research, E-conomics No. 35, Frankfurt a.M.

Mobile telephony has become a serious competitor

The competitive mobile segment rapidly continues to gain significance. By the end of 2000 Germany had more mobile subscribers than fixed-line ones. This progress is partly attributable to the fact that the former monopolist got its start in the extremely dynamic mobile segment of the liberalised market with a much smaller technological and economic lead than in the fixed-line network, which it dominated for many decades.

Even though the high fees for national and international roaming merit criticism, mobile telephony is, all in all, a good example of market opening. The dynamic of the mobile segment spurs competition throughout the telephony sector.

Staying power needed

Telecommunication influences economic potential

Telecommunication provides the basis for a strong division of labour in a globally networked economy. The corollary is that the liberalisation of the telecoms sector directly affects the growth potential of the entire economy. A telecoms sector which allows competition and also encourages technological and economic innovations is a major asset in the international competition to attract business. Looking at Germany, this gives reason to ponder why today – five years after the country started to restructure its market – it is by no means possible to speak of real, self-sustaining competition among full peers in the telecommunications sector. In the medium term, alternative technologies will further advance competition in communication. Today, mobile telephony is a segment whose dynamic helps to break through the crusted structures in the overall industry.

Mobile telephony breaking through crusted structures

Regulation is a balancing act

Given the shape of the market and as yet inadequate alternatives, the liberalisation of the local loop will progress much more sluggishly even after the introduction of free choice of operator than what applied for long-distance service. Prices will probably decline only marginally, and the incumbent's market share to an only limited extent. On the road to market deregulation the RegTP will have to find a sustainable compromise between the diametrically opposed demands of the competitors while also guaranteeing the further upgrading of the infrastructure. When performing this balancing act the regulator will increasingly have to focus on competition in infrastructure besides services. Real competition in the telecommunications sector is ultimately inconceivable in the long term without competition among networks.

Time to rethink mechanisms

With the telecommunications legislation being amended, it looks like a good time to rethink the sanction mechanisms for anti-competitive violations. However, the policy-makers face a dilemma here. The punishment for competition-relevant violations must on the one hand be sufficient to deter wrong-doers, but on the other hand must not be so heavy-handed that it would fully block the market leader's activities. Simply because of its still very large market share, DTAG and its products more or less automatically set the standards for the entire segment in Germany. Until the liberalisation of the market kicks in noticeably, a heavy responsibility for the technological and economic development of the entire sector will weigh on the shoulders of the former monopolist.

Need for clear division of competences

With a view to the further opening of the market, the politicians have to set the limits early and in no uncertain terms. The regulator needs effective steering tools. Sufficiently rapid decisions, short procedures and clear targets are essential for the long-term development of the telecommunications market on the road to genuine, self-sustaining competition. This principle of a functioning market should be borne in mind when the telecommunications legislation is amended.

Ongoing need for *ex ante* regulation

Contrary to the optimistic assessment reached by the WIK, it must not be forgotten that Germany has been very slow to transpose the EU directives on telecommunications into national law. Liberalisation has gained momentum only hesitantly and cannot claim the major successes hoped for, particularly in the broadband area and specifically in the local loop. Core tasks facing the regulator are to set guidelines on network access and interconnection, local loop unbundling and third-party billing. The necessity of having sector-specific, *ex ante* regulation will not disappear over the medium term, but a transition to general, technology-neutral supervision of competition as sought by the European Commission is not in the offing. Nevertheless, the picture of "pretend competition" in Germany goes too far.

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