Risk in network industries: Regulatory practice in Germany

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Overview

- Focus on…
  - Incentives to invest efficiently
  - Telecommunications and energy

- Content
  - Regulatory framework in both sectors
  - Comparison of regulator's approach
  - Conclusions

Starting point

- Network industries characterised by market entry barriers resulting from substantial economies of scale and scope
- Creation of competitive frameworks through access and price regulation (importance of capital costs)

Economic aspects – Telecommunications

- Infrastructures present bottlenecks mainly in the access part, but are partly replicable in the core
- Large number of new entrants following the opening of the market
  - in fixed: DTAG and many competitors
  - in mobile: four network operators and service providers
- Continuous investment in infrastructure by DTAG and competitors
- Intramodal and intermodal competition (cable, mobile)

Economic aspects – Energy

- Natural monopolies of networks (no duplication possible); historical costs
- Several hundred different regional network operators
- High market concentration in upstream markets

Technical aspects – Telecommunications

- Key importance of technical progress
  - development of the Internet and IP networks
  - mobile communications
- Convergence of networks
- Trend towards one-stop-shopping for telephony, Internet and TV services

Technical aspects – Energy

- Storage limited (gas) or almost impossible (electricity)
- Huge coordination effort necessary due to number of operators

Legal aspects – Telecommunications

- Telecoms and post regulatory authority in place since 1998
- German legislation (TKG) is the transposition of European directives
- Relevant markets recommendation, market definition, market analysis, regulatory order
- Rigorous efficient operator costs approach on the wholesale level; ex post control of anti-competitive practices on the retail level

Legal aspects – Energy

- Regulator established in 2005
- Change from (efficient) cost-plus to incentive regulation due in 2009
- Highly differentiated and detailed legal framework

Incentives to invest – Telecommunications

- DTAG's position:
  - investment risk in new markets should be reduced by an exemption of new infrastructures (VDSL, FTTH etc.) from access regulation
  - Reasonable rate of return on equity (pioneer profit)
- Competitors' position:
  - unhampered access to infrastructure on fair terms and conditions (ladder of investment)
  - consistent charging (no price squeeze, no cost margin squeeze)
- Regulator's position:
  - regulation promotes competition, generating efficient investment is key
  - efficient operator's costs regulation is vital to set the right incentives to invest (importance of a reasonable rate of return)

Incentives to invest – Telecommunications

- Competitors are given right of access to dominant infrastructure
- A price that mimics competition is set for this (efficient operator's costs)
- The tariffs set are a critical parameter for investment incentives (make or buy); modern equivalent value approach is appropriate
- Local loop prices, in particular, are a key parameter in promoting both intramodal and intermodal competition

Reviewing the extent of regulation as an ongoing process

- Regulation aims to promote competition and to enable new services, new market entry and investment in network industries as a result
- In the long run, obligations have to be imposed only in markets which are more or less closed to new entrants on account of inherent economies of scale
- Markets with bottlenecks are mainly access markets; but termination markets need regulation too
- Decisions on where and how to regulate are taken in formal, transparent proceedings based on the European regulatory framework as transposed with the Telecoms Act

Efficient access regulation and its effects

- The regulation of access to infrastructure has resulted in extensive investment by competitors in substitutive + complementary markets
- Thanks to diverse access options, the past ten years have seen lively investment by new entrants and DTAG

- Examples
  - a number of long distance network operators have gradually built up nationwide core networks
  - local loop regulation has meant that competitors are now collocated at around 3,500 (~ 44%) main distribution frame sites and have invested in their own core and concentrator networks
  - overall there is less telecoms infrastructure with a bottleneck character, but …

Telecoms infrastructure will remain an attractive proposition for investors

- The telecoms sector will likely see a new structure with the introduction of NGNs and the convergence of the networks
  - It is likely that investment in future access networks (NGA) will increase the importance of economies of scale and scope in this part further

- Where bottleneck infrastructures exist with the accompanying risk of sunk costs, regulation is still needed
  - It remains important to set regulatory conditions adequately for innovative investment
  - suitable incentive mechanisms → a return on equity that adequately reflects the risk

Return on equity – telecommunications

To be taken into particular account:

- Capital structure of the regulated undertaking
- Situation in the national and international capital markets and the rating of the regulated undertaking in these markets
- Requirements regarding the return on equity capital employed, possibly reflecting the service-specific risks of the equity capital employed
- Long term stability of the economic environment, also with regard to the situation as regards competition in the telecoms markets

Incentives to invest – Energy

- 2009: Switch from cost-plus (section 21 EnWG) to incentive regulation (section 21a EnWG) in Germany
  - New system creates numerous questions
  - Complex system
    - general rule: efficiency benchmark of all controllable costs (totex)
    - one exception: investments in grid expansion (“investment budgets”)
- Two major questions related to investment incentives
  - Return on equity
  - Rules and procedures for investment budgets

Return on equity – energy

- Previous rates: fixed rates given by legal framework
  - gas networks 9.21%
  - electricity networks: 7.91%
- New rates to be determined by Agency
- Decision on July 7, 2008
  - 9.29% for all networks (new investments)
  - Rates applicable starting January 1, 2009

Return on equity – energy

According to section 7 para 5 of the Electricity/Gas Network Charges Ordinances the following criteria are to be taken into particular account:

- Situation in the national and international capital markets and the rating of the regulated undertakings in these markets
- Average return on equity of network operators on foreign markets
- Observable and quantifiable entrepreneurial risks

Return on equity – energy

- Critical issues of the decision
  - Comparability with other European and international values
  - Differentiation between gas and electricity
- Agency’s approach
  - Determine risk premium
  - Hence
    - comparability of rates given
    - quantitative analyses show no significant differences between gas and electricity networks

Return on equity – energy

- Decision
  - is applicable
    - to all network operators
    - for the first regulatory period (2009 - 2013/14)
  - compensates operators appropriately for risks taken
- Hence: decision creates appropriate incentives to invest

Investment budgets – energy

Grid expansion treated differently than investments in replacement

- Replacements are part of efficiency benchmarking
- Expansion is approved on (efficient) cost-plus basis for each individual project

Investment budgets – energy

Agency's concept

- Policy framework requires sufficient incentives to invest
  - offshore wind
  - biogas plants
- Specific legal framework for investment budgets allows application of specific rules to improve overall return on investment in grid expansion

Investment budgets – energy

- First round of applications to be submitted by June 30, 2008
  - ~ 300 individual projects
  - mostly by electricity TSOs
  - total amount submitted: ~ 8 billion Euro
  - Agency’s goal: to approve budgets before end of 2008

Incentives to invest – Conclusions

- Regulation in Germany provides a stable framework and promotes efficient investment

- Energy:
  incentives to invest in network upgrades and linking them to new locations of generation

- Telecommunications:
  balanced incentives to invest in NGNs and to maintain the level of infrastructure competition achieved so far with access and price regulation

Thank you for your attention!