

# Restructuring in the Turkish electricity industry: Competition policy and market design

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# Basic facts

- Total capacity about 40,000 MW
- Share of “independent” private sector
  - in capacity: 16%
  - about 70 percent based on natural gas
  - In production: 18%

# The Reform Model

- Law No. 4628 (2001)
- Establishment of the Energy Markets Regulatory Authority (EMRA)
- The basic market model: Bilateral contracts market supported by a Balancing Mechanism (5% of total consumption?)
  - Inspired by New Trading Arrangements of England (2001)
  - Possible alternative: Pool (pre-NETA)
  - Quite a “radical” decentralized model in comparison to the Pool
- Privatization (first distribution, then generation)

# The Model (continued)

- Vertical Unbundling of state-owned assets
  - Generation Distribution and Transmission legally separated
- Regulated Third Party Access
- Vertical and horizontal structural measures
  - Market share of a generation company cannot exceed 20%
  - A distribution company cannot procure more than 20% of annual consumption from affiliated generation company
- Eligible Consumers free to choose their suppliers
  - Thresholds determined by EMRA, 100% by 2011
  - Regulated retail prices for captive consumers

# Evaluation

- Possibly more competitively oriented than the European Union Directives at the time (1996)
- Vertical and horizontal structural break-up of existing state-owned assets: addresses the main competitive problems faced in Europe today (foreclosure by incumbent vertically integrated operators)

# Progress

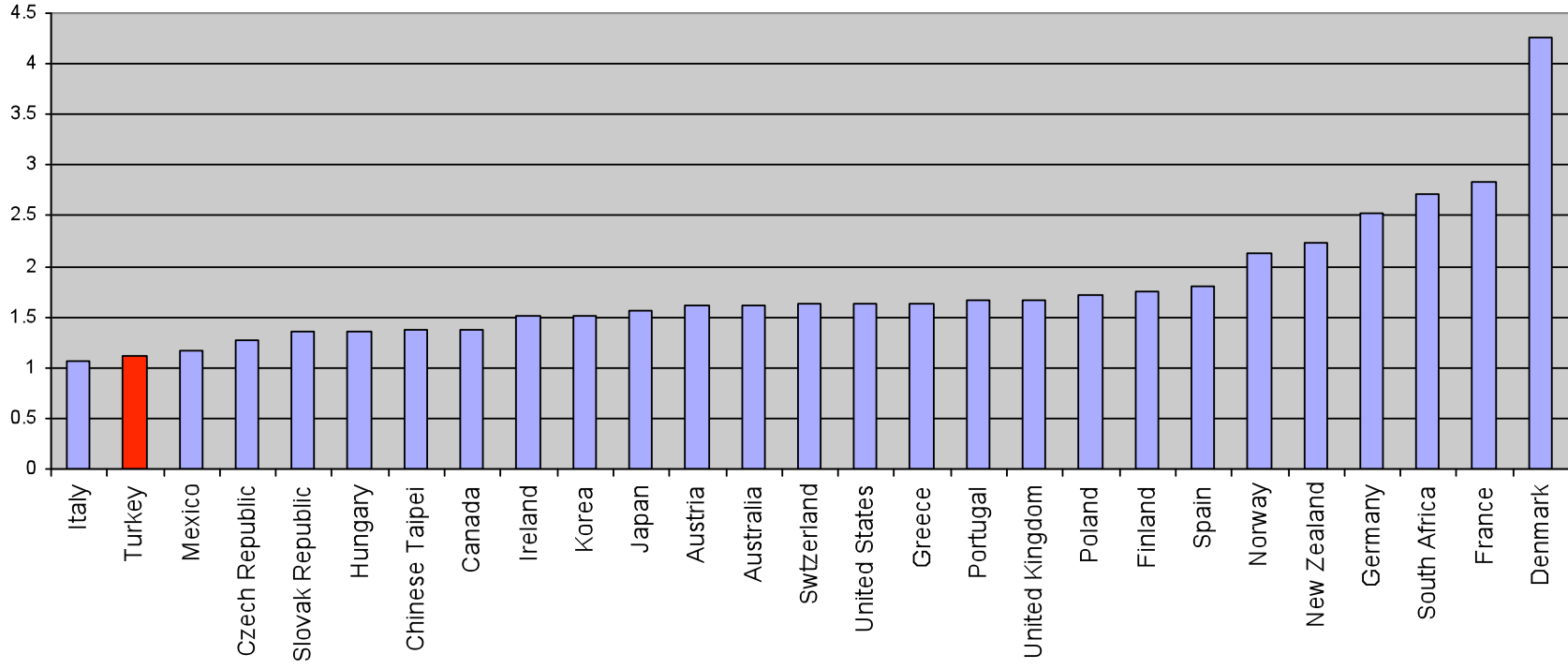
- Privatization of distribution (and therefore of generation) assets seriously delayed
- Very poor investment response
- Strong economic growth after the crisis of 2000-2001, serious concerns for resource adequacy

# Extent of capacity shortage

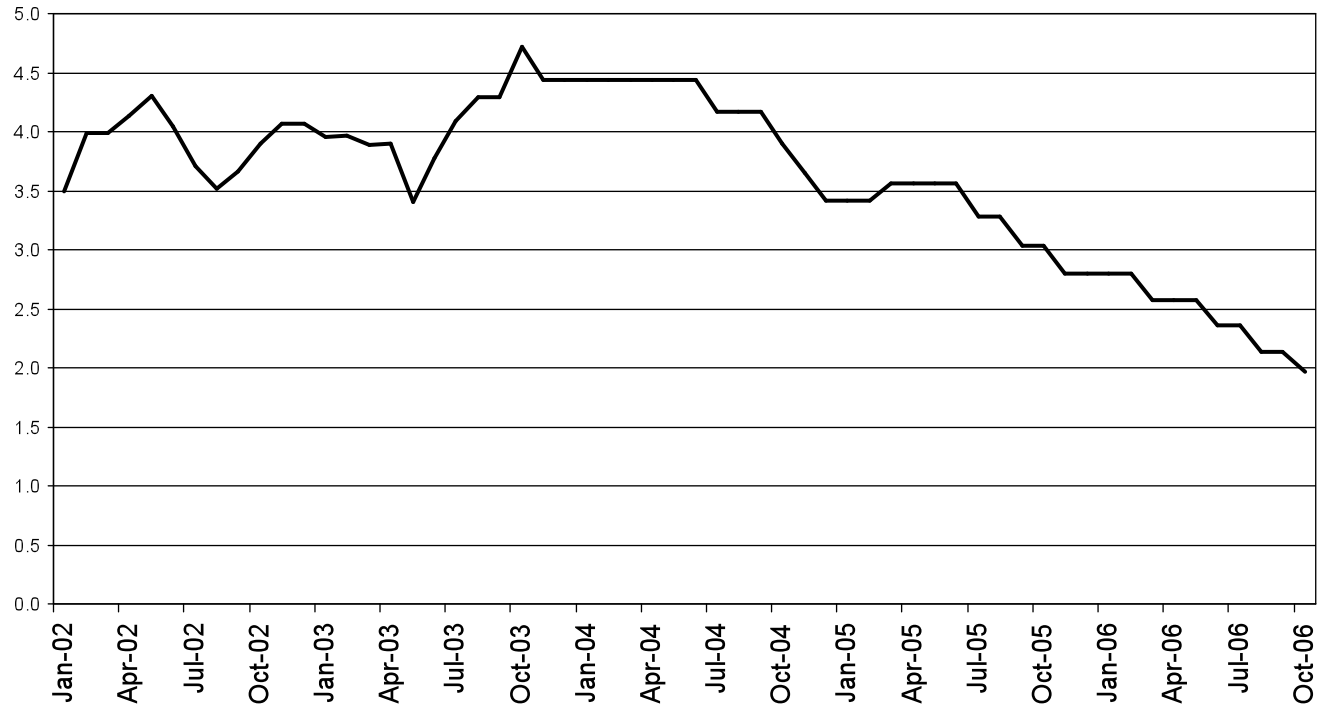
- TransCo's (TEİAŞ) capacity report points to an impending capacity shortfall.
- Under the high demand scenario, capacity already available, under construction and capacity which has been licensed by EMRA and which is expected to become available, just meets peak demand with *no reserves* available, in 2013. Reserves start falling below 26 percent after 2009.
- To maintain a reserve ratio of 28-29 percent, additional capacity needed amounts to 1075, 3843 and 7689 MW in 2009-2011.
- Capacity shortfalls would appear earlier, for example, if it is assumed that gas based plants produce not at full capacity, but at level of production projected in 2006 (about 75 percent capacity).

- Government unwilling to raise retail prices in response to increasing gas costs
  - Populism?
  - Sincere concern about distributional consequences?
  - Worried about possible impact on inflation?
  - Insufficient appreciation of how a market-based model is supposed to work?

### Ratio of Household-Industry Retail Prices (IEA, 2007)



**Margin of Retail Price Over Gas Cost (%)**



Gas Based Generators: Crude Measure of Margin of Retail Electricity Price for Industrial Consumers (kwh) over BOTAS Gas price (kwh)

# The simple economics of poor investment response

- Private sector (auto-producers and IPPs) mainly competing with the state-owned distribution company TEDAŞ for eligible consumers
- A squeeze between rising fuel costs and constant regulated retail prices
- The state owned distribution company did not want to buy directly from private producers
- Gas fired private sector threatened to close down plants
- Very strange situation: There was demand, but supply was not forthcoming even though the capacity was available and socially valuable
- Forecasted excess demand, no investment response **New investment impossible under these conditions**

- What was needed was simply a market with market prices reflecting actual variable costs of marginal plants
  - It seems even the private sector did not see that; instead some focused on seeking other assurances
- The blackout of July 2006
- Balancing market launched August 1, 2006: **Establishment of marginal prices**
- Very significant step in the restructuring process of the industry; but valuable 3-4 years lost with very low investment
- With binding capacity constraints prices in balancing market very high and rising (the “hockey-stick” story”)
- Private gas-based stations stopped competing with TEDAS and started selling to the balancing market
- Simply “indirect sales” to TEDAS

# The current situation

- Bilateral contracts market simply killed
- New entry, if it occurs, also will be directed to the balancing market, not towards bilateral contracts
- A sellers market: the system became “hostage” to the balancing market
- New regime to avoid “political manipulation” of prices:  
Automatic adjustment
  - The other extreme; extremely “low powered” arrangement
  - Suppliers have no incentive to reduce costs (for example, through better procurement policies)

# Governance related issues

- Lack of trust/lack of regulatory credibility
- Government's apparent concern about not raising retail prices not explained
- Very poor communication
  - Lazy capitalists seeking riskless rents vs. anti-market statist bureaucrats
- Insufficient coherence and coordination between public agencies
- Inability of private sector to focus on fundamental issues (development of markets)

# The unbundling issue and the role of the competition policy

- Original law put limits on the amount of generation capacity that could be held by distribution companies (subject to accounting separation)
- These limitations removed by subsequent law – currently there is only accounting separation
- “Making distribution assets attractive”: In reality this is increasing government revenue through creation of monopoly rents
  - The risk management perspective
- The Competition Authority requested legal separation between distribution and other activities , at a minimum, for approval of the privatization of distribution companies

# Conclusion: Competition policy vs market design

- Note that the main problem in Turkey is different from the EU
  - EU: Foreclosure by vertically integrated incumbents and resistance to reform
  - Turkey: Basically an economic design problem, rather than anti-competitive behavior
- In the short run, subsidies were did not need to cause a problem
  - when capacity constraints are binding: subsidies (too low retail prices) do cause distortions, but lack of markets probably cause a larger welfare loss (serious deficiency in investment, binding capacity constraints, resulting in very high retail marginal wholesale prices, further entry of gas-fired generators in the short run)
- This does not mean that competition issues do not (or will not) exit: The dominance of EUAŞ; the unbundling issue ( unilateral exercise of market power??)
- The role of competition authority in privatizations

# Hypotheses

- Rational political economy: populism, well aware of costs?
- Institutional/governance failure: Lack of an understanding of the underlying economics?