



Regulation in Germany in the European Context: Kick-Starting Efficient Infrastructure Provision?

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BNetzA

institutional aspects

- Official name of my authority: Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway (for short: Federal Network Agency)
- Independent higher federal authority in the portfolio of the **Ministry of Economics and Technology** with the headquarter in Bonn
- The Agency was set up under the title Regulatory Authority for Telecommunications and Post by Telecommunications Act of 1996
- Since mid 2005 we are the German Regulatory Authority for Electricity and Gas as well



BNetzA

institutional aspects

- Legal Basis is the new Energy Industry Act which transforms the new EU-Directives in this sector into German law
- This new law follows to a great extent the example of the telecommunications Act , for instance
 - Decisions are normally taken by ruling chambers
 - Directives by the Ministry have to be published in the Federal Gazette
- Since the beginning of this year we are also responsible for railways under the supervision of the Ministry of Transport, Building and City Planning



Similarities of the sectors regulated by us

- Network-based industries are an important part of the infrastructure
- Duplication of networks is in most cases economically not viable
- Some years ago all sectors were dominated by national/communal monopolies
- Significant importance for the overall economy (annual turnover in excess of 250 billion €)
- Significant financial burden for each private household as well as the economy
- Liberalization of networks initiated and promoted by EU

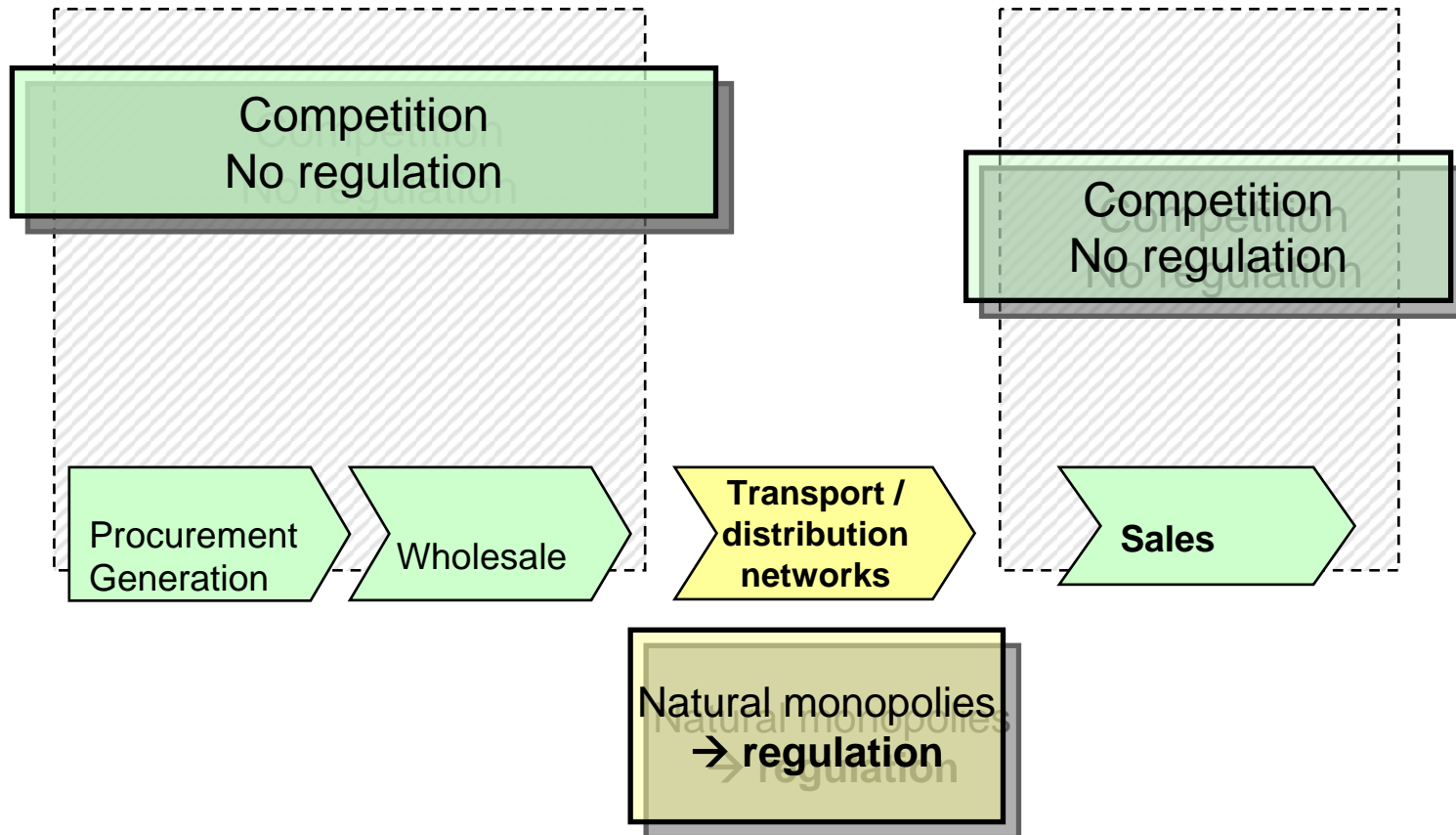


Scope of regulation

- Regulation does not apply to the entire sector but only the monopoly area
 - i.e. for the railway just the network, not the traffic service using the network
 - for electricity and gas it is also just the network, not generation and procurement or wholesale and distribution
 - for telecommunications especially those parts of the network that cannot or cannot yet be duplicated (such as the "last mile")



Delimitation of regulation vs. cartel law in the sector energy



It is the networks that are regulated
Objective: effective competition on the product markets



Energy Industry Act:

The legislation purpose is the most secure, low priced, consumer friendly, efficient, and environmentally compatible supply of electricity and gas for the society as a whole.

The regulation serves the goals of ensuring effective and genuine competition in the supply and ensuring efficient and reliable operation of energy supply systems for the long term.

Similar general provision in the Acts on Telecommunications and on Railways.



Energy (electricity/gas)

Regulatory Measures to allow and improve competition in the transmission and distribution systems:

- Fast and non-discriminatory connection of new power stations
- Fast connection of gas-fired power stations to the gas system
- Better utilization of the border interconnectors
- Non-discriminatory system access for traders and new suppliers of electricity and gas
- Drastically simplified switch-over possibilities also for household customers
- Effective unbundling, no cross-subsidies



"regulated" factors affecting investments

Regulatory framework

Legal obligations of system operators

- Supply quality (safety, reliability, product and service quality)
- Network expansion to allow the feeding in of more electricity from renewables and from new power stations
- Expansion of capacity at cross-border coupling points due to increasing international energy trade

Investments in energy supply networks

- **Expansion investments**
- **Restructuring investments**
- **Replacement of capital assets**
- **Maintenance**



Instruments to secure efficient investment (1)

- monitoring of the system operators by Regulatory Authorities
 - Regular reports on the system status and on the development planning
 - Immediate information of the Regulatory Authority of serious threats to security and reliability of supply with regard to the high voltage grid
 - Yearly reports on all even minor local break downs in supply
- Approval of System Access Fees which are high enough to finance the investment and running cost necessary for a sustainable high quality grid



Instruments to secure efficient investment (2)

- This covers a competitive return on capital employed. For electricity, the pre-tax rate of interest is currently 7.91% (for older facilities 6.5%).
- The rate of interest will be set new by the Regulatory Authority as soon as incentive regulation is introduced (after profits/earnings tax)
- Increasing criticism from the network operators and their parents that the rate of interest is too low; in the group the funds went where the highest returns were
- This is not acceptable: the rate of interest must be adequate to the risk; the risk with the electricity networks, for instance, is extremely low



Incentive-based regulation

Quality regulation in the concept of incentive-based regulation

Incentive-based regulation aiming exclusively at increasing efficiency could lead to cost savings at the expense of supply quality

Supply quality is of paramount importance in the Energy Industry Act (EnWG)

Quality regulation was provided for in the Federal Network Agency's (BNetzA) concept of incentive-based regulation right **from the start**



Incentive-based regulation

Particular consideration of expansion and restructuring investments

DSO

Long-term changes caused by expansion of the supply function are taken into account by applying expansion factors when calculating the revenue cap:

- size of the area supplied/of the geographical area
- number of connecting points per network level
- load per network level

$$1 + RPI - X_{\text{gen}} - X_{\text{ind}} + \boxed{[EF]} \pm Q$$

TSO

Due to statutory requirements TSOs must take on a considerable number of additional functions (new lines or interconnectors):

Approval of investment budgets that are not subject to revenue cap regulation



Regulation and investments in demand-based network expansion – Overview -

Developments in German energy markets

- Approx. 40 power station projects for connection to the supergrid across Germany
- "Mediation request" directed at the Federal Network Agency in approx. 13 cases due to problems with connection to the supergrid
- Increasing share of wind power in the north and necessary transport to the consumer centres of the south
- Increasing international energy trade

Potential issues

- **Development of bottlenecks**
 - Congestion management?
 - Investments in network expansion?
 - Use of revenue from active congestion management for measures aimed at eliminating bottlenecks?
- **Statutory requirements of the EnWG:**
 - Obligation to expand according to needs (section 11 EnWG)
 - Obligation to satisfy demand for transmission of electricity and transport of gas



Aims of the General Railway Act (AEG)

- Ensuring safe operations
- Ensuring an attractive offer of rail transport services
- Securing effective and undistorted competition
- Implementation of Community legislation



Rail regulation functions

- Monitoring compliance with the legal provisions on access to rail infrastructure
- the Federal Network Agency is responsible for ensuring access to the rail infrastructure, notably with regard to -
 - A non-discriminatory allocation of train paths
 - access to service facilities
 - conditions of use, charging principles, amounts of charges



Tools

Ex ante examination - section 14e of the General Railway Act (AEG) - (preventive)

- example: the infrastructure operator rejects the allocation of train paths or no settlement on framework agreements can be reached

In making decisions BNetzA must adhere to tight timescales

Ex post examination - section 14e of the AEG (retroactive)

- oblige the railway infrastructure company to change the decision
- determine contractual conditions, decide on the validity of contracts and invalidate non-compliant contracts



Who is obliged to grant access?

- Symmetrical regulation:
All railway infrastructure companies are obliged to grant access to their infrastructure
 - operators of rail networks
 - operators of other rail infrastructure (for example service facilities, ports)



Prospects for rail regulation

- Network access regulation has ensured the provision of essential minimum services on non-discriminatory terms
- BNetzA thus provides a level playing field enabling companies to make investments and ensuring the necessary planning certainty
- **under our constitution Federation is responsible for infrastructure; funds are made available for new and extended rollout**



- Fundamental difference from energy and rail :
 - DTAG's competitors compete more and more using their own infrastructure, a desired development
 - There is a very rapid and innovative technical development with quite different transmission paths
 - Regulation is thus faced with quite different tasks: promoting innovation, technology neutrality, prevention of price dumping and price cost squeeze



Telecommunication

Setting efficient incentives for investment

- Rates for access services imposed under section 21 of the TKG are subject to regulation on the basis of the costs of efficient service provision (eg local loop/last mile, interconnection)
- This is done by mimicking a competitive price that will give competitors appropriate price signals for their "make-or-buy" investment decisions
- While an excessive wholesale price would lead to a partly inefficient duplication of the infrastructure, where as the effect of inadequate access rates would generally be insufficient investments by the alternative network operators



Telecommunication

Effects of using the costs of efficient service provision

- Regulation on the basis of the costs of efficient service provision
 - ensures a reasonable return on the capital employed for the dominant company;
 - contributes to achieving the economic aim of production efficiency;
 - complies with the aim of promoting telecommunications markets with sustainable competition



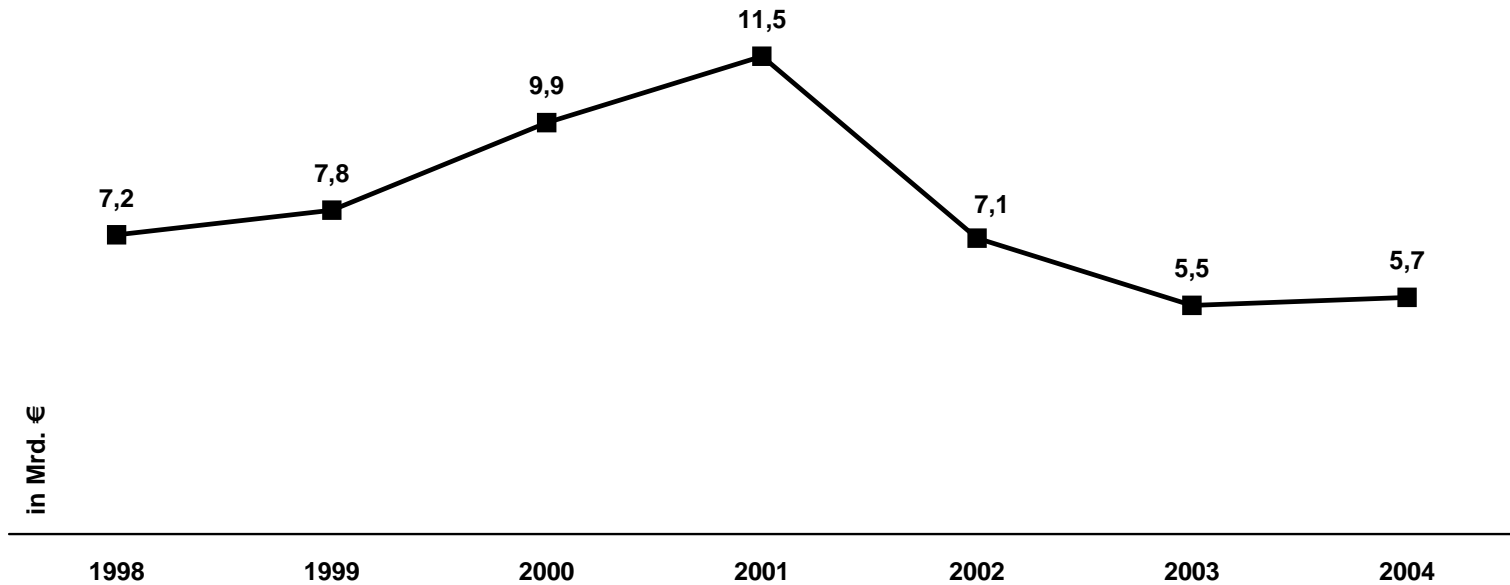
Telecommunication

Composition of the costs of efficient service provision

- The costs of efficient service provision include
 - the long-run incremental costs of efficient service provision (forward-looking costing)
 - a reasonable surcharge for non-volume-sensitive common costs, and
 - a reasonable return on the capital employed



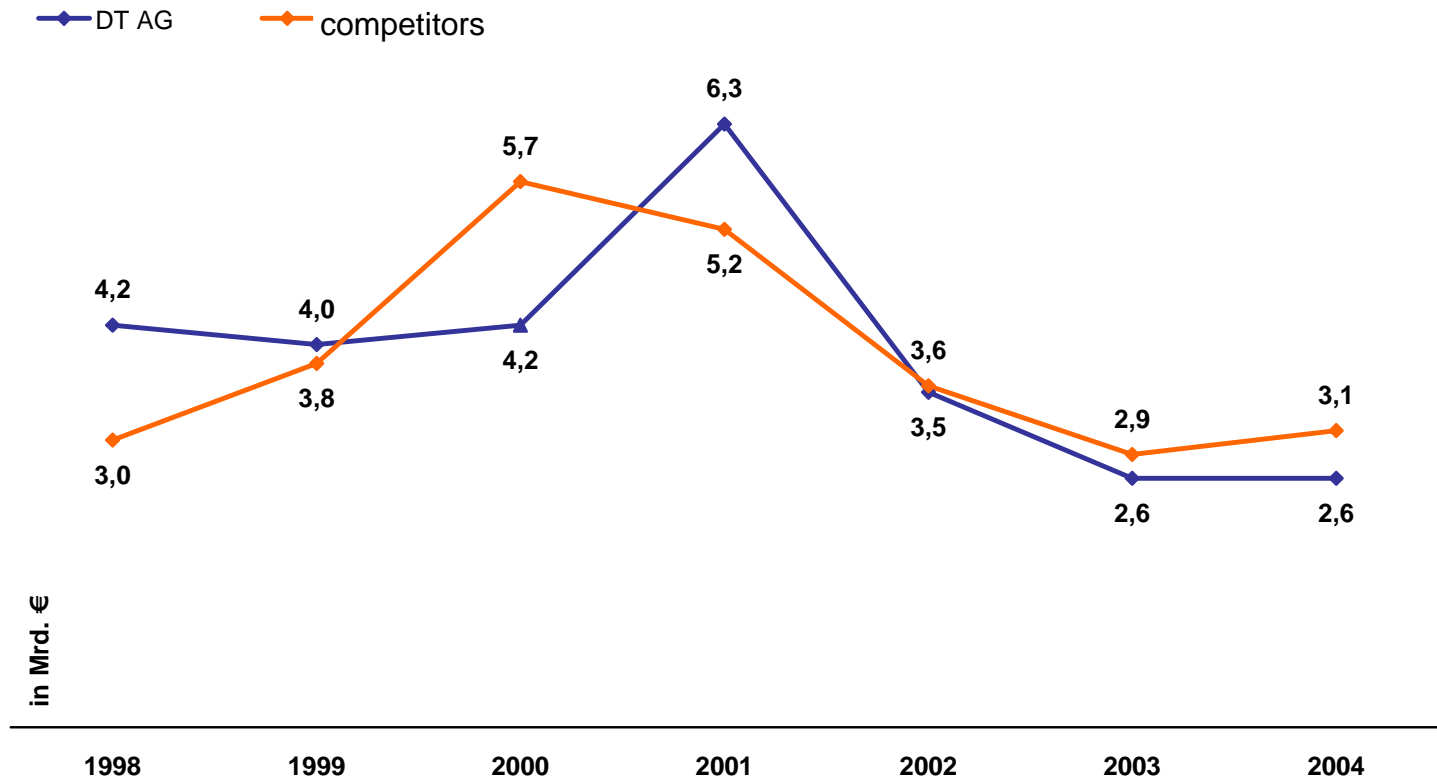
Development of expenditure on fixed assets in the German telecommunications market





Development of expenditure on fixed assets

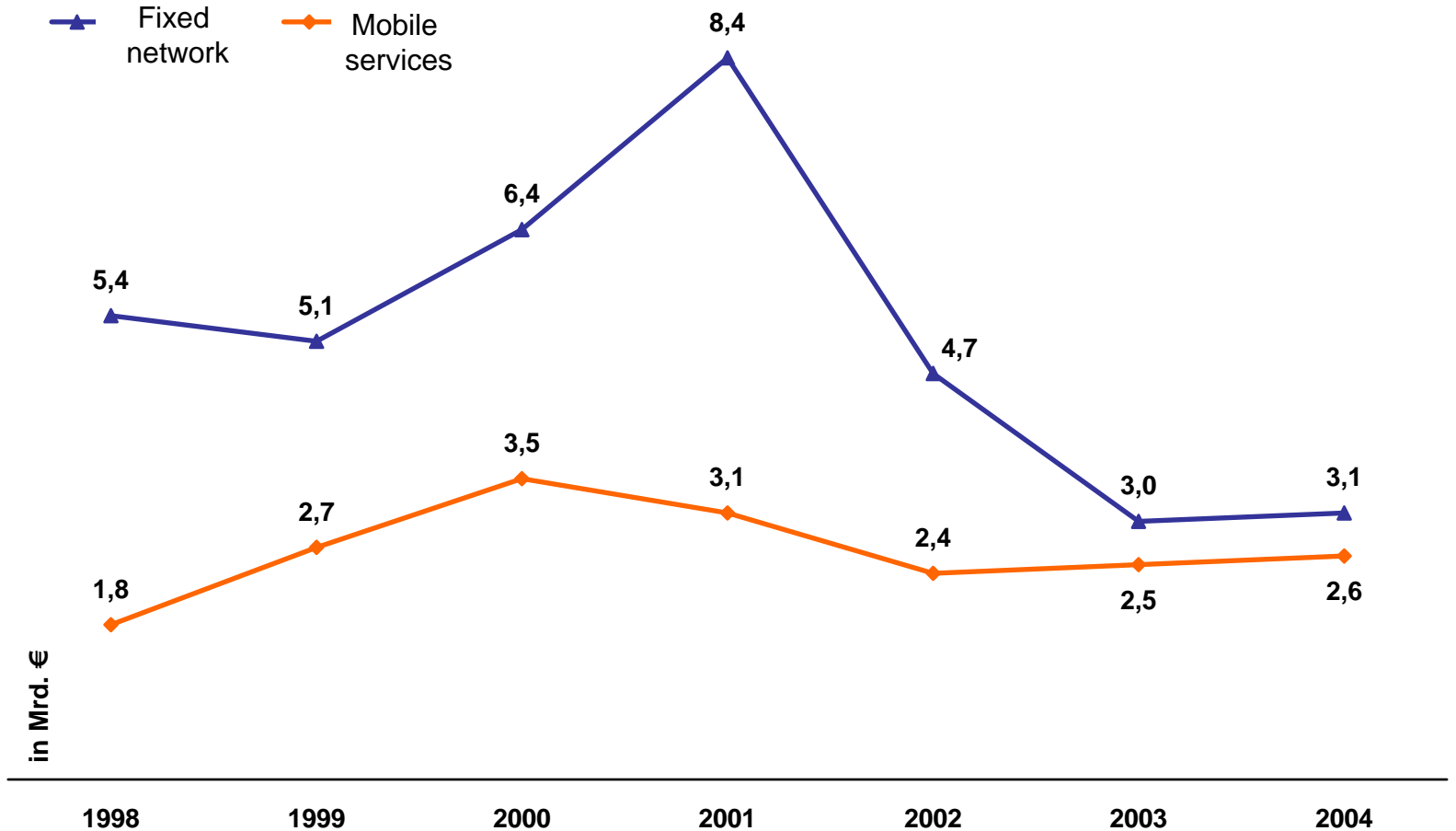
Deutsche Telekom AG and competitors





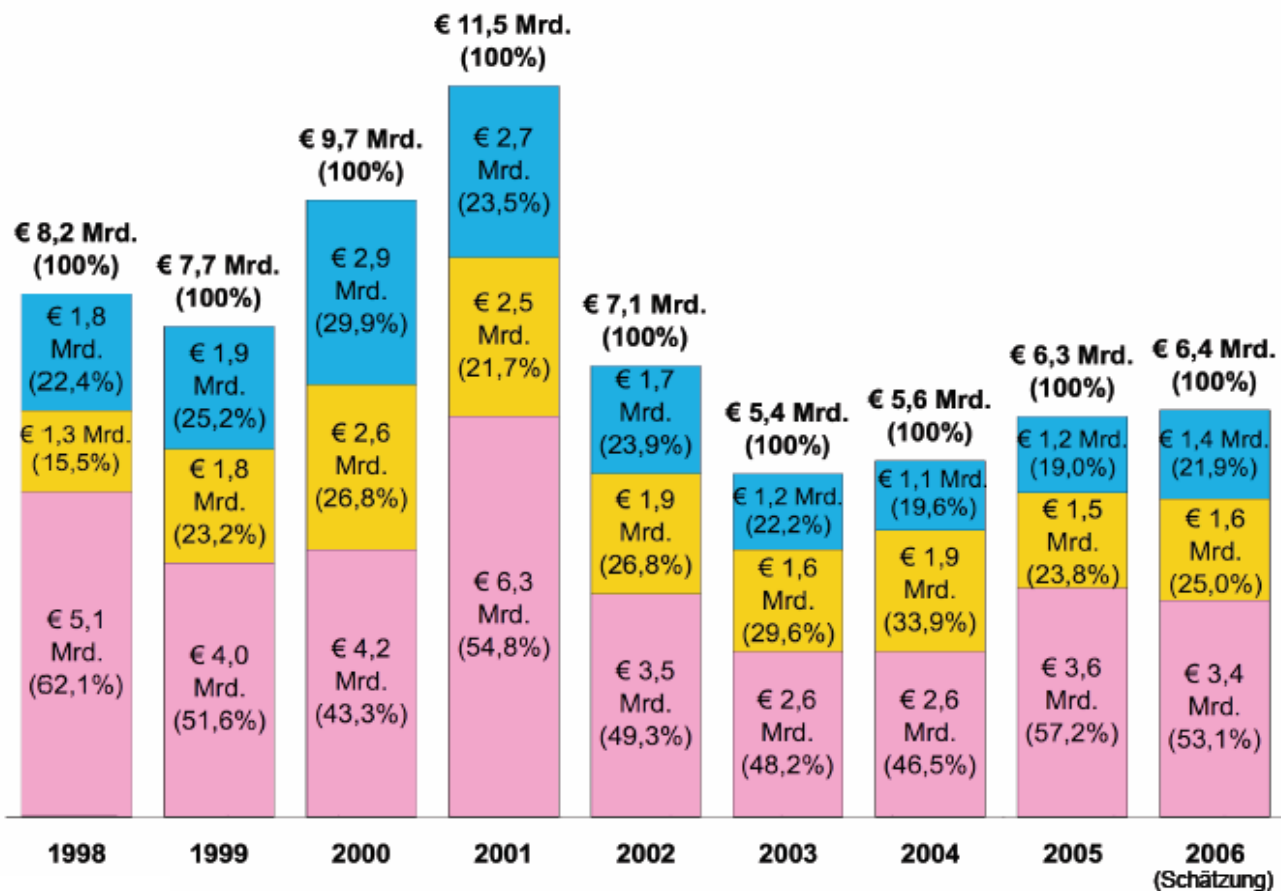
Development of expenditure on fixed assets

Fixed network and mobile services





Investments in the telecommunications sector



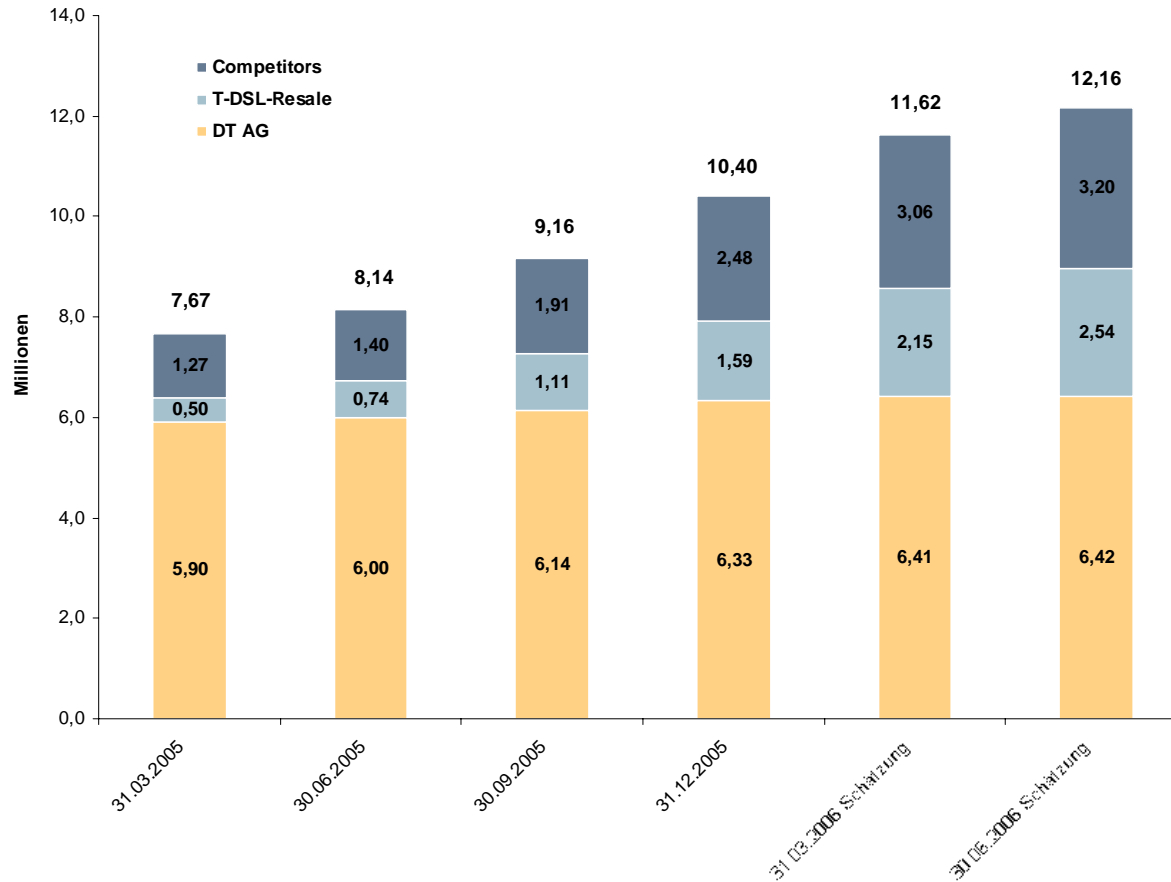
■ Wettbewerber Festnetz^a
■ Wettbewerber Mobilfunk
■ DT

a) Inkl. Investitionen in Breitband-Kabelnetze zum Angebot von TK-Diensten.

Quelle: DIALOG CONSULT-/VATM-Analysen und -Prognosen



Digital subscriber lines in operation in 2005 / 2006



Bundesnetzagentur, August 2006



Telecommunications: conclusion

Regulation is successful:

- clear price reductions
- constant employment figures
- growth, today in both broadband and mobile
- new companies
- DTAG is an international group
- innovation in technologies and services
- no universal service decision



Telecommunications: prospects

- Regulation is not an end in itself!
 - Once a sufficient level of competition has developed, the market will no longer be subject to regulation
 - e.g. in the area of international calls
- or
- regulatory measures will be reduced, e.g. regulation of the retail market only ex-post



Conclusion

- Regulation is a development across Europe and the world: decisions taken by independent expert authorities
 - Germany must exert its influence especially at EU level (risk of increasingly detailed regulations and centralisation)
 - Close cooperation with cartel authorities is indispensable but also uncomplicated
 - Assigning the regulation of 4 important sectors to BNetzA is sensible (synergy effects; often identical issues)
- ➔ Regulation that creates competition is not counterproductive to investments but actually promotes these



Thank you for your attention!

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