POWER SECTOR REFORM AND SUBSIDIES

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October 2018
OVERVIEW OF TURKISH POWER SECTOR

• Population: 80 Million, Geographic Area: 780,500 km²

• Rapid demand growth:
  • 9% (1984-2000), 6% (2001-2012), 4% last 5 years.

• High level of import dependency

• High investment requirements;

• Remarkable potential of renewables;

• Electricity Sector Reform: Transition from state-owned monopolistic structure to liberalized competitive market

• Installed power:
  • 88000 MW (October-2018)
  • 47% renewable capacity including big hydro
  • 7% average annual increase

• Market share:
  • Distribution and retail 100% private
  • Generation: 80% private (2017)
POWER SECTOR REFORM
2001 onwards: Industry and market structure
Market Reform and Subsidies

Can Market Reform possible without Cost Reflective Pricing?

According to Electricity Market Law:
- All regulated tariffs must be cost reflective (distribution and transmission grid business);
- The price for energy is to be determined by the market under competition;
- If there is a need to protect some consumers, subsidies shall not be provided through tariffs, but rather, through a direct subsidy mechanism.

- Actual Implementation up to 2008:
  Tariffs kept constant and below cost recovery level.

IMPLICATIONS:
- Accumulation of debts of State owned distribution company, generation and wholesale company and gas company (More than USD 7 billion in four years).
- Lack of adequate funding for new public investments;
- Discouraging private investors for new generation investments;
- Sending incorrect price signals;
- Delaying market opening through eligible consumers;
- Reserve margin tightened and Supply security become main concern;
- No meaningful development in the reform program;
- Already programmed distribution and generation privatization postponed.
Approval of Cost-based energy pricing mechanism (APM) approved by the Government in March 2008,
• Significant electricity tariff adjustments by EMRA for a total of about 60% by January 2009 – enabled financial recovery, clearance of arrears accumulated to private generators;
• All the tariffs and prices are adjusted at every 3 months by the regulator according to the costs. (Fuel costs pass-through).

CONSEQUENCES:
• “re-launch” the delayed distribution privatization program
• Substantial new generation investments by private sector,
• Successful distribution and generation privatization.
• Gradual increase in market opening (started with 30% in 2006, now 90%), more than 900 market participants.

However, state owned gas company is exempted from APM shortly after introduction of APM. It undermined development of gas market, become a mean to control electricity prices until 2018.
Market Reform and Subsidies
Cross Subsidies as a Transitional Measure-1

- Tariff structure: Two main components of end user prices:
  - Energy price:
    - for captive consumers: regulated with revenue cap, cost of power procurement + a margin;
    - For eligible consumers: determined under competition, between supplier and consumer.
  - Distribution+ transmission grid price: fully regulated with revenue requirement methodology, depends on O&M, investment, Loss (technical losses and illicit use).
- 21 distribution regions, different distribution cost and loss rates vary considerably among Distcoms.
- Hence, different cost reflective distribution tariffs for each region, some are very high due to high losses.

It was decided that:
- Distcom revenues will be cost reflective for each region;
- However, as a transitional measure, the consumers in all regions will pay same price for each kWh of electricity.
- To enable this a temporary «price equalization mechanism» will be implemented until the cost differences reduced to a reasonable level (target year was 2011).
Price Equalization Mechanism:

• An universal tariff level is determined as an average cost reflected tariffs of each region;

• Consumers in the same tariff category in all regions pay this price (national tariff).

• Low loss regions collect more revenue than their cost reflected revenues, high loss regions collect less.

• Excess revenues are transferred to discos with lower revenues. That is, consumers in lower loss regions subsidize consumers in higher loss regions.

Loss Reduction Targets:

• 5 year targets set for 2006-2011. Targets revised and increased in 2011 due to delaying the privatization.

• Later, in 2013 and 2016 targets revised again.

• Although it was envisaged as an transitional implementation, it still continues. Although majority of the Distcoms managed to reach the target, high price differences still remain for 3 regions.
Market Reform and Subsidies

Influence of macroeconomic problems and RE support on subsidy reform

- Credits from commercial banks used by private sector for Generation and distribution privatization fees and generation investments paid in US Dollar (credit from commercial banks, payments in USD).
- Tariffs and wholesale prices in USD terms decreased. Private distco and gencos faced with deficits and asked for tariff increase.
- Although Cost of generation and renewable support mechanism increased (forcing end user prices to increase since 2013);

- Government tried to keep prices low through some support mechanisms, using public sector generation and cross subsidization. APM is not implemented effectively (similar to 2002-2008).
- Starting from September 2018, tariffs increased by 44%, APM implementation started again. Affordability problem!
- Government now trying to implement targeted subsidies instead of subsidizing everybody- tariffs will be staged according to consumption.

Two opposing pressures on energy pricing since 2013
Summary and Lessons Learned

• 2002-2008 period proved that without cost reflective pricing, market reform is not possible.
• Transitional, subsidy implementation may be used; however it should be applied temporarily.
• Without solving structural problems and in the existence of macro-economic, social and fiscal problems (depreciation, inflation, debt service financing), subsidy reform may not be sustained; temporary implementations can be prolonged, reversions may occur as happened in Turkey.
• Market distorting support mechanisms should not be used to solve fiscal problems of private investors. Main solution is implementation of structural macroeconomic reforms and economic stabilization programs.
• In addition to macroeconomic problems, RE support mechanisms may create an additional cost and necessitates increase in tariffs.
• On the other hand, energy prices cannot be increased to unaffordable levels. (For low and even middle income consumers the tariffs are already unaffordable)
• Subsidy through interventions in pricing of energy and services through public sector generation and wholesale companies is not a solution. It distorts market, causes lost of confidence and investment appetite; which leads more expensive and out-of market measures to secure the investment needed.
• As decided recently by the Government, the solution is a transparent and well defined subsidy mechanism if needed. Instead of subsidizing everybody, a targeted subsidy implementation is better.