

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](http://www.oecd.org/regreform/backgroundreports).

PART II  
*Chapter 5*

**Regulatory and Competition Issues  
in Key Sectors:  
Electricity, Gas and Pharmacies\***

\* For more information see: Background Report on “Regulatory and Competition Issues in Key Sectors: Electricity, Gas and Pharmacies” available on the Web site: [www.oecd.org/regreform/backgroundreports](http://www.oecd.org/regreform/backgroundreports).

## A. ELECTRICITY AND GAS

### Context and history

#### ***Germany's energy policy objectives, and the history of its energy sector, provide a challenging and distinctive context for reform***

Reform of Germany's electricity and gas sectors needs to be set in the context of its high-level energy policy objectives, the sectors' distinctive structural evolution, and the country's equally distinctive framework for governance developed as part of the post-war social market economy.

German energy policy promotes, with equal weight, security of supply, economic efficiency, and environmental protection. The policy mix thus includes a number of sometimes conflicting goals. A programme of rapid liberalisation, well beyond the requirements of the current EU directives aimed at creating a single internal market, has been pursued to increase efficiency. On the environmental front, Germany seeks to reduce greenhouse gas emissions, *inter alia* via strong policies to promote the growth of electricity generation from renewables. It has also put in place an ambitious programme to phase out nuclear power by 2025. Energy security concerns, in a country which has limited indigenous resources, are reflected in the subsidies to domestic coal and the maintenance of significant coal-based electricity generation, as well as the recent promotion of a national gas-electric champion when the government decided to allow the takeover of Ruhrgas by E.ON.

Though the security and environmental goals are of great importance and a complicating factor, this review focuses primarily on the issue of economic efficiency and the development of effective and sustainable competition as a means to achieve this.

Historically, the German gas and electricity sectors were highly fragmented, made up of thousands of utilities (in 1936 there were about 16 000 electricity supply companies). Most were municipal utilities serving only their local market. The first significant change for electricity was in the 1920s, prompted by technology: more efficient long distance transmission and cheaper large-scale generation. This promoted the development of regional companies, followed by the assignment of exclusive territories. The gas sector was initially based on town gas but the advent of natural gas (made possible by technology: pipelines became economic) promoted the position of Ruhrgas which became the pre eminent importer, and supplier, of Dutch gas. The sale of gas through long-term contracts, to allow sunk infrastructure and fuel conversion investments to be recouped, was also established at this time. The 1970s saw the legendary "gas-for-pipes" deal between Ruhrgas and the then Soviet Union, followed by an import deal with Norway. The pattern for today's gas imports was set.

### ***The regulatory environment has, until quite recently, actively discouraged competition***

The regulatory environment was, until quite recently, extremely light-handed and actively discouraged competition. Until 1998 agreements in the electricity and gas sectors were exempt from the cartel prohibition of the competition law. This meant that many types of anti-competitive agreement – demarcation agreements to divide the market territorially, long-term concessions between the municipalities and utilities, resale price maintenance, and restrictive interconnection agreements – were allowed, though they were subject to abuse supervision by the competition authority. Also, the 1935 energy law aimed to prevent economic harm due to competition, and encouraged co-operation among the electric utilities. Prices to small consumers were regulated through a price cap, by the *Länder*: no other prices were regulated. The municipalities played an important role. Their control of rights-of-way gave them significant bargaining power *vis-à-vis* the electric utilities. They could choose whether to provide electricity themselves or licence a private provider with a long concession (in return, often, for substantial concession payments – which today are estimated to generate more than 3 bn euros income, and which help to pay for municipal services).

The other, and distinctive, feature of the regulatory environment has been the tradition of government-promoted private agreements among the market players to implement political objectives (under threat of legislation if this cannot be achieved). Important examples are the agreement to reduce greenhouse gases under the Kyoto Protocol, and the phasing-out of nuclear power. This remains an active political tradition which deliberately seeks to avoid the need for more formal arrangements.

The regulatory environment raised important concerns over a decade ago. The Deregulation Commission was an independent commission of experts mandated by the federal government to examine regulations of economic activities and to make recommendations for the reduction of regulations which are inimical to market forces. It reported in 1991. As well as general recommendations it made specific sectoral recommendations including for electricity reform. It noted that “achieving the objective of reliable and at the same time reasonably priced supplies of electricity better than before means first and foremost creating the conditions for competition. The need is both to abolish regulations that restrict competition – deregulation – and to change State intervention – reregulation. The latter is needed where competition alone cannot produce satisfactory market results, where supplies cannot be reliably ensured without additional measures or where the protection against abuse of market power would remain insufficient, but where a form or regulation that is in conformity with competition can be found”.

### ***EU-led liberalisation from the mid-1990s was followed by restructuring which resulted in a high degree of market concentration***

The EU’s electricity (1996) and gas (1998) directives established minimum standards for a competitive internal market in these sectors, and generated important changes to German law aimed at promoting competition. Among other measures, the exemption of anti-competitive agreements from the competition law was removed, as were the legal monopolies for electricity and gas supply. All consumers (not just the largest as required by the directives) were allowed to choose their supplier. The institutional context, however, stayed within the tradition. Negotiated third party access to electricity and gas networks, rather than regulated access, was implemented, with government encouragement, through

Associations Agreements between the market players. Control of this self-regulation rested with the competition authority – the *Bundeskartellamt* (BKartA) – and the abuse of dominance provisions of the competition law.

These developments set off a profound restructuring of the sector as the firms sought to adapt to the new environment and the future EU internal market by enhancing their efficiency. Part of this process involved a wave of mergers (over 400 including co-operative agreements). When the dust settled the number of vertically integrated electricity utilities was reduced to four – E.ON, RWE, a third force in the east, now owned by the Swedish Vatenfall, and Energie Baden-Württemberg AG (EnBW), now part-owned by EdF. The horizontal consolidation went alongside the purchase by these grid-owning utilities of stakes in the municipal utilities (*Stadtwerke*) of their traditional region. The electricity sector emerged not only highly concentrated at the production level, while the local and regional distribution companies succeeded in defending most of their former positions and generally remained the dominant supplier in their areas, especially in the household sector.

The gas sector experienced its own type of consolidation – vertical and across energies. Ruhrgas, E.ON and RWE increased substantially their holdings in regional and municipal gas companies. Upstream integration with pipeline and gas production companies (Gazprom) has also been substantial.

***The most recent changes aim to promote effective competition in practice: it is realised that liberalisation alone is not enough***

Experience of the first hectic years of competition, together with a further EU push for liberalisation, has led to some further changes in German law. These reflect a better understanding of the conditions needed for effective competition. Agreement has been reached on two new directives on electricity and gas (Box 5.1). These directives – which will be implemented into German law, as in other EU countries – take a much stronger line than their predecessors on important issues such as unbundling of monopoly from potentially competitive activities.

As well, German law has been adjusted and clarified in response to the competition difficulties that have emerged. The BKartA's decisions concerning energy network access (which generally used to be suspended pending appeal) are now immediately enforceable. At the same time the new Energy Industry Act provides for a “juridification” of the Agreements i.e., for there to be a presumption in the law that if the Agreements were observed, good practice conditions would be considered fulfilled. The new law confirms that competition law remains fully applicable to access conditions despite this presumption, but at the same time, the Dusseldorf Court of Appeal in its latest decisions “Stadtwerke Mainz” and “HEAG” interprets the new law in a way that the “presumption of good practice” in favour of the Associations Agreements almost completely precludes the enforcement of the abuse control provisions of the competition law. In the light of this, juridification of the Agreements may be an uncertain step for competition. Further changes are underway in the light of the latest EU directives. At the end of August 2003, the Ministry of Economics and Labour sent a report to parliament where it announced the introduction of a new regulatory framework and the proposed nomination of RegTP as regulatory authority for electricity and gas by July 2004.

### Box 5.1. The new directives on electricity and gas

The new EU directives on electricity and gas entered into force on 8 August 2003. They mark further progress toward electricity and gas market liberalisation in Europe. They include general rules regarding public service obligations, universal service, customer protection, and monitoring security of supply, and set deadlines for liberalisation of all customers (1 July 2004 for commercial customers and 1 July 2007 for household customers). Of particular interest here is the strengthening of the rules regarding unbundling, regulatory bodies, and third-party access.

The separation of system operators is reinforced and separate accounts for supply activities are now required. System operators in electricity and gas, for both transmission and distribution, must be independent in legal form, organisation, and decision-making from activities not related to transmission or distribution, respectively. (Member States may decide not to apply this to distribution systems with fewer than 100 000 customers.) This contrasts with silence on the point in the earlier gas directive, and “management independence” in the earlier electricity directive. Under the new rules, separate accounts must now be kept for supply to “eligible” (free-to-choose) customers and to ineligible customers, for electricity and gas, and for LNG (liquefied natural gas) activities. This cumulates with the earlier directives’ requirements to separate accounts for generation, transmission and distribution for electricity companies, and for transmission, distribution and storage activities, for gas companies.

- The new rules require that one or more regulatory authorities, meeting certain minimum requirements, be established in each member State.
- They must be wholly independent from the interests of the electricity or gas industry, respectively.
- They must be responsible for at least ensuring non-discrimination, effective competition and the efficient functioning of the market.
- They must at least monitor: rules and allocations related to interconnections and congestion, timeliness of response to requests for network access and repair, publication of information, effectiveness of accounting separation to ensure no cross-subsidies, and access conditions to those activities they do not regulate, *e.g.*, new network connections and gas storage.
- They must have the competence to fix or approve the tariffs or, at least, the methodologies underlying the calculations of tariffs, before they enter into force, of transmission and distribution for electricity and gas, and of access to LNG facilities. (Member States may also require the regulatory authorities to submit the tariffs or methodologies for formal decision to the relevant body in the member State.)
- They must have the power to order, if necessary, companies to modify their access terms to ensure that the terms are proportionate and applied in a non-discriminatory manner.

This contrasts with the earlier directives that required the member States to create “appropriate and efficient mechanisms for regulation, control and transparency so as to avoid any abuse of a dominant position, in particular to the detriment of consumers, and any predatory behaviour”. Where access was negotiated (Germany) only “an indicative range of prices for use of the transmission and distribution systems” had to be published for electricity, and the “main commercial conditions for the use of the system” had to be published for gas.

**Box 5.1. The new directives on electricity and gas (cont.)**

Third party access changes fundamentally under the new rules. The responsibilities of the regulatory authority (or authorities) combined with its powers over access tariffs mean that the regulatory authority cannot approve tariffs that *e.g.*, provide subsidies to incumbents or that constitute unnecessary barriers to entry, since the first would be discriminatory and the second would hinder effective competition and the efficient functioning of the market. Negotiation does not necessarily go away entirely, for two reasons. First, the inputs into the approved tariff-calculating methodologies could in principle be negotiated. Second, the approved tariff-calculating methodologies do not necessarily yield a single value.

**Security of supply is a complicating factor in the liberalisation of the energy sector**

Security of supply being one of Germany's high level energy policy goals, it is (as in many other countries) a complicating factor in the liberalisation of the energy and especially the gas sector (Box 5.2). The issues are beyond the scope of this review, but from the efficiency and competition perspective, current policies and actions that promote security of supply are slowing the development of competitive markets.

**Box 5.2. Security of supply: what does it mean?**

Security of supply is an objective of many countries' energy policies, but what does it mean? According to the International Energy Agency, "Security of supply refers to the likelihood that energy will be supplied without disruption. Note that economic variables such as price levels and price volatility are excluded from the definition" IEA (2002).

For electricity, security of supply depends on adequate investment to provide:

- enough generation capacity to meet demand;
- an adequate portfolio of technologies to deal with variations in the availability of input fuels;
- adequate transmission and distribution networks to transport electricity.

Energy security requires adequate and timely investment in the energy infrastructure. Electricity prices are key drivers of investment activity. A debate continues as to whether market price signals will stimulate adequate and timely investments in generation, especially of peaking capacity. (Demand side management, such as increasing the share of electricity users subject to real-time prices, can help reduce peak demand.) Energy security also requires diversified energy supply and the regulation of those parts of the infrastructure which remain monopolistic. Ensuring adequate investment in transmission is a challenge for regulators due to site and permit issues, and incumbents may have little incentive to invest, since improved transmission capacity may bring increased competition to the areas under their control. Existing interconnection capacity is insufficient in, among other regions, the EU. The development of effective electricity markets requires sustained government effort to monitor reliability, adapt policies and regulations to the needs of an open electricity market and, ultimately, ensure energy security.

**Box 5.2. Security of supply: what does it mean? (cont.)**

For the EU Commission, which examined energy security from the perspective of all sources of energy used in the economy, the focus is on the uninterrupted physical availability at prices that are affordable for all consumers, private and industrial. It is particularly concerned with imported energy and diversifying the sources of supply by product and geographic region. Indeed, in a paper on the subject the EU Commission identifies the main characteristics of oil, gas, and coal supply in terms of their geographical and geopolitical spread and degree of competition. Of these three products, coal is distinguished for its geographical and geopolitical spread and “absence of price tensions”. Both oil and gas have greater geographic concentrations of sources, and oil is seen as being priced by a worldwide cartel while gas is priced by “regional oligopolies forming functional cartels in which prices are effectively determined by the oil market” (EU Commission, 2002).

The International Energy Agency, in its 2002 review of German energy policies, noted that “The government’s policy is diversification of energy source including imports, especially gas, because excessive dependency on a single or few sources can increase price risks and [supply risks]”. Later, in a discussion on coal, the IEA wrote that, “There is no compelling energy security reason for coal subsidies” to maintain domestic coal production, and instead suggested the development of diverse sources of primary energy through trade, maintaining a diverse fuel mix and actively encouraging the development of a European market in electricity and gas.

**The promotion of renewable energy is also a key policy objective and another complicating factor**

The energy sector has a significant effect on the environment. Reform and the introduction of competition raise both challenges and opportunities. The promotion of renewable energy is a key part of Germany’s energy policy. The target of doubling renewable energy’s share of overall electricity production by 2010 is ambitious. It needs, and is getting, specific government support. This includes financial support for R&D, investment incentives, and a guaranteed price for renewables-based energy supplied to the grid. The government knows that renewable energies must become competitive in time. There is, meanwhile, scope to review the most effective means by which renewables could be supported.

**Description of the electricity and gas sectors****1. ELECTRICITY****Generation is concentrated, and market entry is difficult**

Nuclear, lignite and hard coal dominate electricity generation. Incumbent generators are withdrawing capacity faster than they are adding to it, which can be seen in the context of a continuing reduction of overcapacity built up before liberalisation. This part of the electricity supply chain is highly concentrated. In 2002 two utilities, E.ON and RWE, produced more than 60% of total generation, and the largest four utilities produced more than 80%. The regionalisation is also marked: the utilities’ distribution territories are generally distinct. However, (and this is a general observation not specific to Germany) market power in electricity markets is not just an issue of geographic concentration. The time dimension also matters because electricity cannot be easily stored and there is particular scope for the exercise of market power in peak demand periods (which occur regularly as part of the electricity demand cycle). This is when most generation is exhausted, and this can leave the



field open to a few remaining, possibly dominant, firms which set their own price. It is not clear whether this is an issue in Germany, whose four large utilities are focused on baseload generation, and which has a number of smaller utilities with peak load plants, but the situation should be kept under review (as in most other OECD countries).

Market entry, though in principle liberalised since 1998, is an issue: there have been no new entrants of significant scale to date. There are two main reasons for this. The first is that the market had significant overcapacity upon market opening, which offered little or no incentive for new market entrants to build new capacity. The second is the government's promotion of renewables capacity which has further dampened incentives to build other types of new generation. Against this background, the potential for encouraging gas-based generation might usefully be reviewed. Market entry in some other liberalised countries has often been through independent power companies building combined cycle gas turbines (CCGTs) with relatively cheap capital costs, using natural gas. Two potential new entrants to the German generation market withdrew in 2001 citing problems with gas supply contracts and high gas prices. Two other CCGT projects are still at the planning phase.

***The four major utilities are responsible for transmission and system operation: there is evidence of problems with market power***

The four major electric utilities own geographically distinct parts of the transmission grid, and are the transmission system operators (TSOs) for their area. The TSOs purchase services (such as balancing services) as part of their responsibility to ensure reliable supplies, and co-ordinate network expansion. Transmission is not congested within Germany even during peak periods, though there is congestion across some national borders. The lack of national congestion reflects good management (based on obligations under the law). As competition develops further, the situation may change though: in countries where competition has developed further, previously adequate transmission capacity often feels the strain.

Germany does not have a single nation-wide system operator responsible for the co-ordinated dispatch of electricity on to the grid. Instead, the large TSOs have a co-ordinating association. An important issue in liberalisation is discrimination in dispatch, which can be difficult to detect. Incentives to discriminate must be reduced: expanding TSO areas to make them larger than the transmission grid area under TSO ownership would help.

Another issue is the pricing of balancing energy – that is, the energy needed to make up the difference between planned and actual demand (because electricity cannot be easily stored, and the grid must be supplied at all times to avoid meltdown). It is estimated that within their respective balancing areas RWE and E.ON generally supply between 70% and 100% of balancing energy. The BKartA has obliged all four main utilities to introduce a tender system for the procurement of balancing energy. However the large firms are often the only bidders, and seem to forbear from bidding outside their traditional service territories. The prices for some forms of balancing energy doubled in 2002 in the RWE area. This led to a new abuse proceeding by the BKartA, which is still pending.

***A nationwide power exchange has been in place since 2000: it has grown but bilateral trades continue to dominate***

Germany has one power exchange with both day-ahead physical markets and futures markets, the European Energy Exchange (EEX) at Leipzig. It was founded in 2000. In 2003, about 10% of German electricity consumption was traded in the day-ahead market, seven times as much as in the futures market. The total volume of trade has increased significantly

in the last couple of years, and in 2003 accounted for some 75% of total generation (day-ahead and futures trades combined). There is no evidence of anti-competitive conduct in the exchange. As well as the trades in the exchange, there is substantial bilateral trading among the four main utilities, which dwarfs the exchange trading. In 2001 for example E.ON procured 57% of the electricity it sold.

### ***Distribution and supply remains tied up with traditional regional and local companies; and vertical integration dampens competitive procurement***

Electricity distribution and supply is in the hands of numerous regional and local utilities, which are usually the dominant supplier in their network area. There are some 840 local utilities (Stadtwerke), and some 50 regional utilities. Many are owned (partly or wholly) by the major German utilities, or by foreign utilities.

An indicator of effective liberalisation, apart from lower prices, is the extent to which consumers switch supplier. According to estimates by the industry associations 35% of industrial customers have changed supplier and the other 65% have renegotiated their contracts with their traditional suppliers. The estimate for households is that slightly more than 4% had switched by autumn 2002, and 28% had renegotiated their agreement with their existing supplier to obtain better terms. The low household switching rate could reflect high fixed costs (including the high costs of network access) so that the room for competition from alternative suppliers (on the variable costs) is small. Electricity may also be considered

#### **Box 5.3. Local utilities and energy procurement**

The widespread vertical integration in the electricity and gas sectors dampens competition in the transactions between the local utility and the sources of electricity or gas supply. Consumers, particularly household consumers, rarely switch away from their traditional supplier. Hence, the procurement choices made by the municipal utility largely determine which generation will supply households in the municipality's territory.

- Partial or complete ownership by an upstream firm reduces incentives to purchase from a different, competing upstream firm:
  - ❖ If the upstream firm exercises control, then it has an incentive to, as it were, “buy from itself” even if it does not make the lowest-priced offer to the local utility. It has this incentive because it will receive the rents both from the upstream and the downstream activities, whereas if the local utility bought from a different, competing upstream firm, then it would receive only the rents from the downstream activities.
  - ❖ If the upstream firm does not exercise control, the incentives remain similar. However, in this case, it must offer a price that at least meets the offer of any competitor. The upstream firm would have information advantages over its competitors, particularly if its board member(s) has information about characteristics of the local utility that influence the cost of supply, bid evaluation methodologies or competing bids.
- Partial or complete ownership by an upstream firm reduces incentives to compete to supply small and medium sized customers:
  - ❖ So long as the upstream firm exercises control of at least several local utilities, then it dampens competition with other local utilities in which it owns a stake, whether or not it exercises control. It has this incentive because less competition downstream is more profitable for the local utilities, increasing the benefits of ownership.

a “low interest” product (at least until consumers get used to the idea of competition). Actions have been taken to reduce the costs of switching for small consumers, such as suspension of the “transfer fee” for switching, and a task force at the lead ministry (now disbanded) for dispute resolution and other issues involving small consumers.

The widespread vertical integration dampens competition in the transactions between the local utility and its sources of supply (Box 5.3).

## **2. GAS**

### ***Germany is mainland Europe’s largest consumer of gas, and highly dependent on imports***

Reform of Germany’s gas industry needs to be set in the context of upstream production and supply, which is concentrated and not generally handled on competitive lines. Germany is the largest consumer of gas in mainland Europe, as well as being highly dependent on imports (which account for over 80% of consumption). It is therefore the most affected by the current mainland European framework for supply, and security of supply issues loom large in the path to reform.

The main sources of supply to mainland Europe are the Netherlands and, from outside the EU, Russia, Norway and Algeria. Gas production within all these countries is highly concentrated. Suppliers use the same pricing methodology which indexes the price of gas to oil, there being no competitive gas market (yet) in mainland Europe to set the price. Liquefied natural gas (LNG), which could help open up new supply and hence competition, has not yet developed as a competitive alternative, due to the continuing relative price advantage of piped gas.

A number of hurdles stand in the way of developing gas-on-gas competition in mainland Europe, including the unattractive sunk cost of developing new gas production and transport infrastructure, low growth prospects in the German market (it is projected to grow by just 1% a year), and existing long-term supply contracts (90% of predicted European demand to 2010 is covered this way). The EU Commission has also identified a number of barriers such as contractual prohibitions on the resale of gas, on which it is taking action. There are some competitive market developments though: a gas trading hub is being established in Germany (hubs promote gas-on-gas competition and allow players to discover competitive gas prices). But its liquidity – and hence development – is impeded by the continued domination of incumbent suppliers, difficulties of access to the pipelines and storage, and the long-term contracts.

### ***The structure of the German gas industry remains on traditional lines and little new competition has emerged yet***

The structure of the German gas industry is three-tiered. The top tier consists of the six supra-regional companies that import gas, transport it over high-capacity transmission pipelines and supply the next tier. The middle tier consists of the regional gas distributors/suppliers that supply larger industrial customers as well as the third tier. This tier consists of more than 800 local and municipal gas distributors/suppliers and supply smaller industrial consumers and households. Most of these companies also provide other network or public services such as electricity generation and distribution, heat and water supply, and public transport. *De facto* geographic monopolies in the supply chain to consumers provide the conditions for high profits. The trend is vertical integration of the tiers (part of the same trend for the electricity supply chain).

The first tier is illustrated in Table 5.1.

Table 5.1. **Main gas import and transmission companies**<sup>1</sup>

Name	Ultimate parent	Gas supplied (bcm)	Transmission (high-pressure km)	Storage (bcm)
Ruhrgas AG	E.ON	50.6	10 750	< 5
BEB Erdgas und Erdöl <sup>2</sup>	Exxon Mobil (50%) Shell (50%)	16.4	3 439	> 2.7
Verbundnetz Gas AG (VNG)	EWE (47.90) BASF (through Wintershall Erdgas Beteiligungs GmbH 15.79%) Gazprom (ZGG-Zarubezhgas-Erdgashandel-Gesellschaft mbH 5.26%) Gaz de France (through EEG-Erdgas Transport GmbH (5.26%) Twelve municipalities in East Germany (25.79%)	15.8	7 300	> 2
Wingas GmbH	BASF (65%) Gazprom (35%)	11.8	1 836	4.2
Thyssengas GmbH	RWE AG (100%)	6.7	2 500	> 0.3
EWE	Administrative districts and towns in the Weser-Ems region, Administrative districts and towns in the Weser-Elbe region	4	3 870	> 1.1

1. Ownership shown as from late 2003; physical data from 2000.

2. BEB was dissolved in 2003.

Source: OECD.

The dominating company is Ruhrgas, which imports 60% of gas consumption, and controls a large part of the high-pressure transmission pipelines within Germany and about a quarter of all storage facilities. It also has significant interests downstream especially after integration with the E.ON distribution activities. Upstream it has a stake in the new trading hub, and a 6.5% interest in Gazprom. The main competitor is Wingas (a joint venture between BASF and Gazprom) which has set up a rival pipeline system in Germany and owns important storage facilities. But the competition which it can provide Ruhrgas may now have been dulled by various factors including the fact that more investment is needed to expand its capacity, and a new Ruhrgas/Gazprom contract, the terms of which substantially reduce the profitability of any expansion of Wingas for Gazprom. Competition with the other big players is also dampened by various factors such as common costs arising from the common purchase of imported gas, and arrangements that make it unprofitable to encourage consumer switching. The EU Commission considers that an oligopolistic dominant position exists between at least Ruhrgas and two other main companies (BEB and Thyssengas). The liberalisation so far has led to very limited switching, mainly by large industrial consumers, and virtually no switching by households.

Storage plays an essential role in the management of the gas supply chain, and access to storage on reasonable terms is an important part of an effective competitive framework.

## Electricity and gas price performance

### 1. ELECTRICITY

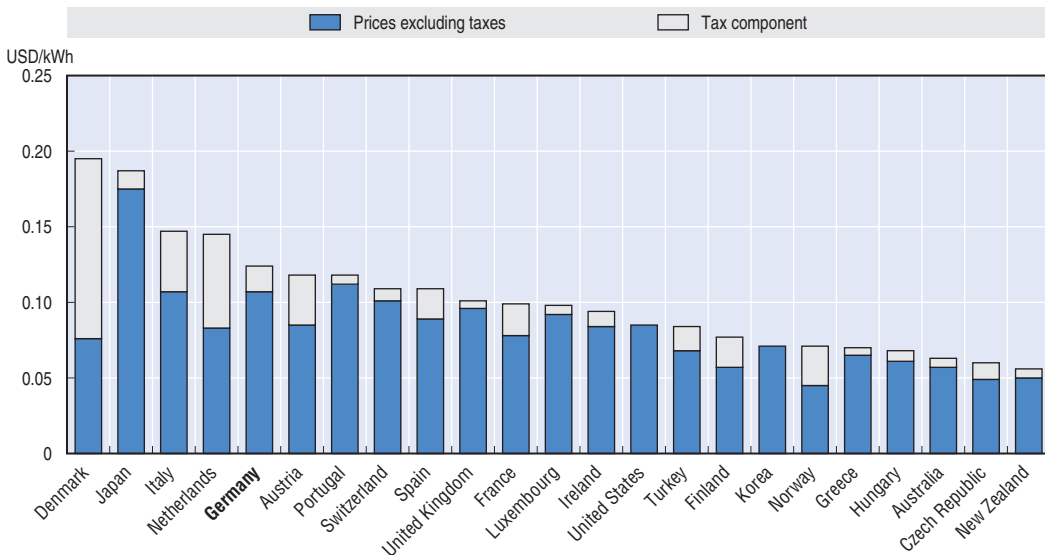
#### Electricity prices fell after liberalisation but have now started to rise

Electricity prices fell after liberalisation, though this was partly offset by new taxes and legislation to promote renewables. Industrial consumers were the main beneficiaries, with price reductions of up to 50%. Small consumers benefited later and to a more modest extent. Factors explaining the difference include the low amount of switching by small consumers. It has been noted that the price falls may not have been entirely due to liberalisation: power generation costs also fell. From 2000, electricity prices started to rise. The reasons for this are debated, but it is likely that tax increases and other burdens such as the promotion of renewables are largely responsible, together with falling capacity and pricing strategies by suppliers to ensure an adequate return.

Compared with other OECD countries industrial prices are around average, but small consumer prices are high (Figures 5.1 and 5.2).

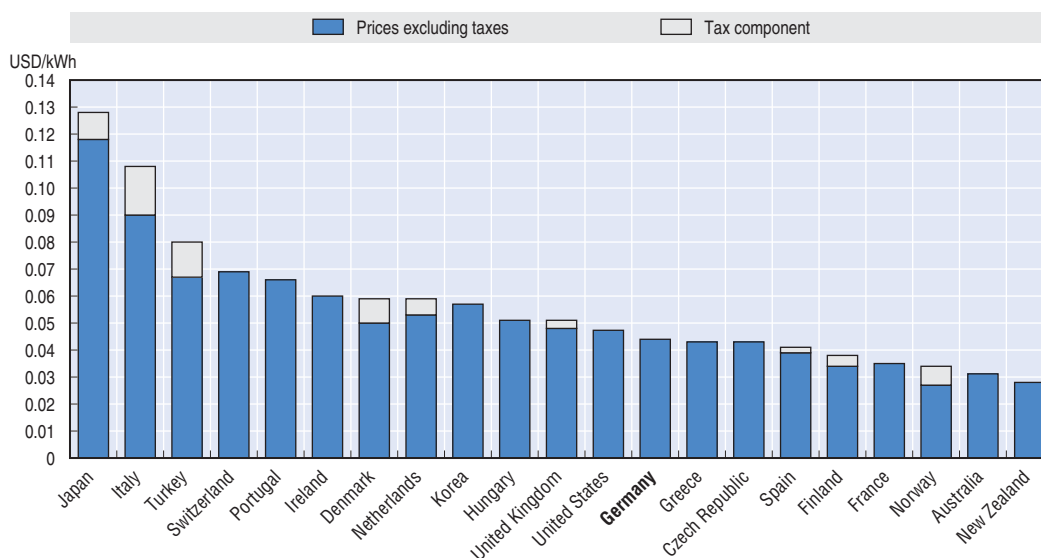
Electricity (and gas) prices need careful interpretation as pricing is not simple. Electricity is sold in complex contracts that incorporate various risks including high sunk costs and low variable costs, and demand that *inter alia* depends on the weather and economic growth. Electricity can simultaneously change hands at a variety of prices. An important component is network access charges: these are unusually high in Germany relative to the EU for medium and low voltage transmission, though they vary a lot between regions.

Figure 5.1. **Electricity sold to households with and without taxes<sup>1</sup>**



1. Data for Germany after 2001 is unavailable.

Source: IEA.

Figure 5.2. **Electricity sold to industry with and without taxes**<sup>1</sup>

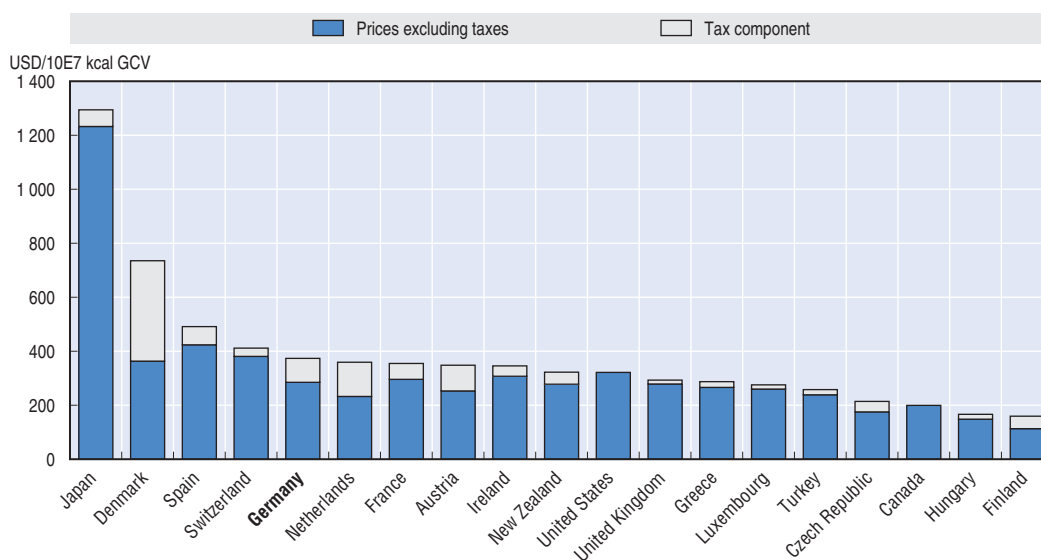
1. Data for Germany after 2001 is unavailable.

Source: IEA.

## 2. GAS

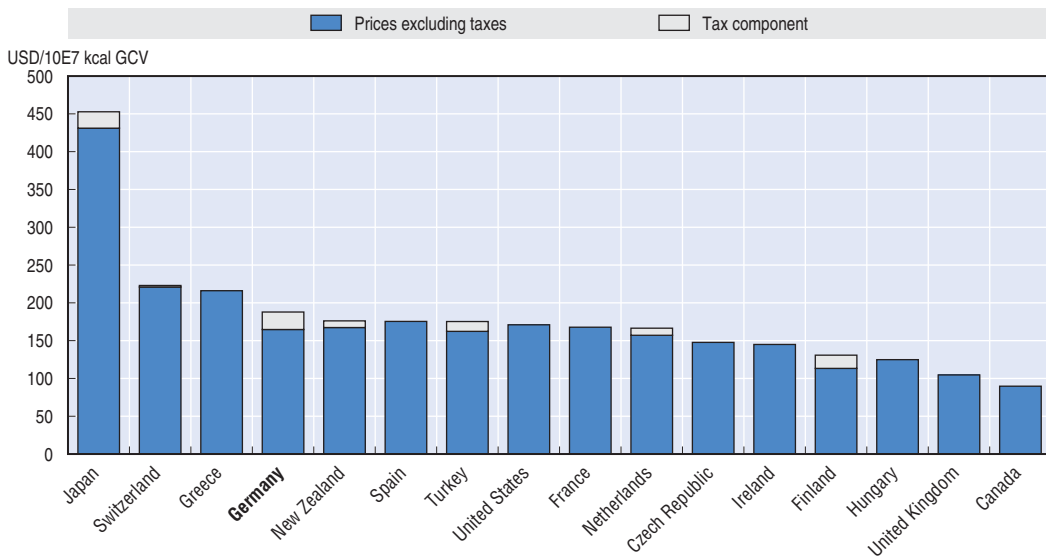
### **Gas prices have risen, in step with higher worldwide prices**

Gas prices for both industry and households rose substantially in the first two years after liberalisation, in step with higher worldwide prices for gas. There is currently less leeway for price reductions in the gas sector than in the electricity sector because of import dependence, the fact that the gas market is less liquid, and the continuing close link to oil prices (more competition would address the last two issues). The price of gas is high in Germany compared with other OECD countries (Figures 5.3 and 5.4).

Figure 5.3. **Gas sold to households with and without taxes**<sup>1</sup>

1. Data for Germany after 2000 is unavailable.

Source: IEA.

Figure 5.4. Gas sold to industry with and without taxes<sup>1</sup>

1. Data for Germany after 2000 is unavailable.

Source: IEA.

## The regulatory framework for electricity and gas

The current regulatory framework for the electricity and gas sectors rests on two pillars. The Energy Industry Act and the Act against Restraints of Competition (ARC) make up the first pillar. The 1998 amendments to these acts marked a fundamental change to encourage competition. The Associations Agreements for each sector make up the second pillar.

### **The 1998 amendments to the Energy Industry Act took some important competition-enhancing measures**

The amendments to the Energy Industry Act included three measures to promote competition:

- *Reduction of entry barriers.* The legal monopolies for the supply of electricity and gas for all consumers were removed. Special licensing requirements for electricity generation (nuclear excepted) were also removed. The previously complicated approvals system, which had enabled incumbents to block new generation entry, was minimised. On the other hand reciprocity may be used: until 2006 electric utilities are entitled to refuse access for electricity to be supplied from abroad, to the extent that a similar customer located abroad could not also be supplied by a German supplier.
- *Provisions for non-discriminatory access to the electricity supply system.* These include an obligation on network operators to publish minimum technical requirements, to publish annually an indicative range of prices, to provide terms and conditions that are no less favourable than for their own company, and to manage the network system separately from their other activities.
- *Increased accounting transparency.* To help identify cross-subsidies, separation of accounts into (at least) generation, transmission, distribution and non-electric businesses is required.

The consumer protection provisions in the electricity sector were retained. “General suppliers” must continue to connect and supply consumers in low-voltage and low-pressure areas. The price cap for small electricity consumers was also retained.

The amendments also promoted renewable energy, requiring all “general supply” electric utilities to buy electricity generated from renewable energies in their supply area and to pay a specified price.

In May 2003 an amendment to the Act introduced similar access rules for the gas sector, notably third party right of access to the pipelines and storage and a requirement to separate accounts.

The amendment provided for “juridification” of the Associations Agreements which will likely make it more difficult to prove abuse of dominance, as it establishes the presumption that if the Agreements are observed, good practice conditions will be considered fulfilled. The latest decisions of the Dusseldorf Court of Appeal (see above) seem to confirm this difficulty. At the same time however, juridification sets minimum standards for network access by shifting the burden of proof to any operator that does not fulfil the conditions set out in the Agreements. Thus any network operator has to grant network access at least under the conditions specified by the Agreements. Also, the amendment stipulates that the BKartA’s decisions concerning network access are immediately enforceable as a general rule.

Finally, as required by the amendment, the Ministry of Economics and Labour sent a Monitoring Report to parliament at the end of August 2003 about experience with the negotiated access system for competition. It concludes that the Associations Agreements in the electricity sector have developed a workable access system, although improvements are required. The report notes that similar progress in the gas sector has been lacking so far. The report also provides an outlook of the basic features of the future government regulation of the German electricity and gas markets.

### ***The Act against Restraints of Competition is the main instrument for control of the electricity and gas sectors***

The general provisions of this act against cartels, anti-competitive mergers, and abuse of dominance are especially important to these sectors on their path to greater competition (Chapter 3 gives more details). Enforcement of the ARC in the electricity and gas sectors has been a growing part of the BKartA’s work.

The primary control over terms and conditions for network use is *ex post* supervision of abuse under antitrust law. Box 5.4 sets out the ARC’s abuse of dominance provisions.

To prepare the way for competition the exemption of anti-competitive agreements in the electricity and gas sectors was removed (so that demarcation agreements and concessions became subject to competition evaluation under the ARC). A new rule has also been introduced, to require access to “essential infrastructure facilities” except where the infrastructure operator can demonstrate that such access “is impossible or cannot reasonably be expected”. The aim is to control abusive denial of access, or granting access only under abusive terms and conditions, to infrastructure such as networks (grids and pipelines) and storage.

The BKartA has addressed abusive denial of access in both gas and electricity. Most abuse proceedings have centred on abusively high prices for electricity network access, balancing and other network services, and discounting and long term contracts. For example, in February 2003 the BKartA decided that the fees charged by RWE for metering



and billing services were abusively high, and RWE had to lower its charges by up to 48%. In April the BKartA prohibited Stadtwerke Mainz from demanding abusively excessive fees for network use and ordered it to reduce its current fees for network use by a total of just under 20%. And in October 2003, The BKartA prohibited the energy supplier Mainova from denying connection to its medium voltage distribution network. The *Länder* cartel offices have also investigated the electricity sector.

Enforcement practice to determine whether prices are abusively high is to compare prices with a similar market, so as to obtain a comparison with the price “which would very likely arise if effective competition existed”. But as there are no electricity or gas network markets with effective competition this approach does not work in these markets. A court ruling in 2002 confirmed that the BKartA may apply cost analysis in addition to the comparable market concept. This is helpful, but determining the relevant costs is also difficult, and resource-intensive.

The other main way in which the BKartA oversees the electricity and gas sectors is merger control. The BKartA often negotiates remedies to competition problems created by mergers in these sectors. For example its position on the purchase of regional and municipal suppliers by E.ON and RWE is that these mergers are anticompetitive unless other measures are taken (such as selling off other interests in regional suppliers). However the BKartA was overridden by the ministry on an important merger which it had rejected, between E.ON and Ruhrgas (Box 5.5).

The BKartA has also reviewed the Associations Agreements. These are tolerated. The Agreements do not exempt companies from competition oversight under the ARC.

#### Box 5.4. Abuse of dominance in the Act against Restraints of Competition

**Section 19 Abuse of a Dominant Position** prohibits “abusive exploitation of a dominant position by one or several undertakings”. After defining dominance, the law goes on to define abuse:

“(4) An abuse exists in particular if a dominant undertaking, as a supplier or purchaser of certain kinds of goods or commercial services.

“1. Impairs the ability to compete of other undertakings in a manner affecting competition in the market and without any objective justification.

“2. Demands payment or other business terms which differ from those which would very likely arise if effective competition existed; in this context, particularly the conduct of undertakings in comparable markets where effective competition prevails shall be taken into account.

“3. Demands less favourable payment or other business terms than the dominant undertaking itself demands from similar purchasers in comparable markets, unless there is an objective justification for such differentiation.

“4. Refuses to allow another undertaking access to its own networks or other infrastructure facilities, against adequate remuneration, provided that without such concurrent use the other undertaking is unable for legal or factual reasons to operate as a competitor of the dominant undertaking on the upstream or downstream market; this shall not apply if the dominant undertaking demonstrates that for operational or other reasons such concurrent use is impossible or cannot reasonably be expected.”

### Box 5.5. The E.ON/Ruhrgas case

The E.ON-Ruhrgas merger was a series of transactions by which E.ON bought out other companies' stakes in Ruhrgas.

Formally, these were two merger projects that were examined and prohibited by the **BKartA**. The first was the acquisition of a majority stake in Gelsenberg (holding 25% of Ruhrgas) from BP by E.ON, rejected on 17 January 2002, the second was the acquisition of a majority stake in Bergemann (holding 34% of Ruhrgas) by E.ON rejected on 26 February 2002. On 3 July 2002, E.ON announced its purchase of the outstanding 40% of Ruhrgas held indirectly by ExxonMobil, Shell and Preussag. The BKartA was concerned about the anti-competitive effects of the vertical integration of Ruhrgas's gas import contracts and high-pressure pipelines with E.ON's regional and municipal gas distribution and electricity generation and grid businesses.

The **German Economics Minister's override** was exercised. Controversially, the override was exercised by a secretary of State because the Minister had declared himself prejudiced because of his former employment by one of the parties. After holding hearings, the Ministry found E.ON's arguments for a "national champion" for supply security and for improving international competitiveness persuasive. Consumer interest groups were excluded, from these hearings despite applying to be heard and pointing out their estimates of a 10% gas price increase as a result of the merger, because the Ministry did not view them as sufficiently affected parties. The decision acknowledges that the negative effect on competition is immediate whereas security of supply and international competitiveness are *future* concerns that *might* arise if certain market developments occur.

Therefore, conditions were imposed to mitigate the negative effects on competition. Five major assets had to be sold: 1) E.ON and Ruhrgas' stakes (totalling 42.1%) in Verbundnetz Gas AG in eastern Germany; 2) E.ON's 27.4% stake in EWE; 3) E.ON's 80.5% stake in gas and water utility Gelsenwasser AG; 4) E.ON and Ruhrgas' stakes of 33.3% in Stadtwerke Bremen; and 5) E.ON and Ruhrgas' stakes of 44.02% in Bayerngas. Bayerngas supplies about 66% of Bavaria's gas demand (Handelsblatt, 2002). Ruhrgas also had to auction off 7.5-bil cu m/yr to competitors (about 2.6% of annual German gas sales), and allow regional distributors to reduce their purchases to 80% of their total gas requirements. Ruhrgas had to engage in some legal unbundling. Finally, the Ministry imposed the condition that E.ON must sell its stake in Ruhrgas if: 1) another company gets a majority of voting rights or capital in E.ON; and 2) there is reason to think that such a move would be "contrary to Germany's energy policies". (This poison pill will help protect against hostile takeovers.) E.ON was allowed to keep its share in Thuga and Heingas, strong retailers.

The **Düsseldorf Higher Regional Court** blocked, on 13 July 2002, E.ON's takeover of Ruhrgas, saying it had "serious doubts" as to whether the Economics Ministry's approval was legitimate because the Court had identified a couple of procedural mistakes. E.ON reached out-of-court settlements with nine complainants just before a final court ruling in February 2003.

### **The Associations Agreements are the second pillar of the regulatory framework: the rules for negotiated network access have been entrusted to private hands**

In line with the German tradition, the key task of working out the details of network access by third parties has been entrusted not to a regulator but to the private Associations covering the electricity and gas markets, under the public oversight of the competition authorities. The legal claim to network access is enforceable with the help of the competition authorities and/or the civil courts. The Associations developed the detailed

framework of access conditions in the form of Agreements which they recommended to their members (the government threatened regulation if agreements could not be reached, and this nearly happened when negotiations on the gas agreement broke down in 2002). Box 5.6 gives an overview.

The Agreements as they currently stand raise a number of issues, despite some evolution in response to criticism. The cost-based methodologies for setting prices are covered very fully and in great detail, to the extent that the Agreements raise a question about the potential link between the pricing principles and prices. The BKartA has expressed concern that the Agreements could facilitate agreement on prices. For gas transmission, which is not based on costs, it is tempting for gas companies to influence the benchmark. The fact that the Agreements do not have a compulsory nature is unhelpful: some 80-90 electricity distribution companies have yet to publish access charges despite expiry of the deadline. And most of the associations party to the Agreements are on the supply side of the market, or represent the larger consumers. Non-industrial consumers are underrepresented. However, representatives of private consumer associations took part in negotiations on the second set of Agreements in electricity but did not sign. Table 5.2 gives more details.

#### Box 5.6. Overview of the Associations Agreements

The Agreements set out frameworks for negotiated contracts among companies on the use of electricity and gas infrastructure. As well as the negotiations among associations to set up the framework, a second negotiation takes place between the party that wishes to use the network and the network operator. The Agreements bring together the existing associations of electricity and gas industries, network users and customers. They are one means by which legal claims to third party access are implemented.

The associations party to the Agreements have set up clearing offices for dispute settlements. As of late 2002 these offices had dealt with four disputes.

A main purpose of the Agreements is to establish voluntary criteria for determining access prices. Under the ARC the Agreements cannot restrain competition and hence cannot actually set prices.

The first *electricity Agreement* was made in May 1998. It has since been updated twice. The main principles of the current agreement are that access is to be non-discriminatory and that access charges are to be cost-based and transaction-independent. Pricing is based on: 1) costs and revenues assumed for costing purposes; 2) annual financial Statements prepared according to commercial law; 3) the principle that network prices have to reflect the costs of efficient operation is to be monitored by a benchmarking procedure where transmission and distribution prices of structurally comparable system operators are compared. Thus the heterogeneity of electricity distribution is taken into account, where costs can vary significantly according to such factors as population density and the amount of underground cable. Distribution operators are grouped into categories according to these structural factors.

The first *gas Agreement* was made in July 2000, and has also been updated. The main difference with the electricity Agreement is that it does not provide for a transaction-independent access system and that transmission pricing is based on benchmarking rather than costs. Pricing is on the basis of “an international and national benchmark”, and must “not exceed the reference market-based fees for the pipelines subject to pipe-to-pipe competition”.

Table 5.2. **Associations in the Associations Agreements**

Associations representing		Associations Agreement Electricity II-plus		Associations Agreement Gas II	
		Suppliers	End-users/ consumers	Suppliers	End-users/ consumers
BDI	German industry	Yes	Yes	Yes	Yes
VIK	Industrial consumers and autoproducers		Yes (large only)		Yes (large only)
VDEW	Electricity industry	Yes			
VDN	Network operators (within VDEW)	Yes			
VRE	Regional energy utilities	Yes			
VKU	Municipal utilities	Yes		Yes	
BGW	Gas, water, sewerage utilities			Yes	

Source: OECD.

Other key issues in the Associations Agreements are the handling of pricing principles and rates of return for network access, which may be encouraging companies to set higher access fees than necessary. Pricing principles are based, *inter alia*, on “annual financial statements according to commercial law”. The Independent Regulators Group (a group of European telecommunications regulators) notes that financial information for regulatory purposes is often very different from other financial information, and proposes guidelines for regulatory accounts (Box 5.7).

### Box 5.7. **Regulatory accounting guidelines**

According to the Independent Regulators Group, a group of European telecommunications regulators, “The basis on which regulatory accounts are prepared requires special regulatory rules as well as the application of generally accepted accounting practices”.

“Regulatory accounting guidelines” will normally refer to the following:

#### **Regulatory accounting principles**

These principles establish the key doctrines to be applied in the preparation of regulatory accounting information. They should include, *inter alia*, the principles of cost causality, objectivity, transparency and consistency.

#### **Methods for attributing costs, revenues, assets and liabilities**

A description of the attribution methodologies used to fully allocate revenues, costs, assets and liabilities.

#### **Basis for transfer charging**

A description of the basis used to transfer charges between disaggregated regulatory entities as required under accounting separation obligations. Typically this will prescribe methodologies for ensuring an operator charges itself on the same basis as other operators for similar services where there is a regulatory requirement to do so.

#### **Accounting policies**

These policies are those that follow the form used for the preparation of standard statutory accounts and will include, for example, details of fixed asset depreciation periods and the treatment of research and development costs. Where the regulatory accounts are prepared on a current cost basis then the basis on which assets are valued will be included as accounting policies.

### Box 5.7. Regulatory accounting guidelines (cont.)

#### Long run incremental cost methodologies

If LRIC applies, a description of the methodologies used to prepare long run incremental cost information. This description would also include details of the identification and treatment of shared or common costs as well as combinatorial tests.

“Normally the preparer of the regulatory accounts would arrange the procurement of an independent audit opinion. The audit opinion and accompanying report have potentially high value in enhancing the quality, objectivity and credibility of the information presented. Users’ confidence and understanding of the financial Statements are significantly enhanced by the presence of an independent audit.”

Source: Independent Regulators Group (2002).

## Institutions and regulatory approach

### **Institutional oversight is provided by the competition bodies and the government: there is no regulator**

The *Federal Ministry of Economics and Labour* (BMWA) is the lead ministry responsible for energy policy. The *Bundeskartellamt – Federal Cartel Office –* (BKartA) has the main responsibility for enforcing the ARC (see above). The *Länder* have energy sector supervisory agencies that implement federal law, as well as cartel offices for competition cases restricted to their state. The *Monopoly Commission* advises the government on competition issues. In its 2002 report on the state of competition in Germany, it highlighted the continuing lack of competition in many sectors, and especially the network industries. It noted that providing network access is the decisive factor in creating competition in markets where monopoly conditions once prevailed.

The most striking institutional characteristic, compared with most other OECD countries, is the absence of a regulator. Private agreement among the market players via the Associations Agreements has been the preferred route, backed up by the BKartA and its enforcement of the competition law.

### **Should there be a regulator?**

This leads on to what is perhaps the most important issue of this review. In the context of the policy objective to maximise efficiency and ensure acceptably priced electricity and gas supplies through effective competition, the question needs to be asked whether this objective is better served by the current system of negotiated access under the Associations Agreements backed up by the BKartA and competition law or by an independent regulatory agency? The evidence on which to take a view might reasonably include the price of electricity and gas, the price of network access, the number of third party access agreements reached so far, the level of entry by new competitors, and the readiness of consumers to switch supplier. The effectiveness of the regulatory approach can also be assessed in terms of the safeguards to enforce respect of the rules for liberalisation.

On some of the evidence so far, the current approach falls short. Electricity network access fees are high, at least for distribution, and have not fallen much post-liberalisation. There is no equivalent estimate for gas, but new entrants consider that access fees are still too high and only a very few third party gas access contracts have been signed. There has been no new domestic entry – beyond renewables – into electricity generation since liberalisation (imports however have added some further competition). Relatively few electricity consumers have switched supplier, and there has been virtually no switching by gas consumers. Electricity prices, which initially fell, have started to rise again. The evidence does need to be interpreted with care: the reasons for some of these trends may be complex.

Safeguards are slow and incomplete, but some improvements are in sight. It takes a long time for access fees to be reduced under the current system. An investigation was started by the BKartA into the access fees charged by 22 network companies in late September 2001. Some of the companies immediately reduced their fees, but it took until February 2003 for a formal ruling to be made on one of the remaining utilities. This is too long a wait for a supplier. A recent amendment to ARC and Energy Industry Act has made the BKartA's decisions immediately enforceable. Also, changes arising from implementation of the new EU directives may enable the use of *ex ante* regulation of methods for calculating access fees.

### ***The experience and analysis of other OECD countries may be helpful***

The analysis and experiences of other OECD countries, as well as work by the OECD secretariat, may help in assessing which way to go.

In support of the current system, many in Germany believe that its highly fragmented structure, with a large number of legally distinct network operators, makes an *ex ante* and case-oriented regulation virtually impossible organisationally. The issue of cost is important (though not the only issue). Would it be more expensive to have *ex ante* regulation? The answer may seem obvious – yes – but a fair comparison of the two approaches would need to take account of the cost to individual suppliers of negotiating access, as well as the general efficiency losses from access fees which are likely to reflect market power rather than costs.

Australia has published a checklist to help identify the cases when self regulation backed up by the competition law is appropriate (Box 5.8). Some of its points (for example the first and second bullets in Box 5.8) suggest that self regulation may not be appropriate for the German gas and electricity sectors.

**Box 5.8. Australian Commonwealth Office of Regulation Review:  
Regulatory Impact Statement Checklist**

Self-regulation should be considered where:

- there is no strong public interest concern, in particular, no major public health and safety concern;
- the problem is a low risk event, of low impact/significance, in other words the consequences of self-regulation failing to resolve a specific problem are small; and
- the problem can be fixed by the market itself, in other words there is an incentive for individuals and groups to develop and comply with self-regulatory arrangements (*e.g.*, for industry survival, or to gain a market advantage).

In addition, for self-regulatory industry schemes, the checklist determines success factors to include:

- presence of a viable industry association;
- adequate coverage of the industry by the industry association;
- cohesive industry with like minded/motivated participants committed to achieving the goals;
- voluntary participation – effective sanctions and incentives can be applied, with low scope for the benefits being shared with non-participants; and
- cost advantages from tailor-made solutions and less formal mechanisms such as access to quick complaints handling and redress mechanisms.

Source: Office of Regulation Review (1998), Australia.

Australia's own energy regulatory framework is an interesting approach. It is not, as sometimes cited, a self regulatory approach, as the Australian Competition and Consumer Commission (ACCC) plays a very pro-active role in overseeing the electricity and gas codes, to the extent that the regime is called "co-regulation" (Box 5.9).

The UK's economic regulators – OFTEL (telecommunications), OFGEM (gas and electricity) and OFWAT (water) – are another approach worth studying. Their duties are to promote efficiency and competition, but also to protect consumers and ensure universal supply.

### Box 5.9. Is Australia an example for Germany?

Australia is sometimes cited as an example where there is self-regulation of the electricity and gas sectors. However, the contrasts with the German regulatory structure are greater than the similarities. In Australia, there is significant self-regulation in the electricity, gas, and telecommunications sectors. However, in contrast to the German system, the Australian Competition and Consumer Commission has an active role, sufficiently so that the regime is called “co-regulation”. There is a National Electricity Code and a National Gas Code, both developed with active participation by the ACCC, consumer groups, and the industry. (Small users came in late to the negotiating process, but the ACCC approved a mechanism to fund user groups to hire consultants and therefore become informed and active participants. The funding mechanism is essentially a tax on electricity.) In electricity, the ACCC accepts the access code, which governs access, including price principles,\* to transmission grids and distribution networks, under Part IIIA of the Trade Practices Act, authorises the market rules under Part VII of the Act, and regulates network pricing for the transmission businesses. In gas, the ACCC is the regulator for gas transmission pipelines in all of Australia (except one State) and for transmission and distribution pipelines in one territory. As the regulator, the ACCC *inter alia* assesses proposed pipeline access arrangements; monitors and enforces reference tariffs, ring-fencing, incentive regulation and other access arrangement provisions; and arbitrates access disputes. The ACCC also regulates both industries through the general merger, anti-competitive conduct and consumer protection provisions of the Trade Practices Act. Indeed, the ACCC has found that, while in certain circumstances, industry can be left alone to regulate behaviour, “it is important that the appropriate regulator is both seen to be and actually underwriting compliance with the codes through necessary enforcement action”. Australian Competition and Consumer Commission (2000), p. 21.

The key formal arrangement for self-regulatory schemes under the Australian competition act is authorisation, but the ACCC also engages in regular review of self-regulation arrangements, has its own staff on code-related bodies, and requires regular monitoring and reporting. In addition, where there is blatant disregard or systematic breaches of the competition act, then the ACCC is willing to use its enforcement powers. *Ibid.*, p. 22.

\* The National Grid Code is fairly prescriptive, aiming to control not just discriminatory fees but also discriminatory conduct.

Two important structural questions arise in relation to independent regulators. Where should they be placed: as part of the competition authority or separate from it? And should they be single or multi-sector? The OECDs’ work on this is summarised in Box 5.10.



**Box 5.10. Where should an independent regulator be placed?  
Should it be single or multi-sector?**

The choice about whether access regulation is better performed by a competition agency or by a sector regulator is not clear. The answer depends on a complex mix of comparative advantage and synergy issues. It is also heavily influenced by a country's general legal framework and regulatory history. Hence the "optimal" solution could certainly vary from country to country and even across industries within the same country.

The objective of access regulation is to promote as well as protect competition in certain situations where access to a portion of a vertically integrated incumbent firm's assets is vital to the development of a satisfactory level of competition. On the one hand, because of experience with abuse of dominance cases, competition agencies are more suited to performing this task than are sector regulators. On the other hand, ensuring a level playing field requires processing a large volume of cost data in order to set access terms, and then following up with continuous monitoring to ensure compliance with those terms. These are functions that seem more in tune with what sector regulators normally do.

Although both sector-specific regulators and competition agencies should presumably be able to hire appropriate expertise, the experience and institutional cultural differences between them are not so quickly and easily eradicated. Moreover there is a significant risk that trying to change or mix institutional cultures could compromise abilities to perform core functions. Five aspects of experience and institutional culture seem particularly important. First, sector regulators are often charged with attenuating the effects of market power, whereas competition agencies basically focus on reducing such power. This tends to produce quite different views on the extent to which market power can be managed for the public good. Second, sector regulators typically impose and monitor various behavioural conditions whereas competition agencies are more likely to opt for structural remedies. Third, sector regulators generally apply an *ex ante* prescriptive approach while competition offices, except in merger review, apply an *ex post* enforcement approach. Fourth, sector regulators typically intervene more frequently and require a continual flow of information from regulated entities, while competition offices rely more on complaints and gather information only when necessary in connection with possible enforcement action. Finally, sector regulators are typically assigned a considerably broader range of goals than competition agencies are asked to pursue, so they may become more adept at trading off conflicting goals.

Assigning competition protection to competition agencies and economic regulation to sector regulators, as static comparative advantage considerations might suggest, means that important synergies might be lost. Synergies exist between competition protection and economic regulation and also between both of those functions and access regulation. They arise largely because the same staff expertise can be applied to a number of related problems, and because combining several policy instruments in the same agency increases the chances that they will always be used in tandem rather than sometimes at cross purposes.

General, economy-wide agencies are more immune to regulatory capture than sector-specific regulators. The desire to avoid distorting competition through subjecting competitors to very different regulatory regimes also works in favour of general as opposed to sector-specific agencies, as does a closely related legal certainty argument. Wherever there is sector-specific regulation there will be a need to define jurisdictional boundaries among regulators and this will create legal expenses, delay and uncertainty. None of these problems arise where regulation is carried out either by a general competition agency or a multi-sector regulator. It can be noted in this context that the Monopolkommission has endorsed a multi-sector regulatory authority.

Source: Adapted from OECD, 1999.

## Conclusion

As in most other OECD countries, Germany pursues a complex mix of energy policy goals – notably economic efficiency, environmental protection and security of supply – which sometimes conflict. The focus here is on economic efficiency and the development of effective competition to deliver this. The rest is beyond the scope of this report save for two important points. First, there is a need for full awareness of how the other policy goals may be affecting the economic efficiency goal (for example higher electricity prices from renewables support). Second, there is the related need to identify means by which these other goals can be pursued at minimum economic cost (for example, cost-benefit analysis to determine the best policy instruments for supporting security goals).

As regards economic efficiency, the German experience raises two main issues which interact: the structure and special characteristics of the electricity and gas sectors, and the current regulatory framework for promoting market liberalisation and effective competition.

Germany has taken a number of important steps to promote competition, not least full market opening of the gas and electricity sectors ahead of most other OECD countries, and more recently adjustments to the legal framework in response to the difficulties encountered in the early years. The competition law is an important asset which addresses fundamentals such as non-discriminatory access to the networks.

However the current regulatory system rests on a presumption that a combination of the competition law and private agreements between the market players to regulate network access is enough. This approach is fully within the German tradition, which promotes self-regulation under the umbrella of a comprehensive competition law enforced by an efficient and respected competition authority. But a system implicitly designed for markets where competition is already established is now battling with different circumstances. The electricity and gas sectors are markets in which competition has to be developed from a low or even non-existent base, and which also have a monopoly network core. The structural evolution of the two sectors in recent years has further complicated the picture, with vertical and horizontal consolidation through intense merger activity since market opening. The industry structure today approaches that of *de facto* regional monopolies which mirror historical demarcations of territory. Market entry is clearly difficult in practice. Notably, there have been no new entrants into electricity generation that could affect competition. Electricity prices have risen (after falling initially). Consumer switching is low.

There is a need to tackle the structural issues more forcefully, and to rethink the regulatory framework. After five years, and despite valiant efforts by the BKartA, it has not yet delivered effective and sustained competition. An opportunity is provided by the phase-out of nuclear power to promote new market entry in generation and this should be seized. Providing effective network access is perhaps the most decisive factor in stimulating competition. Here the competition law needs the assistance of pro-active economic regulation by an independent regulator.

## Policy options for consideration

The reader should note that the options below were formulated before adoption of the most recent EU directives and related changes to German law. For example Germany has now confirmed that there will be a regulator (RegTP) for the electricity and gas sectors.

## 1. STRUCTURE AND RELATED ISSUES

**1. Reinforce the legal prohibition of cross-subsidy between network and non-network activities through separation of generation, transmission, distribution and supply for electricity and transmission, distribution, storage and supply for gas, into separate companies with separate management, as well as active oversight by supervisory authorities with no ownership interests. Introduce regulatory accounting within a reasonable time period.**

Much of the difficulty of promoting competition in the electricity and gas sectors stems from its structure. The recent consolidation of the industry has not been helpful. The market is not just highly concentrated but entry is also difficult. Generation entry is hampered by the likely need to purchase gas from an integrated competitor. High network access charges are a key issue. The President of the BKartA said in August 2002 that “fees for network use... currently constitute the main obstacle to effective competition in the electricity markets”. Competition is impeded in two ways. Access fees and taxes form the main part of an electricity bill in Germany, so the scope for competition on the rest of the bill is limited. And high access fees discourage market entry by rival energy suppliers.

The basic problem is discriminatory behaviour which is facilitated by the industry’s structure. Access fees that exceed costs enable a vertically integrated utility to cross-subsidise its energy sales and charge energy prices that are lower than their costs. But even if access fees are cost-based, the utility can still favour itself by attributing common costs to the network. A rival generator’s potential cost advantage in generation may be wiped out by the higher cost of network access. Discriminatory conduct is another problem. This can be subtle, involving issues of information and timing. Preferential access can be as damaging as high access fees. Despite the Associations Agreements rules, such conduct is reported to persist.

The basic need is to promote an effective separation of activities, and especially the network from other activities. Given that ownership separation is unrealistic, it is unlikely that the incentive to discriminate can be reduced. However there is further scope to reduce the ability to discriminate. This can be done through better accounting information (on the lines of the Independent Regulators Group definition) to identify cross-subsidies, together with adequate supervisory capacity, and not least, stronger separation of the network from other activities.

**2. Continue to keep under review the lower limit on “decisive control” in the light of the strong incentives of a vertically integrated utility to influence a partly-owned municipal utility to procure power or gas from its partial parent.**

**3. If it is found that vertical integration is impeding the development of competitive markets, take steps to bring about the ownership separation of potentially competitive activities from natural monopoly activities.**

Some observers, not least the BKartA, have already noted a negative effect on competition from the widespread partial integration of local utilities with upstream utilities. The BKartA has now changed its policy with respect to decisive control. It formerly took 20% as the level below which a decisive influence is not exercisable, but it will now look at transactions below that threshold if one undertaking exercises (directly or indirectly) a competitively significant influence on the other undertaking. This is welcome in the electricity and gas context, as there are reasons to expect that incentives for anti-competitive procurement conduct, even at low levels of ownership, are strong. The absence of competition in distribution means that any

excess cost can be passed on to consumers. There are also cost incentives for the local utility to buy from its parent. Widely practiced, this reduces incentives to enter generation and supply in the electricity market, and supply in the gas market, which is negative not just in the short term but also for long term competition.

#### **4. Ensure that the prices of ancillary services reflect only the cost of efficient provision.**

As well as network access, there are a number of other natural monopolies in the electricity sector related to system operation. The Associations Agreement specifies that payments for certain ancillary services – services that are necessary to support the transmission of high-quality power from seller to purchaser such as voltage control – as well as transmission losses are to be covered by the general access fees. This may avoid complexity, but results in a certain loss of transparency. Requiring competitive tenders for balancing energy is helpful, but these must be truly competitive, with a number of participants.

## **2. REGULATORY APPROACH**

Two sets of recommendations are proposed below. The first addresses improvements to the Associations Agreements as well as changes to improve regulatory effectiveness whether or not the current regulatory approach is maintained. The Agreements contain a number of provisions that dampen competition. The second set of recommendations proposes a new regulatory approach with the establishment of an independent regulator. The German system has now been in place since 1998. Ideally it needs a more fundamental adaptation – which goes beyond changes to the Associations Agreements – so as to create an environment where competition will more readily develop. It seems that this is now being taken forward with the recent announcement that a “regulatory authority” will be established to oversee the energy sector.

### **a) Current system**

#### **5. Modify the objective of avoiding new transmission lines in the electricity Associations Agreement to limit it to instances of inefficient by-pass.**

Transmission capacity is key for competition among generators. The Agreement has an objective to avoid the construction of new transmission lines, wherever possible. This will impede competition in the long run, as competitive markets require more transmission capacity because they use the grid in a new pattern. Even an unloaded transmission line can affect competition by making the threat of competition credible. At present, supply from abroad is unlikely due to the congestion on international transmission connections. If the objective is to eliminate inefficient bypass (for example to prevent a large user from building a direct line to the higher voltage network so as to avoid paying access charges for a lower voltage network) the provision as drafted is too broad for this specific objective.

The approval process may need to be facilitated, especially as regards international connections, while protecting sensitive environmental areas.

#### **6. Ensure that flexible contracts for gas supply are feasible under the gas Associations Agreement.**

In gas, competition is impeded by the very rules of the Agreement. Potential new entrants are obliged to purchase transport in a contract for a fixed flat volume over the

year. But the difference between peak demand and the actual use is often considerable, so new entrants need access to storage or other flexibility instruments to handle this. Also, the TSOs' policy on balancing the network over shorter periods is an important part of the conditions for network access. The gas regulators' Madrid Forum guidelines for good practice require TSOs to offer "short-term on-demand" services. They also promote entry-exit rather than point-to-point tariffication so as to reduce the transactions costs of gas trading and therefore not impede gas on gas competition.

**7. Ensure that the rates of return on equity reflect the rates obtainable in financial markets, adjusted for the risk of the network business.**

The annexes to the Agreements appear to allow the co-ordination of pricing and hence high access fees. They specify pricing principles and rates of return (6.5% and 7.8% respectively). The agreed rates of return do not seem to have been justified *ex ante* by any study of the rate of return on equity in German investments, nor any study of the riskiness of the electricity and gas transmission and distribution businesses. The rates are high compared with long term returns on equity during the relevant period. They are even higher on a risk-adjusted basis, if the risk characteristics of network businesses are taken into account. Whether or not the Agreements continue, this needs review.

**8. Ensure that the consumers' organisations can participate strongly in regulatory decision-making, while safeguarding their rights to sue under the competition law.**

Facing monopolists, consumers do not have a strong bargaining position. Information, including access to independent expert advice and studies of German and foreign electricity and gas sectors, is crucial. It can provide consumers with arguments to promote more competitive and consumer friendly German markets. Consumer organisations should have the funding they need to participate in regulatory decision-making in a well-informed, timely manner. This may require a fee, acting as a tax, on small electricity and gas consumers.

**9. Ensure that the authorities responsible for the electricity and gas sectors have sufficient resources to fund empirical studies of these sectors.**

The BKartA has been commendably open minded about learning from experience. Notably it has modified its doctrines in the light of observations of how the German electricity and gas markets work in practice. It has, for example, updated its views on the competitive role of a third vertically integrated utility. From assuming that the creation of a "third force" (now Vattenfall Europe) could apply competitive pressure on RWE and E.ON, it now concludes that the latter two companies occupy a joint dominant position in the German electricity markets, because observation shows the relevant markets to be regional rather than national. So far, the BKartA has depended on the ministry for funding studies: this could reduce its independence.

**10. Increase the resources devoted to the regulation and oversight of the electricity and gas sectors.**

Though resources devoted to competition oversight and enforcement in the electricity and gas sectors have increased over recent years, they remain limited. Current resources consist of the BKartA electricity decision unit's ten staff, and the staff of the *Länder* energy supervisory authorities and competition enforcement agencies.

**11. Within the constraints of the German legal system, increase the information and the powers to gather information available to the authorities responsible for the electricity and gas sectors.**

A significant limit to the effectiveness of the BKartA in eliminating abusive pricing in network access is access to information. The BKartA may demand information by means of a formal request, but the procedure is heavy. It must have a concrete suspicion of a violation of the competition law, and provide a Statement of reasons together with advice as to the available legal remedies. In contrast, a regulatory authority may demand access to a company's regulatory accounts.

**b) New system**

**12. Establish an independent regulatory authority, at least for electricity and gas. It should reflect the good practices that have been established among regulatory authorities, including independence, adequate resources, adequate powers, clear objectives, and accountability to the legislature.**

A number of voices in Germany have called for the establishment of an independent regulatory authority for electricity and gas. The Monopoly Commission now takes the view that a multi-sector *ex ante* regulator is needed for the network based industries. It notes that providing network access is the decisive factor in creating competition in markets where monopoly conditions once prevailed, and that guaranteed network access is of little use if the prices are fixed by the network incumbents.

The BKartA has already taken on some of the characteristics of an independent regulatory authority, but with insufficient powers to fulfil that role. For example it cannot demand information other than within the course of an investigation, which means that cost information is very incomplete.

The regulator should have the power to inspect regulatory accounts upon request, not only in the context of a specific case. Given the incentives of regulated firms to exaggerate costs, and the independent regulator's incentive to operate with professionalism and political neutrality, the burden of proof on cost calculations should be reversed. The regulator should be sufficiently well-resourced to ensure adherence to the law. The regulator should be funded directly from the federal budget so as to ensure that there are no conflicts of interest between ownership and regulation.

The introduction of an independent regulator would still allow substantial input and even negotiation by the energy industry. Network regulatory agencies in other countries typically work on the basis of collecting information from interested parties before making their decisions about how regulation should be applied, for example the level of the price cap. In this context, the regulator's independence and resources are very important.

**13. Make access to the electricity and gas infrastructure, and prices of related monopolies, subject to cost-based price cap regulation by an independent regulatory authority.**

In many countries, where a monopoly is expected to persist, economic regulation is imposed to reduce prices below the monopoly level. A price cap approach to network access fees should be implemented in Germany.

### 3. OTHER ENERGY POLICY GOALS

#### **14. Review whether alternative arrangements would achieve greater use of renewables generation at lower cost.**

As matters stand in Germany, any general electricity supply company must purchase renewables-generated power at specified prices. This provides an incentive for each firm to minimise its costs in supplying renewables power. But an even greater incentive to general efficiency could be achieved through the use of auctions or a market in “green” energy. Such a market would work on the basis that a specified quantity of “green” electricity is generated and consumed, and the tradable feature means that the most efficient “green” generation is used. Further, some consumers may be willing to pay extra in order to increase the quantity of “green” electricity generated: they too (not just the supply companies) could be purchasers of green certificates. Several other European countries have implemented green certificates trading, and could be a source of information about how to reduce the cost of green generation.

#### **15. Apply Regulatory Impact Analysis, or other structured benefit-cost analysis, to programmes aimed at meeting other energy policy goals. Aim through this to identify less costly means of achieving these goals.**

Regulatory Impact Analysis (RIA) is a structured means of evaluating the economic impact of policy decisions (Chapter 2 gives more details). It can help identify the most cost-effective means of achieving policy goals. It could usefully be applied to three specific energy policies. The first is the subsidisation of domestic hard coal. Subsidies are applied to further energy security as well as social, regional and employment objectives. The energy security argument deserves review, given that cheaper coal can be obtained from an international market that is well established, reliable and geographically diverse. The second is the special provision for lignite mining to ensure demand for lignite in electricity generation (in 2001 the Swedish power company Vattenfall agreed with the Federal government to generate 50TWh/year from lignite until 2011). The third is phase-out of nuclear generation. This was the outcome of a consensus between the government and the nuclear utilities. To the extent that the phase-out causes nuclear plants to be retired before the end of their economic life, there is a cost of premature retirement.

## B. PHARMACIES

### Background and context

#### **Community pharmacies are an integral part of the German health care system; they are also businesses**

This chapter reviews community pharmacies in Germany. These pharmacies provide a wide variety of services as an integral part of the German health care system (Box 5.11). They support the government’s health objectives which include ensuring the orderly supply of medicines to the whole population (supply at any time, at all places, with all necessary medicines); ensuring drug safety and information to the patient; and reducing health care costs.

#### **Important reforms have recently been made to the German pharmacy sector**

The Act on the Modernisation of the Statutory Health Insurance, which is part of agenda 2010, came into force on 1 January 2004 and addresses several issues raised in this report (see Box 5.12).

### Box 5.11. **The health system, community pharmacies, and the pharmaceutical market in Germany**

Among OECD countries, Germany has relatively high health spending. About 90% of the population are members of one of the statutory health insurance schemes (SHIs). The other 10% are covered by private health insurance. The SHIs compete for customers on the basis of contribution rates (not coverage). Contributions are paid by the insured, their employers and for the unemployed, by the State. An equalisation system transfers funds between SHIs. SHIs pay pharmacies for prescribed pharmaceuticals. SHIs do not operate as undertakings within the meaning of private law, so competition law does not apply to them.

Community pharmacies provide a wide range of professional services in the context of the German health care system. Community pharmacists typically have more frequent contact with patients than doctors, so can assist in determining medication effectiveness, patient tolerance to medications, and other related factors that can affect the success of a patient treatment programme. The pharmacist performs an important safety check: for each prescription, he/she must check to see that the information provided by the prescriber is complete, that the medication will not interact with other medications, that the medication and dosage are appropriate for the patient's health condition, and that the patient has information about the medication (including possible side-effects, what food, drink or activities to avoid, storage, and dosage).

A community pharmacy sells three types of medicine: prescription-only; pharmacy-only; and free trade over the counter (which may be sold by certain other retailers). Prices of the first two are heavily regulated. Prices are low compared with other European countries. The price received by drug manufacturers is on average 55% of the retail price (lower than the UK and France, which are the highest in Europe). The German distribution margin is quite high by European standards.

In 2001, there were 21 569 community pharmacies each serving, on average, 3 810 people. There were 45 869 pharmacists in these pharmacies.

A pharmacy is also a commercial business. Pharmacies have a wide range of turnover. About 5% of those in west Germany have an annual turnover under EUR 250 000 (excluding VAT), and some 2% have turnovers between EUR 2 million and EUR 2.25 million. Turnover is nearly all drugs (93.5%) and especially prescription-only drugs (69.5%). In 2000, about 40% of community pharmacies in west Germany reported operating losses (part of the reason for this high figure may be new entry). Generic pharmaceuticals (those that are not longer protected by patents) made up 21% of pharmaceutical sales in 1999 (the highest share in Europe).

Over half the expenditure on drugs is for pensioners. Demand for pharmaceuticals and the number of prescriptions continues to grow.

### **As in other OECD countries, the sector is heavily regulated, but market entry is reasonably open**

As in other OECD countries, pharmacies are heavily regulated (regulation goes back 750 years in Germany). Regulation covers a wide range of issues including those set out on Box 5.13.

However market entry is relatively unrestricted compared with many other OECD countries. New pharmacies may locate anywhere including near incumbents. Incumbents cannot prevent market entry, and there is no constraint on the number of new pharmacists. Table 5.3 contrasts regulation in Germany with some other OECD countries.

The following sections review the main elements of regulation.



Table 5.3. **Regulation of pharmacies in selected countries**

	United Kingdom	France	Germany	Netherlands	Norway	United States	Canada
Licence or contract required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Location of new pharmacies restricted?	Yes	Yes	No	No	Yes	No	No
Ownership structure restricted?	No	Yes	Yes	No	No	No	No
Number of stores per owner restricted?	No	Yes	Yes	No	Yes	No	No
Freedom to reduce prescribed drug prices?	No	Yes	No	Yes	Yes	No	Yes

Source: Reproduced from Table 3.1, in Office of Fair Trading (United Kingdom) (2003), "The Control of Entry Regulations and Retail Pharmacy Services in the UK", January, citing Mossialos and Mrazek (Annexe C), Mossialos, E. and M. Mrazek, 2002. "Entrepreneurial Behavior in Pharmaceutical Markets and the Effects of Regulation". In R.B. Saltman, R. Busse, and E. Mossialos, *Regulating Entrepreneurial Behavior in European Health Care Systems*, Open University Press, Buckingham, UK and Philadelphia, pp. 146-162.

### Box 5.12. **Germany: The 2003 health reform**

- Mail order trade of pharmacy-only drugs in Germany and with the EEA is allowed for registered pharmacies. Pharmacies have to comply with all standards of traditional pharmacies and several additional quality and safety standards (advertising, Web site layout, technical equipment, dispatch matters, delivery, patient information and consultation) to be accredited. The objective was to offer a safe and reliable opportunity to patients who would like to use mail order of medicines.
- Ownership restrictions for pharmacies have been loosened. Pharmacists may now own up to four pharmacies, which have to be located in the same or neighbouring district, though. This is regarded as a first step towards a more liberal system. The ban on multiple ownership has not been lifted completely in order to gain experiences with new basic conditions that will not influence consumer protection or drug safety (which were given top priority) in a negative way.
- Restrictions on products that may be carried in pharmacies have been loosened. Pharmacies may now offer medical devices and products that generally support health care.
- Pricing requirements for non-prescription medicines have generally been removed and thus price competition between pharmacies has been initiated. The SHI's will now only reimburse for non-prescription medicines when taken as a medication for special severe illnesses; in this case, medicines are still subjected to state-controlled retail margins.
- Retail margins have been abolished for prescription-only drugs. SHI's will reimburse pharmacists with a fixed consultation fee of EUR 8.10 and an additional 3% on the wholesale price (per package) to cover interest; pharmacists have to return a rebate of EUR 2 per package to the SHI's.
- Reference prices will be applied to drugs still under patent as well.
- Co-Payments on drugs reimbursed by the SHIs will be raised from EUR 4-5 (depending on the size of the package) to 10% per package (depending on the price of the drug), with a minimum of EUR 5 and a maximum of EUR 10.

**Box 5.13. Regulation of German pharmacies**

- Professional training requirements.
- Restriction of authorisation to be a pharmacist to EU citizens or Stateless foreigners.
- Premises and opening hour requirements.
- Restriction of the form of the business to a sole proprietorship or partnership or an open commercial company, where all owners or partners are authorised pharmacists.
- Restriction that each pharmacist may own at most one pharmacy in Germany.
- Restrictions on which products must be carried and which products must not be carried.
- Pricing requirements.
- Requirements that at least a certain fraction of prescriptions be filled by parallel imports.
- Restriction of prescription drugs import to authorised persons and prohibition of mail-order prescription drugs.
- Requirements to substitute low-priced drugs having the same active ingredients, effectiveness and pack size, and a comparable form, if the prescriber has not actively ruled out such substitution.
- Prohibition of consumer advertising of prescription drugs and of comparative advertising.

***Pharmacists' training and certification: some restrictions on foreigners***

A Qualification Code for Pharmacists regulates training. Training lasts five years. Pharmacists must have certification in order to practice. This is granted if training has been successfully completed (in line with German and EU law – the EU has mutual recognition of diplomas); and if the applicant is German or an EEA citizen (the EEA covers the EU plus Norway, Iceland and Liechtenstein) or a Stateless foreigner under German law. Other foreigners cannot practice, and those that can may only run a pharmacy that has been established for at least three years.

***Entry of new pharmacies: relatively open***

A pharmacy requires authorisation from the *Land* where it will operate. This depends on the person's qualifications, the existence of premises and their conformity with the Pharmacies Operations Regulations. No geographical or numerical restrictions exist.

***Advertising: strictly regulated***

This is strictly regulated, and much of it is prohibited. Professional law prohibits excessive or misleading promotion. Prescription drugs cannot be advertised outside the pharmaceutical circuit.

***Restrictions concerning the business structure***

The "Law on Pharmacies" is based on the idea of the self-employed pharmacist running a single pharmacy. The aim is to uphold professional standards in the provision of pharmacy services; enhance capacity to enforce professional standards; and promote universal access to pharmacy services. The ban on multiple ownership was modified in 1994

to accommodate EU law: pharmacists who can practice under German law may run more than one pharmacy elsewhere in the EEA (but pharmacists running several pharmacies elsewhere in the EU can still only run one pharmacy in Germany).

These provisions may significantly and unnecessarily restrict the development of more efficient structures for the delivery of pharmacy services. Economies of scale cannot be exploited. Also, the asymmetric treatment of non-German pharmacies seems difficult to justify. The question is whether the cost of the restrictions is proportionate to the additional benefits which may accrue to the consumer. There are good arguments for questioning whether professional behaviour of pharmacists needs the support of the restrictions, which are based on a dubious distinction between owners and non-owners. First, success for a pharmacy depends on providing a quality as well as a cost-effective service, and the former depends on the professional skills of the pharmacist regardless of whether he/she is a salaried employee or the owner. Second, it is unclear that commercial pressures on the behaviour of owner-pharmacists would be larger than those on employee-pharmacists. Third, it is in the interests neither of owners or non-owners to expose themselves to the risks of loss of income or even litigation if the pharmacy is unsafe. Fourth, as regards the possibility of serious harm to consumers from professional misconduct, the deterrent of professional discipline or litigation would seem equally valid for both types of pharmacist. Fifth, good pharmacists are not necessarily good at business or management, and the sector may need the input of such people to improve innovation, efficiency, etc.

One valid concern is the possibility that drug wholesalers might enter the market and form an oligopoly. This could be countered by maximising the scope for competition wherever possible in the supply chain (for example by ensuring market transparency and low switching costs for buyers). The range of potential suppliers could also be expanded by broadening the freedom to sell at least some drugs (as some other OECD countries have done). Consumer education would have to be enhanced if this were done. More generally, current controls over pricing, opening hours etc. would have to be relaxed for consumers to benefit fully from a development towards large chains. In short, changes affecting business structure would need to be carried out as part of a broader reform.

### **Cross border/mail order trade: the current ban is, helpfully, to be lifted**

Currently mail order trade (including e-commerce) in medicines is prohibited in Germany for pharmacy-only medicines. However, the ban is circumvented by health insurers and consumers. The EU's European Court of Justice is about to rule on whether the ban is compatible with the free circulation of goods in the EU. The preliminary view is that less severe measures could be used to meet health and safety objectives. The government is, however, planning to permit regulated and monitored mail-order trade in Germany and with the EEA. Regulation will cover pharmacy premises, Web site layout, dispatch matters, delivery, patient information and consultation. Some other OECD countries (such as the Netherlands and US) already permit regulated mail-order trade (Box 5.14). Debate and review in Germany has been prompted by the activities of a Netherlands-based mail order pharmacy, DocMorris.

German opinion is divided. Health insurers, politicians, consumers' organisations and a small number of pharmacists are in favour of mail order. The pro-pharmacists have developed a security standard with *Deutsche Post*, would offer counselling via a call centre, and patients' historical medical records would be maintained. But most pharmacists are against change, arguing that it could risk patients' health (because of counterfeit drugs and inadequate consumer counselling) and threaten the livelihoods of bricks and mortar pharmacies. A study

by the Bavarian government shows that a 5% market share gain by mail order pharmacies would result in the closure due to loss of sales of 20-30% of traditional pharmacies. The main German pharmacists' association has tried to block mail order development.

Consumers, however, are likely to benefit from mail order pharmacies in a number of ways. Access to drugs is facilitated for working people and the homebound. Mail order offers privacy for those who wish it. Internet search programmes offer access to a wide range of information, more easily than in the traditional store. Computer technology to transmit prescriptions from doctors to pharmacies is likely to reduce prescription errors. That said, traditional pharmacies offer benefits and services such as immediate access to prescription drugs. Where mail order has been permitted in the OECD, careful regulation is in place. In New Zealand for example, Internet pharmacies must be accredited. They must comply with all the standards of a traditional pharmacy, and meet other requirements related to patient consultation, privacy and advertising.

#### Box 5.14. Netherlands pharmacy mail order/Internet developments

The particular Internet/mail-order pharmacy that has shaken up German pharmacists is 0800 DocMorris. DocMorris is located just over the border in the Netherlands, within reach of German courier services who can pick up parcels and deliver them cheaply in Germany. Opened in June 2000, in 2001 DocMorris had a turnover of EUR 5 million and in 2002 a turnover of EUR 25 million. Three-quarters of the company's customers are from Germany. DocMorris is attractive to German consumers and health insurance funds because prices are considerably lower than those charged by German pharmacists and DocMorris is not limited by opening hours, medicines are delivered to the patient's door, and there is no risk of meeting the neighbours in the pharmacy. The success of DocMorris has encouraged imitation: a second Dutch mail-order/Internet pharmacy is getting started and the German Association of Pharmacists has launched its own Web site, [aponet.de](http://aponet.de), which allows customers to pre-order a prescription, but not to have it filled and mailed.

DocMorris, as a pharmacy operating in the Netherlands, is subject to Dutch law and regulation of pharmacies. The Dutch Ministry of Health has a specialised section to oversee pharmacies using mail-order. In addition, DocMorris received an ISO certification after a check of its internal processes. DocMorris has controls to address safety concerns. DocMorris requires an original prescription for medications requiring a prescription, and accepts an order only after the prescription is verified. Narcotics cannot be ordered. DocMorris will directly bill statutory health insurance schemes,\* if a panel doctor's prescription is presented, and does not require any co-payment from the patient although a co-payment for members of the German statutory health insurance is provided by the social code book 5. The medicines are delivered by a delivery service and acknowledged by signature, and normally only within the European Union. DocMorris screens medicines to identify whether a patient should not take the medicine in a second prescription together with that in a previously filled prescription.

\* In the EU, about 65% of the pharmaceutical market (by value) is accounted for by products that are reimbursed. Thus, the ability of patients to be reimbursed if they buy from an Internet pharmacy is important to its gaining scale. However, two decisions in the European Court of Justice (Nicolas Decker v. Caisse de Maladie des Employés Privés (28 April 1998, Case C-120/95) and Raymond Kohll v. Union des Caisses de Maladie (28 April 1998, Case C-158/96)) upheld the right of every citizen to obtain goods and services related to medical care and treatment from whichever member State they chose. Ashurst *et al.*, pp. 36, 37.

Source: <http://0800docmorris.com>.

One issue of concern is a patient's medication record, given that the latter are encouraged to use the same pharmacy and may end up using several if mail order became available. Advances in computer technology mean however, that patient records could be securely accessed from a number of pharmacies.

**Pharmaceutical pricing: this needs reform in the context of wider health care reforms**

The pricing of drugs is complex, for a number of reasons reflecting difficult social, political and economic trade-offs which are not distinctive to Germany (Box 5.15).

**Box 5.15. The general factors affecting the price of pharmaceuticals**

1. *Payers and beneficiaries.* The revenues to pay for medicines come from insurance funds (paid by employers and employees) or from the State (taxpayers). This raises the problem of “moral hazard” which affects insurance markets. Consumers use more drugs than is economically efficient because they do not have to pay the cost directly. The typical government response is to set up policies aimed at restricting the quantity and quality of medicine consumption. These include “formularies” (lists of reimbursable drugs); reimbursement policies (e.g., the extent of reimbursement); controls on prescribing doctors and pharmacists; controls on pharmacists’ margins; and controls on drug prices.
2. *Free movement of medicines.* Drugs are both compact and valuable, thus very tradable. At the same time countries apply different pricing policies (for example different levels of reimbursement) and related regulation, though the EU is seeking to reduce the differences. So prices differ widely across countries. This has given rise to a substantial and growing parallel trade of drugs in the EU (which transfers profits from the manufacturers to the traders).
3. *R&D.* Pharmaceutical R&D is costly and time-consuming, typically taking more than a decade. This R&D must be compensated.

Pharmaceutical pricing in Germany is covered by a wide range of restrictions aimed at curbing overall spending (Box 5.16 and Figure 5.5). Broadly, the components of a retail pharmacy price are: manufacturer 55%, pharmacies 27%, VAT 14%, wholesalers 4%.

Pricing reform will necessarily need to be part of a more comprehensive health sector reform, and has an important contribution to make to a more efficient health sector. Reform needs to give consumers incentives to choose cheaper options, so as to encourage more efficient pharmacies and manufacturers. Reform of the fixed margin system is supported by the SHIs, in order to reduce costs, but the pharmacies’ and wholesalers’ associations reject this, fearing an increase in drug consumption and supply difficulties. A 2002 round table on the health system suggested that price competition should be initiated where possible. The next few paragraphs review the scope for reform of specific aspects of current pricing regulation.

*Uniform retail prices.* These are one reason why there is no competition among pharmacies. The justification for uniform retail prices is to ensure that the safety of medicines is not endangered by price competition, that patients do not have to compare prices, and that medicines should be available promptly throughout the country. A council of experts called for lifting the restrictions in 1995, at least for non-prescription medicines.

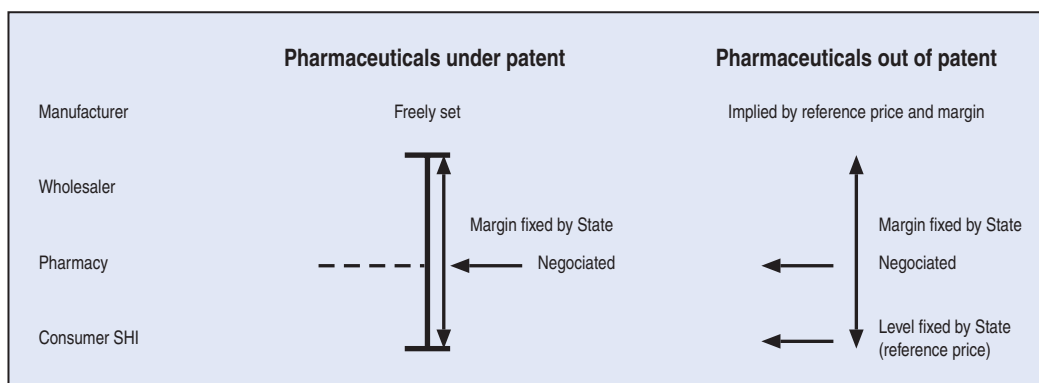
A 15% fall in prices might be expected, helpful both to the insurance companies and to consumers. The council also suggested a possible broadening the list of non-prescription drugs, given that consumers were increasingly well informed. These are good arguments. There is an argument, too, for reviewing the case for uniform pricing of prescription drugs for the chronically ill, who are buying drugs regularly and have an opportunity to shop around (or can get a family member to do so). If pharmacies can start to differentiate their pricing, this may help higher profits (*e.g.*, for infrequently demanded products) as well as a better deal for consumers (*e.g.*, advantageous pricing of baby care products in areas with many families).

*Reference prices.* They cover around two-thirds of prescribed pharmaceuticals, but only one third of SHI drug expenditure. If the retail price is above the reference price, the patient must pay the difference, and as consumer resistance to this is high, the manufacturer usually adjust prices to equal the reference price. The system may maintain higher prices than would be the outcome of free price competition.

#### Box 5.16. Pharmaceuticals regulation of pricing in Germany

Prices for prescription-only or pharmacy-only pharmaceuticals are heavily regulated. The retail price for prescription drugs must be uniform throughout Germany. Retail margins are fixed by the State. For patented drugs the retail price is determined by the manufacturer. For drugs no longer under patent, the State fixes a reference price. Pharmacies pay drug wholesalers, which is concentrated in Germany with the five main wholesalers accounting for some 90% of the market. The maximum margin for wholesalers is fixed by the State. The system leaves a small margin of negotiation on the wholesale price, which only affects the distribution of rents in the supply chain between the final consumer and the manufacturer, as it cannot change the (fixed) retail price and reimbursement rate, or the manufacturer's price. An important complication is that the SHIs receive a rebate of 6% of the retail price for drugs not covered by the reference price. Finally, pharmacists must sell cheaper imported medicines under an import quota (7% of turnover), and must substitute cheaper but similar drugs to those prescribed unless this is ruled out by the prescriber.

Figure 5.5. Pharmaceuticals under patent



Source: OECD.

*Distribution margins.* These may also have negative effects. Given that the cost of efficiently providing pharmacy services varies from location to location, a fixed nationwide margin means that low cost pharmacies receive high profits at the expense of SHI contributors, and attract entry which could be excessive.

The effect of the *import quota* is to transfer some profits to authorised parallel importers from drug manufacturers and wholesalers. There is no incentive for the pharmacist to choose the most cost-saving substitutes so the rule only has a marginal effect on manufacturers' prices.

The requirement for *generic substitution* has not had such a large effect on prices as had been expected, because generics had already largely displaced branded drugs where they could.

## Conclusion

There is scope in Germany to improve the efficiency of community pharmacies without damaging consumer health and safety. The sector has several positive features already – relatively open entry, and relatively low prices – but further improvements are possible. Business structure restrictions could be loosened, enabling economies of scale to be exploited for the benefit of consumers. Professionalism has not suffered in those countries where non-pharmacists may own pharmacies. Mail order trade may also be safely opened up provided necessary regulation is in place. Other countries have adapted their regulatory systems to maintain safe delivery of medicines by this route. Further reforms to pricing seems to be called for, but must be integrated into a more comprehensive reform of the health sector.

## Policy options for consideration

The reader should know that many issues have now been addressed by Germany in recent legislation. For example ownership restrictions have been partially lifted (pharmacists will be able to own up to 4 pharmacies, on a regionally restricted basis) and mail order and Internet pharmacies are permitted under certain conditions.

### **1. Eliminate the citizenship requirement for certification to practice pharmacy.**

There does not seem to be any justification to exclude automatically from the practice of pharmacy all persons who are trained and certified as pharmacists, perhaps even in a German university and pharmacy, but who are not EEA citizens. Any exclusion should be confined to persons trained in a third country where the quality of the training cannot be checked either by Germany or the EU, and where exclusion may be justified for health and safety reasons.

### **2. Remove pharmacy ownership restrictions and at the same time, prohibit inappropriate or improper interference with a pharmacist's professional conduct.**

The ban on multiple ownership of pharmacies should be lifted, and non-pharmacists should be allowed to own a pharmacy. The arguments for maintaining current restrictions seem weak. Owner and non-owner pharmacists are likely to behave according to the same professional standards, and the entry of non-pharmacists into the sector would inject fresh business ideas. A prohibition aimed at reinforcing professional behaviour would provide reassurance on the maintenance of professional standards.

**3. Remove the prohibition on advertising pharmacy-only medicines by pharmacies, while ensuring that the advertising remains accurate, is not misleading, and does not tend to bring the profession into disrepute.**

Accurate advertising of pharmacies which does not diminish the professional standing of pharmacists, and targets those areas where pharmacies have commercial freedom, would enable pharmacies to attract customers and better satisfy their needs. For example being able to advertise lower prices would help pharmacies to offer these prices in the first place. The advent of mail order/Internet pharmacies which can advertise on the Internet also means the need to establish a level playing field for competition between virtual and traditional pharmacies.

**4. Bring authorised EEA mail order/Internet pharmacies into the German pharmacy regulatory framework. Ensure appropriate regulation, oversight and education.**

Germany should go ahead with its plans to permit mail order/Internet pharmacies, but at the same time it should ensure that effective and comprehensive regulation is in place to protect the health and safety of consumers. This should include:

- A certification and control process to ensure that standards of pharmacy professional services are maintained, especially as regards authentication of prescriptions and consultation with patients; that delivery is safe and reliable, consumer privacy is protected; and that consumers can identify “safe” pharmacies.
- Specifying the requirements of electronic trading and mail order, and the corresponding quality assurance systems in drugs, pharmacy and advertising legislation, and ensuring appropriate monitoring at national and European level.
- Consumer education to recognise a certified mail order/Internet pharmacy and to understand the safety benefits of choosing to buy only from certified pharmacies, whether traditional or Internet.
- Sharing information and co-operative enforcement of laws and regulations with corresponding regulators in other EEA States and with third countries.

Germany should go ahead with its plans to permit mail order/Internet pharmacies, but at the same time it should ensure that effective and comprehensive regulation is in place to protect the health and safety of consumers. This should include:

**5. Eliminate State control of non-prescription medicine prices and permit comparative advertising of non-prescription medicines.**

Price competition should trigger price reductions which would benefit both health insurance funds and consumers. Companies that offer lower prices will expand sales at the expense of others, encouraging firms upstream in the supply chain to compete and become more efficient.



## 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
<b>Telecommunications</b>	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.
<b>Electric power</b>	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.
<b>Natural gas</b>	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.
<b>Insurance and banking</b>	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
<b>Railways</b>	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.			
<b>Air transport</b>	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.		
<b>Road transport</b>	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.			
<b>Postal services</b>	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
<b>Pharmacy</b>	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.		
<b>Retail sector</b>	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
<b>Telecommunications</b>	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.
<b>Electric power</b>	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.
<b>Natural gas</b>	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.
<b>Insurance and banking</b>	Competitive market, with trend towards consolidation and mergers.		Improvement of service level due to ICT applications.	Negative employment effects.	Increase in productivity.
<b>Railways</b>	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.
<b>Air transport</b>	Competitive market.	Decreasing prices and new entry of several carriers.	Service level is good, as well as reliability.		
<b>Road transport</b>	Many small suppliers. Competitive market for road haulage.	Decreasing prices.			
<b>Postal services</b>	Partial monopoly.	Prices slightly falling in real terms.	Limited choice for customer, apart from courier services.	Decreasing employment.	Productivity increase.
<b>Pharmacy</b>	Potentially competitive.				
<b>Retail sector</b>	Competitive market.		Increased service level due to liberalised opening hours.		

Source: OECD.

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