

PART II*

Regulatory Policies and Outcomes

* The background material used to prepare this report is available on the Web site: www.oecd.org/regreform/backgroundreports.

PART II
Chapter 6

**Regulatory and Competition Issues
in Key Sectors:
Telecommunications***

* For more information see: Background Report on “Regulatory Reform in the Telecommunications Industry” available on the Web site: www.oecd.org/regreform/backgroundreports.

Context and history

The liberalisation of Germany's telecommunications sector started some time ago

The telecommunications industry is a key part of the German economy and critical to its competitiveness. The government recognises its role in economic development and the fact that a competitive environment is the best way to stimulate private investment, as well as bringing consumer benefits.

Liberalisation started in 1989 when Deutsche Bundespost was split into three, and regulation was separated from operations. The telecommunications arm was partly privatised in 1995, becoming *Deutsche Telekom* (DTAG). Though full privatisation is the long term aim, the State retains a 42.3% holding. Competition in mobile communications began in 1990 with the licensing of a second provider to compete with DTAG. EU legislation aimed at developing a single market in telecommunications promoted further liberalisation in 1998, which abolished DTAG's monopoly on voice telephony, and established the Regulatory Authority for Communications and Posts (RegTP).

Though there are many market players, the ex-monopoly incumbent remains by far the largest company

There are now a large number of operators. Competition to DTAG grew, especially in the early years after 1998, when new operators offered highly competitive tariffs. The number of telephone line providers in competition with DTAG grew from 21 in 1998 to 64 in 2002, mainly in ISDN. The share of new entrants in the national long distance market has increased steadily to 40% (only surpassed by three other OECD countries). However, DTAG remains the largest company (not only in Germany but also in Europe). DTAG has regained market share in international long distance markets as prices have declined and margins for competitors have decreased. DTAG continues to be the main provider of both analogue and ISDN lines, and remains dominant in the local service area with over 95% of the market (though much higher market shares have been achieved by competitors in some urban areas).

In the mobile telephony market DTAG's mobile subsidiary T-Mobile, and Vodafone are the two largest operators with a market share of 41% and 38% respectively in June 2003. The two other providers were E-Plus Mobilfunk and O2 Germany. The mobile market has taken off dramatically since the mid 1990s, with 7.1 subscribers per 100 inhabitants in 1992 rising to 71.7 in 2002 (more than the US and Japan but slightly below the west European average). Third generation mobile has also developed, with six successful bidders for a Universal Mobile Telecommunication System (UMTS) licence in 2000. Their licences require that at least 25% of the population be covered by the end of 2003 (50% by the end of 2005). Germany has been an early mover in awarding Wireless Local Area Network (WLAN) frequencies.

EU law is driving further pro-competitive developments but a rapid move away from ex ante regulation should be avoided

EU policies remain a driving force for pro-competitive change. The 1996 German telecommunications law is currently under revision to meet the requirements of the most recent EU directives, which should have been done by July 2003. The government has engaged in wide consultation of industry and interested parties. It has affirmed that it wants to continue to promote pro-competitive policies, staying broadly within the existing framework. It wants to improve the framework and to avoid extending regulation to currently unregulated market segments. Indeed the ministry has said publicly that it wants to move from *ex ante* to *ex post* regulation and towards the application of standard competition principles. This is in line with the new EU framework for communications. However, a rapid move away from *ex ante* regulation seems premature given the continued dominance of the incumbent. Application of the EU's Relevant Markets Recommendation (see below) should help to identify the markets where *ex ante* regulation needs to continue.

Regulatory institutions

The Federal Ministry of Economics and Labour (BMWA) is the policy-maker. The main regulatory institutions are the Regulatory Authority for Telecommunications and Posts (RegTP), and the Federal Cartel Office (BKartA), together with the Monopoly Commission which plays an advisory role.

A regulatory authority has been set up separate from the ministry, but there are concerns over the extent of its independence from political pressures

The BMWA has policy responsibility for the telecommunications sector, which includes drafting and updating the guiding policy principles and regulatory framework for the sector, EU legislation and other international tasks including standardisation issues, spectrum planning (which it shares with RegTP), and the supervision of RegTP. It is responsible for drafting the new Telecommunications Act. RegTP (Box 6.1) is the sector specific telecommunications regulator subordinate to the ministry.

Some concerns have been expressed over the independence of the ministry and RegTP *vis-à-vis* DTAG, in which the government still has a 42.3% share. This gives rise to concerns of possible conflict between the government's interests as shareholder and its role in policy and regulation. DTAG's current debt problems and falling share price may be increasing pressure for a tolerant regulatory attitude toward the anti-competitive conduct of what the government may also consider to be a "national champion". Such concerns can lead to investor uncertainty which only full privatisation can resolve. Questions of RegTP's independence have also arisen especially *vis-à-vis* the ministry. Sceptics can point to RegTP's continued support for the ministry's position on fixed-to-mobile termination charges (see below) which flies in the face of international regulatory opinion on the issue. On the other hand it took a strong stand for competition with the imposition of penalties on DTAG for delays in the delivery of leased lines. A related issue is the Beirat: it is not evident that this advisory body (consisting of representatives from the German Parliament) is necessary to an independent regulator, and it could undermine the perception of RegTP being independent from political influence.

Some other issues arise in relation to RegTP. The competences of its staff may need some adjustment to ensure that it can cope effectively with the demands of growing competition. More transparency and information on its regulatory decisions would be

helpful: for example decisions should be published on its Web site (the rulings issued by Ruling Chambers can be obtained from the office of the Ruling chambers), and the reasons for decisions explained.

The competition authority plays an important role, in close co-operation with the regulator

The competition institutions (see Chapter 3 for more details) complete the picture. The BKartA is the federal competition authority responsible for enforcing the competition law, and focuses on merger control, cartel prohibition and abuse of dominance. For telecommunications, abuse of dominance issues are primarily handled by RegTP under the Telecommunications Act. The Monopoly Commission is an independent “think-tank” which provides the federal government with advice on competition policy. The BKartA is efficient and widely respected, but faces considerable and growing challenges in overseeing the development of competition in industries characterised by monopolistic network cores and powerful traditional incumbents.

In merger cases and cases of legalising horizontal agreements the minister can, under certain circumstances related to wider policy interests, overrule BKartA decisions. This happened recently when the minister overruled the BKartA and allowed an important electric-gas merger (Ruhrgas-E.ON). This decision generates uncertainty about the government’s competition stance. Also, the grounds for the decision – to promote a national champion for supply security reasons – raise the question of whether the government’s tolerant stance toward DTAG stems from a wish to promote DTAG as a national champion for telecommunications.

The competition and telecommunications laws interact closely, and RegTP and the BKartA co-operate to ensure that a uniform approach is applied, notably as regards findings of market dominance. The telecommunications law provisions on key issues such

Box 6.1. The Regulatory Authority for Telecommunications and Posts (RegTP)

RegTP was set up in 1998 (as required by EU legislation) as a structurally separate and independent regulatory authority, “within the scope of business of the BMWA”. It is based in Bonn. Its determinations cannot be overruled by the ministry or the minister. However, actions against its determinations may be brought directly before the administrative courts. Its regulatory decisions are published in the Official Gazette.

An advisory council, the Beirat, made up of representatives of both houses of parliament, must be consulted by RegTP on a limited number of issues (not tariffs), and kept informed of RegTP’s activities. RegTP’s president is nominated by the federal government upon the proposal of the Beirat. RegTP must report to parliament (via the ministry) every two years on the extent to which its regulatory activities have resulted in increased competition.

RegTP’s income is determined in the federal government’s budget.

RegTP has four main responsibilities in the fields of licensing and frequency regulation; universal service; price regulation; and network access and interconnection. It must promote competition, control anti-competitive practices, and monitor the market.

Its enforcement powers include information and investigative rights as well as sanctions. It can inspect and audit the business records of telecommunications companies.

Some 200 to 220 staff deal with telecommunications regulation.

as interconnection charges and access depend on a finding of dominance flowing from the competition law, which must be agreed with the BKartA. The two organisations' joint assessment of the markets in which dominance has been established is published annually. Also, the BKartA must have the opportunity to comment on RegTP's determinations before they are made. DTAG is considered to be dominant in the market for fixed network voice telephony.

Box 6.2. Some examples of Germany's reluctance in implementing EU directives

In April and in July 1999, the EU Commission alleged in an official notice (which represents a first step toward an official infringement proceeding) that Germany had not sufficiently implemented the interconnection directive and the voice telephony directive. With respect to the interconnection directive, the official infringement proceeding was then initiated in November 1999. With respect to the voice telephony directive, no official infringement proceeding was commenced. In both cases, the EU Commission alleged in particular that Germany had not sufficiently ensured the use of appropriate cost calculation systems by dominant providers. In response, RegTP has published guidelines relating to appropriate cost calculation systems.

The EU Commission alleged that Germany had not fully implemented a Commission directive requiring that any telecommunications company with a market share of over 25% be considered as having SMP. Germany's SMP is defined as one-third of market share, but RegTP has announced that, contrary to Germany's general competition law, it will investigate SMP at 25% market share.* The *Bundeskartellamt* was brought into this procedure for drawing up and approving the administrative rule.

In April 2000, the EU Commission alleged in an official notice that Germany had not fully implemented the EU's full competition-directive and the ONP voice telephony directive. Tariff approval procedures did not sufficiently ensure cost-oriented tariffs and there had been inadequate implementation of price re-balancing provisions.

On 30 October 2000, the EU Commission commenced an infringement proceeding alleging that Germany had failed to fully implement the EU interconnection directive with regard to local carrier selection, and on 12 November 2002, the EU Commission brought an action against Germany before the European Court of Justice. The EU Commission alleged that, although the deadline for doing so had expired on 1 January 2000, no carrier pre-selection for local calls was being offered by DTAG. The EU Commission considers that the grounds given by Germany in justification of this are invalid. Call-by-call selection was finally implemented in April 2003 and local call pre-selection in July 2003.

An EU regulation on unbundled access to the local loop entered into force in January 2001. In December 2001, the EU Commission opened an infringement proceeding against Germany (among other member States) for alleged failure to implement in national law EU regulations on unbundling of the local loop. (In view of the approval of a relevant fee for line sharing by RegTP on 15 March 2002, the EU Commission has since closed the proceeding.) In March 2002, the EU Commission announced the commencement of an infringement proceeding against Germany for alleged failure to implement the EU regulation on sub-loop unbundling. Since then DTAG has published an offer for access to the sub-loop that has been approved by RegTP.

* RegTP Official Journal Notice 574/2001.

The EU Commission is an important force shaping the regulatory environment: Germany is often reluctant to follow

Last but not least, EU legislation flowing from the EU Commission is a major force shaping the telecommunications environment, in Germany as in other EU countries. Two major legislative initiatives have been taken recently. The first is a directive that promotes a common regulatory framework for electronic communications networks and services, to address convergence in communications. This must be implemented by EU member States by July 2003. To promote even-handed regulatory treatment the directive requires that markets be defined in accordance with the principles of competition law and aims to reduce *ex ante* sector specific regulation as competition develops. The related “Relevant Markets” recommendation of February 2003 identifies the product and service markets in which *ex ante* regulation may (still) be warranted.

Convergence raises the issue of whether there should be a single regulator (as exists in some other OECD countries such as the UK). The Monopoly Commission has raised this. However, Germany’s political structure and constitution would make it difficult to achieve. For example broadcasting content is the responsibility of each of the *Länder*. Effective co-operation is crucial under these conditions, not least to ensure that new services generated by convergence are not suffocated by over-regulation.

Germany shows some reluctance in implementing EU law (Box 6.2).

Regulation

The dominant provider and operators with significant market power are subject to special rules

As the (only) dominant provider of telecommunications services in Germany DTAG is subject to special rules and obligations, including:

- *ex ante* or *ex post* review of tariffs and related business terms and conditions by RegTP;
- the obligation to offer competitors unbundled special network access as well as access to essential services and facilities on a non-discriminatory basis;
- potentially, the obligation to provide universal services in a market;
- the possible inclusion of restrictive conditions in licences.

Operators with significant market power (SMP) are also subject to special rules.

Market entry and licensing: concerns have been expressed over the failure to prevent anti-competitive practices by DTAG

Licensing procedures will be streamlined with the implementation of the new EU legislation. High licence fees (for example euros 1.52 million for a national voice telephony licence) have been a contentious issue, and a new regulation is being prepared following pressure to change from the EU.

There are no foreign ownership restrictions on market participation. However, some new entrants have alleged that Germany is in violation of the 1997 WTO agreement on basic telecommunications which promotes principles for open markets, by failing to prevent DTAG from engaging in anticompetitive practices in a range of areas including pricing and leased line provisioning (see below).

Pricing: DTAG's pricing causes problems for competitors and the regulatory response is controversial

Under the current telecommunications law, end user tariffs of dominant providers are subject to *ex ante* regulation. Price cap regulation is used for standard tariffs. The regulation of optional tariffs takes place through an actual price approval processes. As well, tariffs for universal services must be set at an “affordable price”. Other tariffs are not regulated *ex ante*, but the tariffs of dominant providers may be reviewed *ex post*. The law provides for two approaches: a price cap, and individual approvals based on costs. Wholesale access prices are based on the latter, retail prices on the former (using four different “baskets”, for example local calls).

The EU Commission has found that Germany's price cap regulation is not sufficiently cost-based, as required under EU law. Price caps are restricting the scope for price rebalancing to reflect costs, which is important for ensuring effective long-term competition, especially in the local market. RegTP agrees that tariffs have not yet been fully rebalanced. A full review of current price cap regulation seems warranted.

DTAG's pricing of its services suggests – not surprisingly – a strong will on the part of the ex-monopoly incumbent to remain the dominant player. The more controversial question concerns the attitude of the regulator to this. Court rulings have added to the climate of uncertainty for competitors to DTAG.

DTAG's pricing of DSL broadband services has been controversial, linked to its dominance in this market (see Box 6.3). Others have found it hard to compete. RegTP investigated DTAG's pricing, and found some elements below cost, but did not take action

Box 6.3. Local loop unbundling: the DTAG price squeeze

Competitors have argued that they were being squeezed by DTAG's prices for access to unbundled local loops. DTAG charged new entrants an access price of 12.48 euros; at the same time customers were charged a subscriber line rental of 11.82 euros. This meant that new entrants could not make any money in this market, as the access price they pay is more than they can charge their customers (which must be less than DTAG's charge to customers). RegTP explained that new entrants could upgrade the line so as to offer ISDN lines and charge more. The access price payable to DTAG was reduced to EUR 11.80 on 1 May 2003 as a result of a RegTP decision of 29 April 2003, and the subscriber line rental DTAG charges customers was EUR 13.50 effective September 2003. This addressed the price squeeze problem. In addition, in its ruling of 28 July 2003 RegTP approved Deutsche Telekom AG's increase in the monthly rental for an analogue line to EUR 0.50 (net). This fully eliminated the access deficit RegTP had previously identified.

This issue revealed some weaknesses in the regulatory framework. The telecommunications law requires cost-oriented pricing for unbundled local loops. But as the dominant incumbent, and given the weak regulatory accounting rules, DTAG has both the incentive and the ability to influence cost calculations in its favour. Also the price cap regime may have been actively preventing DTAG from rebalancing its prices to reflect real costs. DTAG's actual prices compared with other EU countries are reasonable: the monthly rental is about the EU average, and the connection fee is much lower than the EU average. However prices could probably be even lower, given the flaws in the current situation (the difficulty of rebalancing prices to reflect costs).

because a predatory effect had not been proven. Complaints continued and DTAG eventually raised its prices. The sequence of events suggests that DTAG engaged in a predatory strategy to secure the long term market for itself (with initial price cuts to deter competitors, and once this had worked, price increases to recoup the initial losses). RegTP explains that it sought a balance between roll-out and competition: encouraging broadband roll-out by allowing DTAG to charge low prices, but also placing obligations on DTAG to allow equal access to its lines by competitors. The outcome suggests that this was a flawed strategy, as DTAG has now asserted its dominance in this market. DTAG has been accused of “price dumping” in other markets too.

RegTP has also authorised DTAG’s bundling of tariffs (AktivPlus) which includes reductions on local calls, national calls and fixed to mobile calls, though competitors say this presents a prohibitive barrier to market entry for long distance network operators. New entrants also face difficulties in the business market where DTAG offers business users large rebates under its tariff schemes. In this case RegTP sought changes from DTAG but the obligation to implement the decision has been suspended by the courts.

A different kind of problem has emerged with DTAG’s leased lines. Prices are relatively low, but delivery times had been among the longest in Europe until 2002. For example the delivery for 64 Kbit/s lines has been 90 days, compared with 21 days in France. RegTP has decided to impose a number of requirements on DTAG in response to complaints (including binding delivery times and penalties). But DTAG appealed and the court’s decision suspended the obligation to implement RegTP’s decision, on the grounds that DTAG is obliged to offer competitors only those conditions which it offers itself internally and that RegTP had the burden of proof for showing this. RegTP’s appeal to a higher court was turned down. It should, however, persevere on this issue by requiring DTAG to provide a reference agreement to competitors, and to enhance transparency by publicly reporting data on prices and performance.

Accounting separation: DTAG’s cost accounting system needs reform to discourage price discrimination

An underlying problem is DTAG’s cost accounting system, which needs reform to discourage price discrimination and cross-subsidisation. Under the current law, DTAG (as dominant operator) must have accounting separation, but only according to the standard accounting rules. The new law should help, as RegTP will be able to oblige DTAG to make its cost accounting methodology (including cost categories) public, and will also be empowered to verify the accounting method. The approach of some other OECD countries (notably the UK and Australia) may be instructive. However Germany’s strict corporate laws in relation to disclosure of confidential information are an issue.

In the circumstances it seems very doubtful that Germany should move quickly from *ex ante* to *ex post* regulation. DTAG’s pricing strategy shows that it is very difficult to “recall” a dumping price once it is in the market.

Interconnection: fixed to mobile termination charges need to be regulated

SMP operators must publish a Reference Interconnection Offer (RIO), which includes a detailed description of their interconnection offering. They must charge cost-oriented tariffs for interconnection and access, supported by transparent cost-accounting systems, and must comply with the principles of transparency and non-discrimination. An RIO now exists, after considerable delay. Also, element-based interconnection charges have

replaced the old distance-based tariff structure, with the result that DTAG has had to lower its interconnection rates by some 14%. RegTP's interconnection pricing system follows a two-step approach which causes delay. The technical conditions are set in the first step, and tariffs are set in the light of this. A single step procedure would help new entrants by streamlining the process.

Fixed to mobile termination charges may also be regulated, if a mobile network operator is determined to have SMP or if termination to the mobile network has been ordered in an interconnection decision. This has not happened so far. RegTP considers that there is no single operator with SMP and no joint dominance, despite the fact that the two largest mobile providers have a combined market share of about 80%. It also considers that end users encourage competition between the operators, and notes that termination charges are among the lowest in Europe.

This is another controversial stance by the German regulator which contradicts the view of the EU Commission and of a growing number of regulators (including those in the UK, France and Italy) that fixed to mobile termination charges are excessive. Germany (with Denmark and Finland) are the only EU countries that do not regulate fixed-to-mobile termination rates. Recent data indicate that Germany is in sixth position among the EU countries with regard to the level of mobile termination rates. Also, customer-driven competition in this market, according to studies by the UK regulator, appears to be insignificant: most customers do not pay much attention to termination charges. Indeed the UK has concluded that each mobile network operator has a monopoly of call termination on its own network, for technological reasons, and that price cap control of charges is the only likely effective remedy.

RegTP's reasons for not regulating the mobile market are debatable. Some have suggested that its present reluctance to take action stems from existing political concern that a reduction in charges will damage the profitability of the mobile operators (hard hit by the high prices they paid for 3G licences). RegTP considers that competition in the end customer market is a countervailing influence on prices. End-users would react to price increases by shortening their call duration and, in addition, take account of the prices from fixed-to-mobile networks when considering a possible subscription to a mobile operator. However, no evidence has been forward to show that end users are sensitive to the pricing of mobile termination and can influence prices.

Mobile to fixed termination charges also warrant review because of large price differentials that are unlikely to reflect costs.

Interconnection: DTAG is resisting the regulator on provision of wholesale Internet access products

Internet access is now one of the major generators of traffic carried over telephone networks. EU law requires that SMP operators who offer unmetered (flat rate) retail Internet access should offer flat rate wholesale Internet interconnection to new entrants on a non-discriminatory basis. This allows them to compete on fair terms with SMP operators in the retail Internet market. So far, however, RegTP has been blocked in its efforts to require DTAG to offer an appropriate interconnection of this type. DTAG has so far successfully appealed to the courts (the process is not yet completed). The latter have defined non-discrimination as follows: DTAG can only be obliged to offer products to competitors that it uses itself. This is a severe and arguably inappropriate test because an

incumbent running the network may not always need the same product as competitors seeking connection to the network. Competitors fear it could mean that every regulatory decision to oblige DTAG to provide an interconnection product could be denied because DTAG does not use it internally.

Local loop unbundling: an early start has been spoilt by DTAG resistance and an often weak regulatory response

Local loop unbundling is an important method of providing high speed broadband services (such as high speed Internet access and video-on-demand). Though Germany was the first European country to require a form of local loop unbundling (LLU), in 1998, it has lost its lead in particular as regards access by ISPs to the different forms of unbundling, although from the EU perspective Germany still has the largest number of unbundled network access links as measured in absolute terms. For example, most unbundled loops are used to provide voice services, and very few for DSL services. In fact the EU has taken action against Germany for failing to implement the EU regulation on LLU, noting the absence of any published reference offer for access to unbundled local loops. A reference offer for access to the unbundled local loop and shared lines was published by Deutsche Telekom in February 2002 and the proceeding by the European Commission was closed during 2002. A key issue is pricing by DTAG (Box 6.3). Here again the regulator's response raises some questions.

The regulator has stood up more successfully to DTAG (with the help of the courts) on the related issue of line sharing, an EU requirement. RegTP fixed the conditions for line sharing by DTAG in 2001. DTAG challenged RegTP's decision in court, and was twice unsuccessful. The charges finally fixed by RegTP were much lower than DTAG's original proposals: for example a connection charge of 74.91 euros compared with DTAG's proposed 117.73 euros. However take-up of line sharing is so far disappointingly low, against a background of allegations that DTAG is using delaying tactics and not complying with its obligations.

The picture is mixed as regards other related DTAG offerings. Access at the Main Distribution Frame (MDF) level is important to new entrants in order to allow them to make full use of their own network, and to control the technical characteristics of the connection to the end user. Here Germany compares well with some other EU countries. It does less well with sub-loop unbundling, where the EU Commission has started proceedings against Germany's alleged failure to implement the relevant EU Regulation. RegTP has not yet mandated DSL bitstream access (which enables a new entrant to provide unique features to its customers, control quality of service and hence differentiate its services from those of the incumbent) despite DTAG's dominance of the DSL market. The reason is that RegTP can only issue an order for a bitstream product if required to take action by a new entrant requesting access. To date this has not happened.

Collocation has started to happen (at about 33% of DTAG's 8 000 sites). But new entrants still experience problems. DTAG recently obtained a court injunction to stop the implementation of a RegTP decision setting time limits for the delivery of unbundled local loops and collocation.

Wireless services: some regulatory progress is being made in support of more competition

Several competition-enhancing regulatory issues should be noted in connection with the wireless sector.

The current policy for spectrum is to “use it or lose it”. A licence can be revoked if it is not being used after a year. RegTP has also made clear that existing mobile operators will not be allowed to merge or trade frequencies. So merging UMTS operators will only be able to keep one of their licences. However the new telecommunications law will allow spectrum trading i.e., the freedom for operators to resell portions of spectrum to other companies, under certain conditions.

The cost of deploying UMTS infrastructure is a growing issue, with the current unhelpful investment climate. Infrastructure sharing is one solution. RegTP has ruled that infrastructure sharing of wireless sites and masts etc., is permissible, and this should help the further roll-out of UMTS networks by new entrants. Several mobile operators have already announced infrastructure sharing agreements.

Mobile Virtual Network Operators (MVNOs) are another way of injecting competition into the mobile sector, which suffers from scarce frequency resources. MVNOs use other operators’ frequencies without owning or operating these. For this they need access, but under the current law access can only be mandated for operators which have been determined to have SMP, and RegTP has not done this. However, in Germany 10 service providers with no networks of their own (with a market share of 27% at the retail level) compete with network operators at the retail level.

Numbering and number portability: roaming raises concerns which need to be addressed

RegTP is responsible for numbering functions. Fixed number portability was introduced in January 1998. It is currently free of charge to the customer (*ex ante* regulated cost-based charges may be introduced). Mobile number portability was introduced in November 2002 (current rules do not mandate portability between second and third generation networks – GSM and UMTS).

Roaming has been the subject of investigations by the BKartA and the EU Commission. The BKartA was concerned about the competition effects of an agreement between two of the mobile operators but has allowed it to continue until the end of 2003 because of concern that without the agreement, one of the operators would have to leave the market (which is already very concentrated with just four operators). The EU Commission has found serious competition concerns regarding pricing practices, notably in the UK and Germany, which may result in significant fines. For example German operators may have illegally fixed the wholesale prices they charge other operators.

EU legislation requires national authorities to assess whether wholesale roaming markets are competitive and if not, introduce regulation. RegTP is starting its assessment later than many other EU countries, which yet again suggests a reluctant rather than enthusiastic compliance with EU law, and an equivocal attitude toward encouraging greater mobile competition.

Carrier selection and pre-selection: Germany lags the rest of the EU for the local market

Carrier selection (call by call) and carrier pre-selection are available in the fixed network for long distance calls, international calls and calls to mobile networks, but were not implemented to meet the deadline of January 2000 for local calls. According to the EU, Germany is the only country that had not yet done this by the beginning of 2003. Legislation to introduce it has been adopted by parliament, but RegTP has deferred its

introduction, accepting DTAG's argument that there are technical barriers to rapid introduction. Carrier selection and carrier preselection in the local call market were finally introduced on 25 April 2003 (call by call) and preselection on 9 July 2003. Delays initially built up after 9 July 2003 as a result of the large number of applications. The backlog has now been cleared, however, as DTAG, also at RegTP's behest, deployed staff from its special service agencies between 9 July 2003 and 31 August 2003 to switch over some 1 million lines. RegTP now has no more complaints to hand from the competitors.

Although to date RegTP has not received any formal complaints on win-back, strong "win-back" campaigns from incumbents have been a problem in some member States and an important *ex ante* measure would be to impose a priori requirements on DTAG to prevent it from doing this.

Rights of way: legislation is in place to help new entrants

The telecommunications law sets out principles for facility-sharing and access to private land. If new operators seeking to set up a new line face insuperable difficulties or unacceptable costs, the operator of an existing line using public rights of way may be required to allow the new operator joint use of its installations, under certain conditions.

Universal service: Germany relies on the market, and DTAG is the *de facto* provider

The Constitution requires the federal government to ensure that there is sufficient and appropriate nation-wide provision of telecommunications services. The current telecommunications law defines universal services as "a minimum set of affordable telecommunications services for the public in respect of which quality levels have been defined and to which every user must have access, irrespective of his place of residence or work". More details are set out in an ordinance. If the universal service can only be provided at a loss, RegTP can invite tenders for its provision, the cost of which must be compensated by all operators with a market share of at least 4% of the relevant market. If nobody volunteers, RegTP can require the regionally dominant licence holder to provide the service (this has not happened yet). DTAG is the *de facto* universal service provider. The government expects that the market will continue to be able to provide adequate universal services.

EU legislation requires examination of the extent to which universal service objectives have been achieved and will be achieved in future. This has not been done in Germany. With the introduction of the new EU regulatory framework (of which universal service is one of four major strands), it is particularly timely for RegTP to review and report on universal service targets and achievements in Germany.

The delivery of broadband services to less favoured regions is an issue (not just in Germany), as it may not be economically viable to roll these out in areas that are, for example, sparsely populated. But in contrast to a growing number of OECD countries, no systematic evaluation of this issue has taken place.

Quality of service: there is not enough pressure on market players, and not enough information to consumers

Two ordinances set out the quality of service activities to be undertaken by RegTP. However it is not an "active" system: reliance is placed on the market, and there are no specified targets, and hence no sanctions. This contrasts with some other OECD countries (*e.g.*, Australia, UK, US) where targets are set. Service providers and operators must provide

information to RegTP and this is published in RegTP's Official Gazette. These arrangements are not enough to ensure an effective flow of information to consumers.

Consumer issues: a more pro-active approach to consumer interests should be implemented

An ordinance covers the rights and obligations between telecommunications providers and their customers. RegTP provides a conciliation service but does not take decisions. The government's view is that conflicts (whether by industry or consumers, no distinction is made) should be resolved bilaterally between the parties, with the courts as a last resort. The main complaints to RegTP in 2002 were (in order of importance) unsolicited direct marketing, bills, numbering and charges. There are rules to ensure clear billing (for example the charges of other providers must be listed separately) though further improvements could be made. Consumer provisions overall are, however, relatively weak compared with best practice elsewhere and should be strengthened. An industry code of conduct could cover issues such as financial compensation and time limits for dealing with complaints. RegTP could also encourage the development of user groups to represent small consumers, again following the example of other OECD countries. Also, RegTP does not publish as much market information as some other OECD regulators and should define performance targets (see above) so that consumers can make comparisons.

Broadband and cable development: this raises some concerns

Broadband is recognised to have a particularly important place in communications development. This is an issue of some concern as regards Germany (Box 6.4). The take-up of broadband services is relatively disappointing. It is mainly via DTAG's DSL lines and DTAG dominates Internet service provision. Alternative cable broadband services play a relatively minor role so far.

Regulation and the courts: delays and blockages of regulatory decisions are a serious problem

A key problem in the German regulatory environment is the time it takes to implement regulatory decisions. Though the law says that RegTP decisions stand pending appeal, DTAG can and has successfully used the courts to suspend the obligation to comply, and in practice RegTP refrains from implementing decisions pending a decision by the courts. Many rulings have been contested over months or even years, as they work their way from a lower court to a higher one (there are three potential stages). An example is line-sharing which took over two years to resolve (Box 6.5). About 210 court cases are pending today. Germany's confidentiality rules add to the delays: key data cannot always be submitted by RegTP to the courts to justify its decisions. An attempt has been made to address this problem but does not appear sufficient.

Though RegTP has been successful in many cases, it has lost cases on important issues (Table 6.1).

RegTP can also be slow to act, leaving issues to be fought out between DTAG and competitors through the courts. This happened with resale of DTAG's network subscriber services to other operators (Box 6.6).

Box 6.4. **Broadband and cable: their importance and development in the OECD and Germany**

Governments worldwide recognise that wide availability and take-up of broadband (high bandwidth communication services including high speed Internet access) play a key role in economic growth. A number of technological platforms can provide broadband services. These include:

- digital subscriber lines using existing copper wires (DSL);
- co-axial cables of television distribution networks (cable);
- broadband satellite access;
- broadband fixed wireless access (FWA) or wireless local loop (WLL);
- mobile higher bandwidth access (3G/UMTS);
- fibre optic networks to the home (FTTH);
- powerline (using the electricity grids).

DSL is currently the most important broadband platform: the government has encouraged the take-up of this particular technology. DTAG is by far the biggest provider of broadband DSL services, with 3.7 million lines installed as of mid-2003, compared with 250 000 by new entrants. Over 90% of access lines had been upgraded with DSL capability by the end of June 2002. But only 10% of households had subscribed by the end of 2001 (though this is expected to rise).

Relative to some other OECD countries, other broadband technologies do not play a significant role. Of considerable concern is the insignificant role played by cable. Cable passes 68% of households. But as of mid 2002 cable broadband services were available to only about 0.4% of households. Cable networks are a prominent feature of broadband access in the US and some European countries such as the UK and the Netherlands.

Germany's performance on broadband services compared to other OECD countries is relatively poor, especially given its size. It ranks 14th in terms of subscribers per 100 inhabitants, a little ahead of France and the UK, but behind Korea and Canada (the top two), the US and Japan as well as a large number of smaller European countries. DTAG has around 92% of the whole broadband access market (though competitors' market penetration is higher in some areas).

A disappointing cable performance is part of the problem and there are several reasons for this. Uniquely, Germany separates licensing and ownership between so-called Level 3 (cable distribution network up to the connection point) and Level 4 (domestic distribution network), which has inhibited investment and development in cable. Also DTAG, which until recently owned most of the cable networks, may have had little incentive to develop cable, as this would undercut revenue from its fixed line telecommunications service. More generally the unhelpful investment climate for technology may have aggravated the slowdown of investment in German cable.

EU legislation requires the structural separation of the telecommunications and broadband cable activities of dominant operators. After considerable delay, DTAG has now sold all its cable networks. This has removed an important barrier to the upgrading of the network. The government has said that it wants to establish cable as an alternative telecommunications infrastructure, including for high speed Internet access. It has commissioned a review on the barriers to cable development.

Box 6.5. **Enforcing the line sharing decision**

October 2000: Application of QS Communications to RegTP.

January 2001: EU obligation that line-sharing be offered in Germany.

March 2001: RegTP instructs DTAG to offer line-sharing within 2 months. DTAG challenged the decision in the Courts but was rejected twice (by the Cologne Court in 22 June 2001; by the Munster Court on 23 August 2001).

May 2001: RegTP obliges DTAG to offer line-sharing, refusal of DTAG.

July 2001: Summary proceeding at regional administrative court in Cologne; court obliges DTAG to offer line-sharing, appeal by DTAG.

August 2001: The higher administrative court in Munster obliges DTAG to offer line sharing.

March 2002: RegTP approves the line-sharing prices.

Table 6.1. **Some important decisions made by RegTP that have not been implemented because of DTAG's court appeals**

RegTP decision	Date of RegTP decision	DTAG action and result	Implemented?
DTAG obliged to provide wholesale flat rate Internet access (FRIACO)	11 June 2002	DTAG successfully appealed decision to Cologne Court resulting in injunction against obligation to provide FRIACO. Decision confirmed in February 2003 by Higher Administrative Court in Munster.	No (as of 22 April 2003)
Mandatory provisioning times for leased lines and automatic penalties for late delivery of local loops	March and May 2002	DTAG appealed to Cologne Administrative court which suspended the RegTP decision on 12 November 2002.	No (as of 22 April 2003)
RegTP ruled that DTAG's TDN or T-VPN tariffs for business users be replaced by authorised tariffs	15 October 2001	On 13 December 2001, the Cologne Administrative Court suspended implementation of the decision; this ruling endorsed by the Munster Higher Administrative Court on 13 March 2002 leaving business users with legal uncertainty about their contract terms.	No (as of 22 April 2003)
<i>Ex post</i> review of DTAG's prices for "closed user groups" voice communication services (as TDN or T-VPN)	9/10 December 2002	On 13 December 2001, Cologne Administrative Court suspended implementation of these decisions; the ruling has been confirmed in September 2003 by Münster Higher Administrative Court.	
On 17 April 2002 – in response to the EU Numbering Directive requiring pre-selection by January 2000 – the German Federal Parliament passed legislation to introduce carrier pre-selection and "call-by-call" in local networks starting 1 December 2002.	Legislation passed in April 2002	DTAG appealed. On 24 February 2003, RegTP announced that "for technical reasons" call by call in the local network would not be obligated until 25 April 2003, and 9 July 2003 for carrier pre-selection.	Yes, since 25.04.03/09.07.03.

Source: OECD.

Box 6.6. Resale: the DTAG and Debitel case

Resale. In March 2001, RegTP issued an order requiring DTAG to present an operator, Debitel, with an offer for resale of DTAG's subscriber network services (i.e., subscriber lines, local calls and city calls). DTAG challenged the order before the Cologne Administrative Court and sought a preliminary injunction against the implementation of this order. The Court denied the request for a preliminary injunction and in October 2001 the Munster Higher Administrative Court upheld this decision. In February 2002, the Appellate Administrative Court in Munster rejected an appeal by DTAG obligating the company to make a resale offer to two companies, riodata and Tele2, and other companies upon request. However, in November 2002, Debitel announced it had decided to abandon the negotiations with DTAG saying that the companies' positions were too far apart. RegTP discloses that it had left it to Debitel and DTAG to "reach agreement themselves as far as possible, and had eschewed setting any pricing or other targets in order to give the parties maximum scope".*

* "Clear direction for the telecoms market", RegTP Press Release, Bonn, 30 March 2001.

Performance***Performance varies from reasonable to good***

Regulatory reform is expected to yield positive benefits. For telecommunications the benefits can be assessed in terms of a number of factors: network development, competition, prices, revenue growth, quality of service, productivity, benefits to the community and economy, and Internet development. These are reviewed below.

Network growth and modernisation. The figures are impressive. DTAG has made substantial investments in its telecommunications networks since 1990, including a new network in eastern Germany after re-unification (Box 6.7).

Box 6.7. Modernising the telecommunications infrastructure in eastern Germany

DTAG devoted considerable effort to expanding and modernising telecommunications infrastructure in the former East Germany where telecommunication facilities were obsolete. In 1989, one year before re-unification, there were only some 100 lines for east to west traffic, but by the end of 1991, there were more than 30 000 lines. Between 1990 and 1997, DTAG implemented its so-called "Telekom 2000" development programme to provide a phased build-out and complete digitisation of east Germany's supply network, complete local network upgrade, introduction of mobile services and broadcasting coverage parity for the eastern German States. During this time, DTAG invested EUR 25.5 billion and installed 120 000 km of optical fibre as well as 276 000 km of copper cable. Digitisation and the use of optical fibre have given east Germany one of the most modern telecommunications networks in the world. In the first three years of its "Telekom 2000" development programme, DTAG alone accounted for around 10% of total economic investment in east Germany.

By 1994, mobile rollout (C and D1 networks) was practically complete. A wide range of mobile and data services was available across the country and a further 4.6 million households were connected to modern cable television networks.

DTAG's fixed line network incorporates the latest technology, and some 90% of lines have been upgraded with DSL capability. Its capital expenditure grew sharply at the end of the 1990s but has since fallen. A small but growing share of investment is by competitors. Overall, it is estimated that over 20 billion euros has been invested since liberalisation.

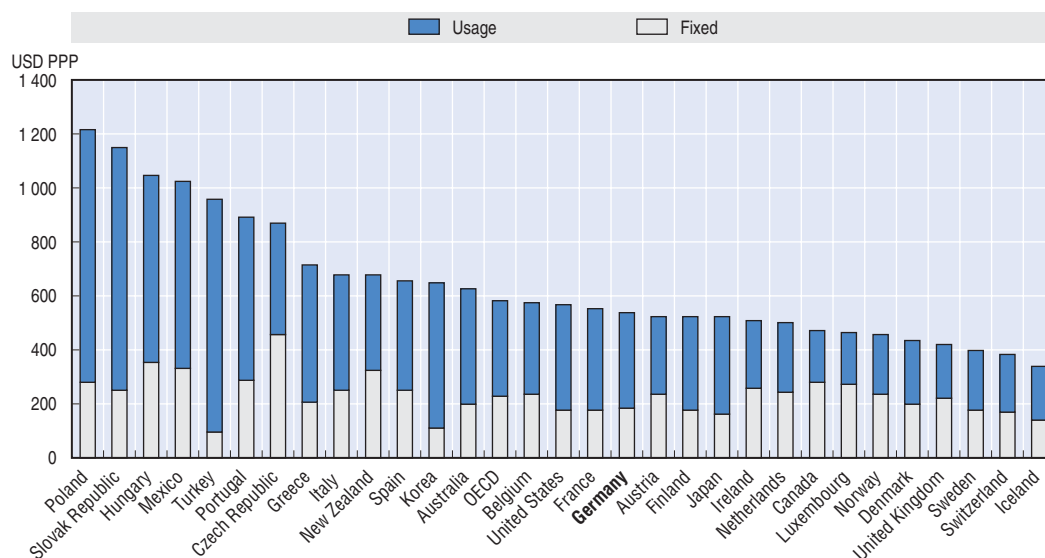
It has been estimated that investment in building out the UMTS infrastructure could amount to some 20-30 billion euros, but prospects for this investment are now uncertain.

Competition. Competition has grown strongly in the provision of long distance and international services. As of 2001, DTAG's share of the national long distance market had fallen to 60%. But competitors only had 4.4% of lines in 2002 (with DTAG providing some 96.6% of DSL lines). That said, competition has emerged much more strongly in some local networks. RegTP estimates that some 47% of the 188 German cities with over 50 000 inhabitants are able to switch from DTAG to some 64 "city carriers" (local utilities, banks etc., that were already active in their area). These carriers offer a wide range of services from public voice telephony to Internet access, with some offering "carrier's carrier" services such as dark fibre.

Prices. Prices for international long distance calls have fallen sharply since liberalisation, by as much as 95%. National long distance calls are also much cheaper: some weekday calls are only about 7% of what they used to be. Prices for a basket of household telecommunications services are similar to the OECD average (Figure 6.1). The same is true of business services (Figure 6.2).

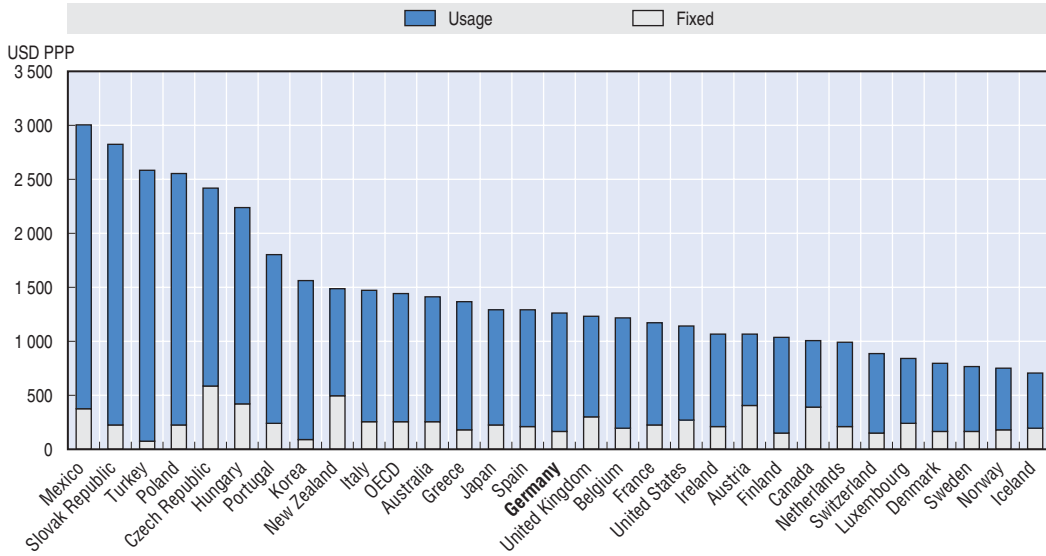
Mobile prices are also middle of the OECD range. However prices for low users are relatively high. Prices for mobile services have fallen by almost 60% since 1995, which has both resulted from and contributed to increased demand in this sector. Increasingly, mobile phones are competing with DTAG's traditional fixed line voice telephony services, especially local calls.

Figure 6.1. **OECD composite basket of residential telephone charges (including VAT), August 2002**



Source: OECD.

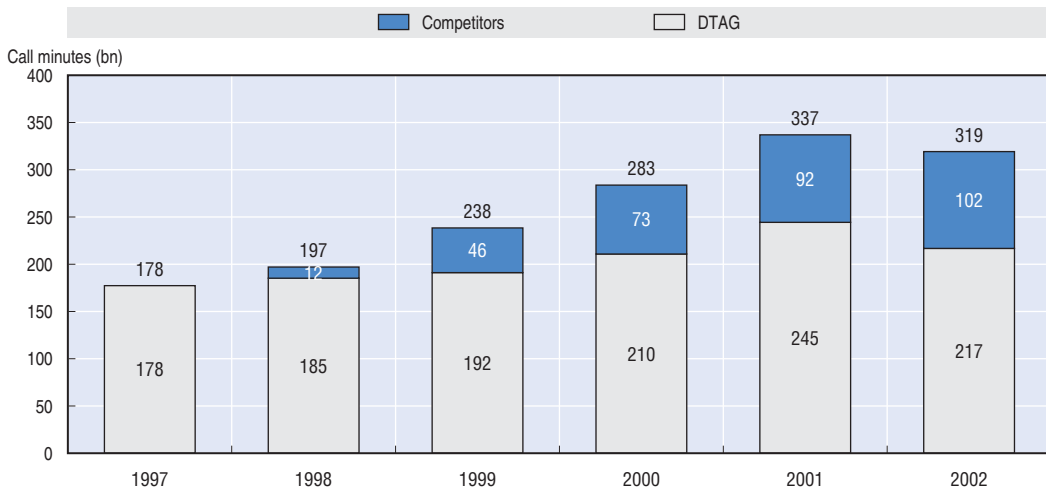
Figure 6.2. **OECD composite basket of business telephone charges (excluding VAT), August 2002**



Source: OECD.

Revenue. Total revenue has grown strongly between 1998 and 2002, but with significant variations between categories. Revenue from access provision and calls has been declining, whilst revenue from interconnection charges and mobile telephony has been growing strongly. DTAG's international net revenue increased significantly after liberalisation, but its net income has fallen substantially (including a massive net loss in 2002). Its revenue from the traditional fixed network voice telephony business has declined since market opening, partly because of competition in the long distance voice telephony business, but also due to the increase in mobile telephones. The market share of new entrants in the fixed network continues to grow, though DTAG still retains over half of it (Figure 6.3).

Figure 6.3. **Call minutes in the fixed network, 1997-2002**



Note: Figure for 2002 is provisional.

Source: RegTP Annual Report 2002, available at www.regtp.de.

InternetCompetition (see above) has led to sharply declining tariffs. The revenue from mobile companies has been growing, as they roll out new services.

DTAG has a substantial debt problem (Table 6.2). A declining trend was reversed in 1999, in large part due to the purchase of UMTS licences but also due to acquisitions. DTAG has since been making strenuous, and quite successful, efforts to reduce debt through asset sales and cost savings. It should be underlined that the debt problem is due to DTAG's investments rather than liberalisation, as net revenue increased sharply following liberalisation.

Table 6.2. **Trend in DTAG's Debt**

Billion EUR

1996	1997	1998	1999	2000	2001	2002
51.1	44.9	39.9	42.3	60.4	67.0	63.0

Source: Deutsche Telekom, *Annual Report 2002*.

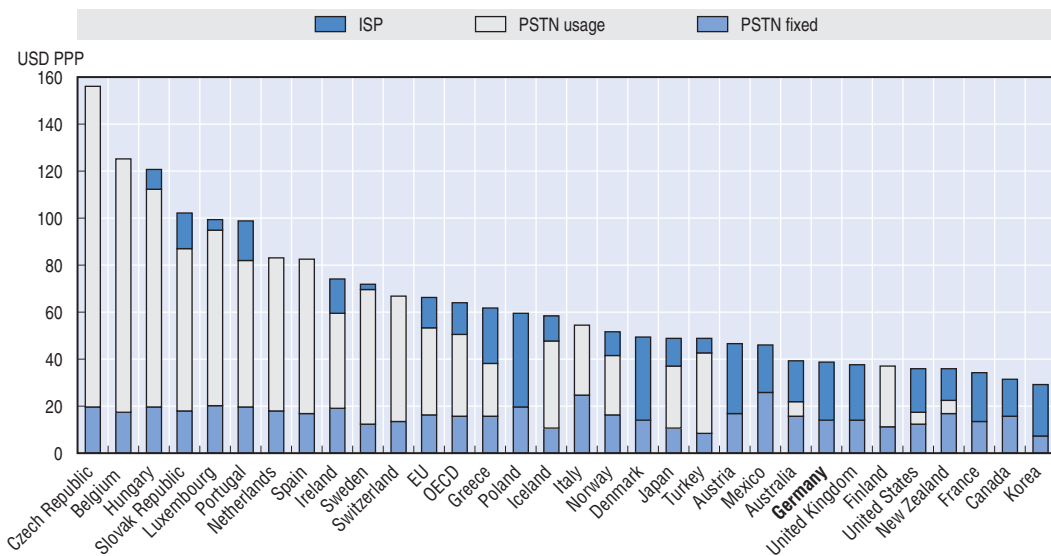
Quality of service. This has improved significantly. Technological developments play a large part in this, but also competitive pressures. As noted, information to consumers could be improved.

Productivity. As elsewhere, labour productivity has grown: a combination of rapid network growth and a slower growth in the workforce. The number of access lines per employee increased more or less steadily from 1992 onwards. Revenue per employee in the sector also grew overall from the early 1990s. RegTP should require DTAG to publish productivity estimates to help in setting the price cap, and should develop its own work on productivity.

Benefits to the economy and community. Germany is broadly similar to other countries. The telecommunications and postal services sectors are economically important. They account for 1.9% of the gross production value, and 2.4% of the gross value added of the economy, telecommunications accounting for much of this. As well, there are knock-on effects for competitiveness and economic performance arising from an efficient, good quality telecommunications sector. Consumers gain from this, and not least from the big fall in prices for long distance and international services. Accelerated network development has created employment, with multiplier effects in other industries. Overall employment (DTAG and competitors) was a little higher in 2002 than in 1998, though considerable downsizing by operators is now taking place.

Internet developments. Germany has one of the largest number of Internet users, and there is rapid growth. Consumers have a good choice of tariffs and access packages. Residential consumers have relatively low access prices. The price of a basket for 40 hours of day time Internet access was eighth lowest in the OECD in 2002 (Figure 6.4). Broadband services (see Box 6.7 above) are mainly via DSL lines. About 10% of households have subscribed to broadband so far.

Figure 6.4. OECD basket for 40 hours of Internet day-time use



Source: OECD.

Conclusion

Effective pro-competitive regulatory reform of the telecommunications sector has been successfully tested across many OECD countries: it can make a major contribution to growth and innovation across the whole economy. Germany has made a good start, emphasising the importance of developing competition. Today it has in place a high quality, technologically advanced telecommunications infrastructure with high penetration rates for both fixed lines and wireless. Broadband access is widely available via DSL lines. Market entry is relatively easy, and local operators are providing effective competition to the incumbent in a large number of German cities. Adequate resources have been made available for regulation, and the competition authority works closely with the regulator in overseeing the market.

But five years on from full liberalisation in 1998, the regulatory framework needs careful review. Is it really capable of delivering sustained competition? The incumbent, DTAG, is regaining lost market share in some market segments such as international long distance, consolidating its lead in important new markets such as DSL broadband services, has in effect slowed the roll-out of cable broadband services, and has successfully challenged the regulator's authority on key issues such as pricing and leased line provisioning. Allegations of DTAG's anti-competitive practices are rife. The current review of the telecommunications law is timely. However Germany should strengthen the existing *ex ante* regulation in many areas so that it can deal effectively with the competition weaknesses that have emerged in recent years.

The failure to formulate and implement effective rules for competition promptly and effectively is the most serious weakness of the current regime. The regulator has sometimes been reluctant to act: fixed-to-mobile termination charges, and DTAG's pricing of DSL broadband services are cases where RegTP's arguments for not intervening are difficult to support. The implementation of EU law has also often been slow and reluctant. These cases raise concerns over the regulator's independence from government pressure,

which could be addressed by a full privatisation of DTAG. But more often the problem is delays generated by the courts as DTAG systematically challenges the regulator's decisions. Nearly all major decisions have become bogged down in lengthy court appeal processes. Lack of clarity over the regulator's powers in the current telecommunications law does not help. This problem needs urgent attention.

Policy options for consideration

1. Specify clearly in the new telecommunications act the regulatory powers conferred on RegTP and remove ambiguities in the law.

The revised law must articulate clearly the powers conferred on the regulator, and remove ambiguities in the law. This should include powers to apply sufficiently severe penalties when DTAG abuses its dominant position. The law should also be clear that, as well as discriminatory conduct, *hindering* new entrants should be curtailed/prohibited. (This provision is, helpfully, in the new draft law and should be retained). Where RegTP has the right to intervene, the courts should not have to overrule its decisions because of ambiguities in the law.

2. Streamline and shorten the lengthy court appeals process.

In a fast moving communications market it is important that disputes and the uncertainties they create are resolved rapidly. The regulatory regime must include disincentives against the use of excessive delaying measures by DTAG through the legal appeals process and other tactics. The opportunity for judicial review of decisions by a regulator is important. But judicial review should not be allowed to become a mechanism to routinely block or delay the application of sound regulatory decisions. Appeals have resulted in a current backlog of hundreds of lawsuits challenging RegTP rulings. It is essential that RegTP is granted adequate statutory authority to implement and enforce its decisions, and that the courts have the statutory authority to hear appeals in a timely manner.

A number of options could be considered by Germany. Increasing court staff would allow appeals to be heard more quickly. Changes to the system could be considered. For example the system could be changed so that telecommunications cases are heard in the civil courts, which cover competition authority cases, rather than the administrative courts. The number of appeal courts could be reduced.

Measures to shorten and streamline the court appeals process are suggested in the new telecommunications act.

3. Proceed with the full privatisation of DTAG as soon as possible under transparent and non-discriminatory conditions (or at least announce a firm schedule for full privatisation).

Questions raised about the independence of the regulator can lead to investor uncertainty that will only be definitively dispelled if the regulator's decisions are truly independent of the government and the Ministry of Economics and Labour. The full privatisation of DTAG would help in dispelling some of this uncertainty.

4. Review the role of the Beirat with a view to its removal.

The existence of the Beirat – consisting solely of politicians – within the formal institutional structure of RegTP, can sharpen concerns about RegTP's independence from political influence, despite protestations to the contrary. It is not evident that such an

advisory body, comprised of politicians, is necessary to an independent regulator. If an advisory body were considered necessary, it should have a broader and more representative base, especially of consumer interests.

5. Ensure timely provision of leased circuits at cost-oriented wholesale prices, including an obligation on DTAG to commit to a reference agreement for competitors.

New entrants should be able to obtain timely access to leased circuits at wholesale cost-oriented prices. This would help ensure effective access to local markets and facilitate the development of local competition. RegTP should persevere with its efforts to effect the inclusion of deterrent contractual penalties to reduce delays in the contracts for the provision of leased lines and local loop unbundling. The new telecommunications act should include a provision for RegTP to levy fines on operators of a size that acts as an effective deterrent. At the least RegTP should require DTAG to publicly report data on leased line prices and performance, including data that indicates performance differences between the delivery of services to DTAG's own retail operations and to competitors. In this context RegTP should be provided with the legal authority to obtain and publish data which in its view is in the public interest and would help improve competitive conditions.

6. Ensure that prices are rebalanced as rapidly as possible with a specified and transparent schedule for achieving this goal.

The development of competition and local loop unbundling requires that prices are rebalanced. RegTP and DTAG need to agree on a target date to achieve rapid rebalancing.

7. Streamline and simplify the price cap system.

The price cap system on end user prices is too complicated and has inhibited price rebalancing. It should be abandoned or at least simplified by abandoning the four sub-cap baskets in favour of a single basket that would allow rebalancing to occur more quickly, while reducing the overall average level of prices for consumers. Price caps on services in the competitive national long distance and international call markets should be removed.

8. Strictly enforce regulatory provisions concerning accounting separation.

Accounting separation is an important regulatory instrument. Under the provisions of the Telecommunications Act, DTAG (as the dominant operator) is required to practice accounting separation. But this requirement is not being adequately enforced, and DTAG is required only to apply Germany's standard accounting rules.

9. Carry out an independent review of mobile termination charges as soon as possible.

RegTP has concluded that the German mobile market is competitive and that fixed-to-mobile termination charges do not need to be regulated. This position is in sharp contrast to that of a growing number of regulators who consider that these charges have been excessive in their countries. An independent review of the mobile market should be conducted as soon as possible. Regulatory controls should be applied immediately to mobile operators that are found to be dominant or jointly dominant in termination markets.

10. Allow spectrum trading, subject to appropriate conditions.

Spectrum is of increasing importance. The government should promote efficient spectrum management and the availability of spectrum for innovative solutions. It should commission an independent review to advise on spectrum management, including further action to ensure that all users, including non-commercial users, use spectrum in the most efficient way. It is important to implement the provisions foreseen in the draft Telecommunications Act allowing for spectrum trading should be permitted, subject to appropriate conditions.

11. Establish a regular review mechanism for telecommunications regulations, to ensure that they are achieving their intended purpose and that they can be, if necessary, streamlined.

The government's resolve to minimise regulation and to move as quickly as possible from *ex ante* to *ex post* regulation is commendable in the right circumstances. Decisions in this direction will need to rest on improved information and regular market monitoring to judge regulatory effectiveness. RegTP should define performance indicators for evaluating the development of effective competition, and obtain and publish data on these indicators on a regular basis. It should also report on the time taken to handle a complaint.

12. Identify and publish information, including quality of service targets, that will help consumers to make informed choices.

Competition provides consumers with a choice of service providers, but in order to exercise this choice effectively they need information from a reliable source that enables them to compare prices, quality of service etc. This is already done in several OECD countries via quality of service targets. Such targets also expose service providers to "benchmark" competition: a company will be under pressure to demonstrate the superiority of its services. Timely and up-to-date information is also important: publication of information should be prompt.

13. Initiate a review to identify ways of addressing barriers to the development of cable as an alternative source of telecommunications services, including high speed Internet access.

Infrastructure competition is critically important. With the sale of DTAG's cable interests, a major barrier to the development of a competitor (or competitors) using alternative technology to copper wires no longer exists. The government should follow-up on its report of May 2003 addressing the development of cable networks to ensure these networks' development as a source of telephony and broadband high speed Internet access, and the policy options for addressing these barriers.

14. Constrain DTAG from engaging in win-back campaigns to recover a customer for a period of four months.

There must be effective implementation of carrier selection and pre-selection in the local market. In this context, a problem in some OECD countries has been strong win-back campaigns from incumbents. Germany should take pre-emptive measures against this.

15. Initiate a study to identify barriers to broadband deployment and take-up, especially in less favoured areas, and the policy options for addressing these barriers.

A related issue (to universal service) is the delivery of broadband services to regional, remote and rural areas. Features such as a low population and revenue base are a big disadvantage for an industry based on economies of scale. But again, Germany does not appear to have carried a systematic evaluation of the “broadband digital divide”. The main reliance is, sensibly, on market forces. But market deficiencies may exist and need to be addressed by the government.

16. Assist the development of a consumer voice and consider the introduction of a formal industry code of conduct to promote consumer interests.

The interests of residential and small business consumers appear to be weakly represented. RegTP has a mandate to safeguard the interests of consumers. It should encourage, even assist, the development of more effective consumer representation. This could, as in a number of OECD countries including the UK and Australia, include financial support. Consideration could also be given to fostering the use of an industry code of conduct, provided that the regulator is vigilant in ensuring that DTAG complies.

17. Reprofile RegTP to boost its skills in monitoring and addressing anti-competitive conduct.

Developments over the last few years underline the fact that DTAG is bent on finding ways of maintaining its market dominance, and has been able to get away with various forms of anti-competitive conduct. The regulatory staff must be equipped to deal with this effectively. The competition authority also plays an important role, not least through the abuse of dominance provisions of the competition law. It too must ensure that it has adequate staff and skills to address issues related to the development of competition in the challenging circumstances of the network industries.

APPENDIX

Appendix Tables

Table A.1. **Sectoral regulatory reform in Germany**

Industry	Key legislation/regulatory framework	Regulation on prices	Regulation of entry and exit	Other regulations	Remaining regulations on prices, entry, exit	Other remaining regulations
Telecommunications	Fully open to competition since 1.1.1998. Competition-oriented regulation in principle covers all telecommunications markets.	Sector regulator (RegTP) controls the market on <i>ex ante</i> and <i>ex post</i> basis.	Free entry and exit. (Proof of reliability and professional qualification); access regulation (interconnection, essential services).	Carrier-selection and pre-selection for local calls introduced by law since 1.12.2002, implementation of CbC 1.5.2003, pre-selection in summer.		Universal service obligation exists but without practical impact.
Electric power	Market liberalised in 1998. All customers free to choose supplier. Conditions for network access determined by Associations Agreements. <i>Ex post</i> control through BKartA/courts. Introduction of regulatory authority planned.	No <i>ex ante</i> regulation. Abuse control by BKartA/courts on the basis of competition law and/or the Act Against Unfair Competition. Tariff approval (small consumers via low voltage electricity networks) by State agencies (relevant for retailers, who are also entitled to special contracts).	Supply of electricity does require specific approval (however, specific activities are not included); reasons for non-approval are legally fixed. No specific regulations for exit.	Minimum quotas for "green" electricity purchased at regulated prices, compensated by fee on some consumers.		Universal service obligation exists but without practical impact.
Natural gas	Market liberalised in 1998. All customers free to choose supplier. Conditions for network access determined by Associations Agreements with quasi legal status. <i>Ex post</i> control through BKartA/courts. Introduction of regulatory authority planned.	No <i>ex ante</i> regulation. Abuse control by BKartA/courts on the basis of competition law and/or of the Act Against Unfair Competition.	Supply of natural gas does require particular approval (however, specific activities are not included); causes of decline for approval are legally fixed. No specific regulations for exit.	Notification of long-term natural gas supply contracts (longer than 2 years).		Universal service obligation exists but without practical impact.
Insurance and banking	Liberalisation of insurance market in 1994. Abolishment of insurance monopolies and <i>ex ante</i> control of insurance products. Phasing out of State guarantees for State-owned banks by 2005.	None.	Comprehensive licensing requirements and on-going financial supervision in compliance with globally accepted core principles including minimum capital requirements and professional qualifications. Supervisory powers include withdraw of licence.	On-going financial supervision in compliance with globally accepted core principles. New Federal Financial Supervisory Authority effective 1 May 2002 for banking, insurance, securities/asset management supervision with involvement of the Central Bank in the on-going supervision of banks.		Some agreements among health insurance funds are not covered by the competition law.

Table A.1. Sectoral regulatory reform in Germany (cont.)

Industry	Key legislation/regulatory framework	Regulation on prices	Regulation of entry and exit	Other regulations	Remaining regulations on prices, entry, exit	Other remaining regulations
Railways	State monopoly transformed into joint stock company in 1994. Partial unbundling of infrastructure and train services in 1999. Currently guidelines of EU (first railway package) and results of task force of government “Future of railways” are put into practice.	Supervision by Federal Railway Office (mainly technical issues and track access and abuse control by BKartA <i>ex post</i> i.e., prices for track access).	Proof of professional qualification. Free entry and exit.			
Air transport	National carrier privatised in 1997.	Unregulated pricing subject to abuse control by BKartA <i>ex post</i> .	Free entry and exit within EU.	Bilateral treaties on air traffic.		
Road transport	Partly liberalised market for occasional bus services; abolition of contingents for freight transport in 1998.	Prices fixed by the operator of regular bus services (approved by competent authority) and occasional bus services; prices for taxi services fixed by competent local authority. Liberalisation of freight rates in 1994 for road haulage.	Proof of professional qualification, financial and personal liability for carriage of passengers and road haulage. Restricted entry for taxi services.			
Postal services	In 1989 the integrated post and telecom operator was transformed into three enterprises (telecom, post, and bank); transformation into joint stock companies in 1995 with partial privatisation afterwards. Partial monopoly rights (to date for letters up to 100 g) were granted in return for universal service obligations; market opening for letter above 100 g and outgoing letters to foreign destinations.	RegTP is regulator and supervises price setting of dominant carrier(s) (letters <i>ex ante</i> regulation; other postal services <i>ex post</i> regulation).	Entry for the delivery of letter post items up to 1 kg is subject to a licence (licences are not restricted, except for the exclusive right area, now set at below 100 g). Some competition for Deutsche Post AG for letter services with added value. Free entry and exit for parcel and courier services where many companies entered the market long ago.			

Table A.1. **Sectoral regulatory reform in Germany** (cont.)

Industry	Key legislation/regulatory framework	Regulation on prices	Regulation of entry and exit	Other regulations	Remaining regulations on prices, entry, exit	Other remaining regulations
Pharmacy	Regulated sector.	Uniform prices for drugs that may only be sold by pharmacies (including prescription-only drugs).	Proof of professional qualification and citizen of a European Union State. Free exit and limited entry as neither pharmacy chains nor non-pharmacist owners are permitted.	Pharmacies restricted in products that may be carried; some restrictions on advertising. Subject to retail restrictions on opening hours, with modifications.		
Retail sector	The Gifts Ordinance and the Discounts Act were lifted on 31 July 2001. Opening hours recently further liberalised (takes effect from 1 June 2003). Act against Unfair Competition to be revised: regulation of special sales to be abolished.	Ordinance on proper price quotation. Act against Restraints on Competition forbids sales below purchase costs.	Free entry and exit; notification in register of companies and register of commerce. Construction license demanded outside town centers, even if change of use of an existing building for retail is intended.	Some locations are exempted from opening hours limit (gas station, railway stations). Ordinance on Packaging requires outlets to charge deposit for certain types of packaging and to recollect used packaging.		

Source: OECD.

Table A.2. **Potential impacts of regulatory reform in Germany**

Industry	Industry structure and competition	Impact on output, price, and relative prices	Impact on service quality, reliability and universal service	Impact on sectoral wages and employment	Efficiency: productivity and costs
Telecommunications	State monopoly in long distance and international services replaced by competition, mostly local monopolies in local connections, but some competition is developing.	Significant decline of prices for long distance and international calls, some decline for local calls.	More freedom of choice for customer.	Positive employment effects (since 1998).	Acceleration of productivity and declining unit costs.
Electric power	Regional legal monopolies replaced by oligopoly. Entry mostly on retail level and for renewables.	Prices have decreased, in particular for industrial customers.	More freedom of choice for customers, but relatively low rate of switching in reality. However, many customers have renegotiated prices.		Higher level of productivity.
Natural gas	Regional legal monopolies replaced by oligopoly at retail level, duopoly remains at import level and generally monopoly in transport.	Prices have developed in line with prices in other European countries. No relative decline.	More freedom of choice for customer; customers have renegotiated prices. However very low rate of switching in reality.	Wages still above average; employment decreased.	Increase in productivity.
Insurance and banking	Competitive market, with trend towards consolidation and mergers.		Improvement of service level due to ICT applications.	Negative employment effects.	Increase in productivity.
Railways	Increasing intramodal competition in the freight market; increasing competition for the provision of (subsidised) local passenger services; beginning intramodal competition for long distance passenger services.	Output by and large constant in the freight market with probably declining prices and declining market share of rail transport; output increase for local services even prior to public tenders, with partially shrinking subsidies per train kilometre; output by and large constant in the market for long distance passenger services. Successful entry of one competitor.	Improvement of service level due to ICT applications. Service level is generally good, so is reliability. Significant improvements of service level for local services.	Negative employment effects.	Increase of productivity.
Air transport	Competitive market.	Decreasing prices and new entry of several carriers.	Service level is good, as well as reliability.		
Road transport	Many small suppliers. Competitive market for road haulage.	Decreasing prices.			
Postal services	Partial monopoly.	Prices slightly falling in real terms.	Limited choice for customer, apart from courier services.	Decreasing employment.	Productivity increase.
Pharmacy	Potentially competitive.				
Retail sector	Competitive market.		Increased service level due to liberalised opening hours.		

Source: OECD.

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Table of Contents

Executive Summary	9
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Part I

Regulatory Reform in Germany

Chapter 1. Performance and Appraisal	23
Introduction	24
Setting the scene: the macroeconomic context	29
Regulatory Reform: its contribution so far	35
Regulatory reform: the challenges	45
Conclusion	62

Part II

Regulatory Policies and Outcomes

Chapter 2. Regulatory Governance	67
Context and history	68
Regulatory policy	69
Regulatory institutions	69
The local government and EU dimensions	70
Regulatory transparency	71
Alternatives to regulation	73
Regulatory Impact Analysis	75
Building regulatory agencies	77
Keeping regulations up to date	78
Conclusion	81
Policy options for consideration	81
Chapter 3. Competition Policy	85
Context and history	86
The substance of the competition law	90
Competition policy institutions and enforcement	94
Competition policy in the EU and international context	98
The limits of competition policy: exemptions and special regulation	99
Competition advocacy for reform	103
Conclusion	104
Policy options for consideration	105

Chapter 4. Market Openness	109
Context and history	110
The policy framework for market openness: the six efficient regulation principles	112
Market openness and regulation in selected sectors	121
Conclusion	123
Policy options for consideration	123
Chapter 5. Regulatory and Competition Issues in Key Sectors: Electricity, Gas and Pharmacies	127
A. ELECTRICITY AND GAS	128
Context and history	128
Description of the electricity and gas sectors	133
Electricity and gas price performance	138
The regulatory framework for electricity and gas	140
Institutions and regulatory approach	146
Conclusion	151
Policy options for consideration	151
B. PHARMACIES	156
Background and context	156
Conclusion	164
Policy options for consideration	164
Chapter 6. Regulatory and Competition Issues in Key Sectors: Telecommunications	167
Context and history	168
Regulatory institutions	169
Regulation	172
Performance	182
Conclusion	186
Policy options for consideration	187
Appendix. Appendix Tables	191
Bibliography	197
 List of Boxes	
1.1. Germany: key features of the governance and regulatory framework	24
1.2. Re-unification: the impact on the German economy	27
1.3. Agenda 2010: the main proposals	36
1.4. What is regulation and regulatory reform?	38
1.5. The “Modern State – Modern Administration” programme	40
1.6. Federal government initiative to reduce bureaucracy	41
1.7. Labour market reforms	43
1.8. The contribution of open telecommunications markets to growth and innovation	44
1.9. Pension reform	45
1.10. The cross over effects of regulation in product, labour and financial markets ...	46

1.11. Problems with the enforcement of regulatory decisions in telecommunications	49
1.12. RegTP's controversial decisions	51
1.13. Linking expenditure to outcomes: the UK approach	54
1.14. Co-operation and revenue sharing between the different levels of German government	55
1.15. Health sector reforms	56
1.16. Is the German governance system slow in promoting change?	58
1.17. Central regulatory quality units: OECD experiences	61
1.18. Strengthening the role of marginal stakeholders in the reform process	62
2.1. Germany's Blue Checklist	69
2.2. Promoting a more open rule making process: "Notice and comment" in the United States	73
2.3. The German Checklist for identifying opportunities for regulatory alternatives.	74
2.4. Recent federal initiatives to reduce administrative burdens	79
2.5. Monitoring and measuring administrative burdens.	80
3.1. Competition policy as the economic Constitution: the ordo-liberal foundation of the social market economy	87
3.2. The EU competition law toolkit	89
3.3. ARC abuse of dominance provisions and the network industries	92
3.4. Federal structure and competition enforcement	96
3.5. The challenges of EU competition law for the German approach	98
3.6. Crafts and professions	100
4.1. EU rules on procurement	115
4.2. General principles for public procurement in Germany	117
5.1. The new directives on electricity and gas	131
5.2. Security of supply: what does it mean?	132
5.3. Local utilities and energy procurement	135
5.4. Abuse of dominance in the Act against Restraints of Competition	142
5.5. The E.ON/Ruhrgas case	143
5.6. Overview of the Associations Agreements	144
5.7. Regulatory accounting guidelines	145
5.8. Australian Commonwealth Office of Regulation Review: Regulatory Impact Statement Checklist	148
5.9. Is Australia an example for Germany?	149
5.10. Where should an independent regulator be placed? Should it be single or multi-sector?	150
5.11. The health system, community pharmacies, and the pharmaceutical market in Germany	157
5.12. Germany: The 2003 health reform	158
5.13. Regulation of German pharmacies	159
5.14. Netherlands pharmacy mail order/Internet developments	161
5.15. The general factors affecting the price of pharmaceuticals	162
5.16. Pharmaceuticals regulation of pricing in Germany	163
6.1. The Regulatory Authority for Telecommunications and Posts (RegTP)	170
6.2. Some examples of Germany's reluctance in implementing EU directives	171
6.3. Local loop unbundling: the DTAG price squeeze	173

6.4. Broadband and cable: their importance and development in the OECD and Germany	180
6.5. Enforcing the line sharing decision.	181
6.6. Resale: the DTAG and Debitel case	182
6.7. Modernising the telecommunications infrastructure in eastern Germany	182

List of Tables

2.1. Examples of self-regulation in Germany	75
2.2. Repealed federal laws and subordinate regulations in Germany	81
3.1. Trends in competition policy actions	95
4.1. Sectoral structure of merchandise trade, 2001	110
4.2. Sectoral structure of services trade, 2001	111
4.3. Geographical structure of merchandise trade, 2001	111
4.4. MRAs concluded or under negotiation by the EU	120
5.1. Main gas import and transmission companies	137
5.2. Associations in the Associations Agreements	145
5.3. Regulation of pharmacies in selected countries	158
6.1. Some important decisions made by RegTP that have not been implemented because of DTAG's court appeals	181
6.2. Trend in DTAG's Debt	185
<i>Appendix</i>	
A.1. Sectoral regulatory reform in Germany	192
A.2. Potential impacts of regulatory reform in Germany	195

List of Figures

1.1. Real GDP growth in Germany and the EU 1985-2001	29
1.2. Total employment and hours worked in Germany and the EU 1990-2002	30
1.3. Export performance for total goods	32
1.4. Public spending in 2002 as a percentage of GDP	32
1.5. German trends in general government spending	33
1.6. Marginal tax rates on labour	34
1.7. Projected evolution of the old age dependency ratio	35
4.1. Inward stocks of FDI as a share of GDP in selected OECD countries	112
4.2. Openly advertised public procurement as advertised in the <i>Official Journal of the European Union</i> , 2001	114
5.1. Electricity sold to households with and without taxes	138
5.2. Electricity sold to industry with and without taxes	139
5.3. Gas sold to households with and without taxes	139
5.4. Gas sold to industry with and without taxes	140
5.5. Pharmaceuticals under patent	163
6.1. OECD composite basket of residential telephone charges, August 2002	183
6.2. OECD composite basket of business telephone charges, August 2002	184
6.3. Call minutes in the fixed network, 1997-2002	184
6.4. OECD basket for 40 hours of Internet day-time use	186

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