



# The sustainability of Turkish electricity distributors and last-resort electricity suppliers: What did transition from vertically integrated public monopoly to regulated competition with privatized and unbundled firms bring about?



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## ABSTRACT

The Turkish electricity distribution and electricity supply businesses have been substantial affected by the transition from a vertically integrated public monopoly model to a model of regulated competition with privatized and unbundled firms. We analyze how select elements of sustainability have been and will be affected by this transition. Specifically, we consider *transparency* of the electricity market as a whole and implications for electricity supply and distribution, the *financial soundness* of the electricity distribution industry, the *quality* of electricity delivered by the distributors, and the *competitiveness* of the electricity supply business. The key finding is that little if any progress toward sustainability has been achieved. We conclude that there remains much for policymakers to do to establish a sustainable market structure.

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## 1. Introduction

Sustainability is a crucial concept for the electricity sector. Electricity must be transmitted through wires to end-users in an uninterrupted way. In an era of high technology, this requires massive investments that are not easily borne by governments alone. To attract new sources for investment, many countries are transforming their electricity markets through liberalization with regulation to make use of private investment in the sector.

The concept of sustainability gains importance in countries with liberalized markets. On one hand, private investors should get a fair

return on their investments relative to risk, including possible losses because costs will no longer be socialized. On the other hand, consumers should not pay high prices arising from market power for the service they receive.

Turkey's electricity market was restructured during the last 15 years. For the electricity distribution and supply sectors, there has been a fundamental transition from a vertically integrated public monopoly model to a model of regulated competition with privatized and unbundled (separated) firms. Across 21 regions, each of the distribution companies (together with the associated last-resort suppliers) is privatized, the distribution and retail sale (supply) businesses are legally unbundled, and the supply market has been gradually opened to competition. The legal infrastructure that enabled this radical change also embodied elements of sustainability. The Electricity Market Law's main aim is “to ensure the development of a financially sound and transparent electricity market operating in a competitive environment under provisions of civil law and the delivery of sufficient, good-quality, low-cost and environment-

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*friendly electricity to consumers ...”.*

This article analyzes elements of sustainability for the electricity distribution and supply businesses following Turkey's market transition. Specifically, the article examines the *transparency* of the electricity market as a whole and implications for electricity supply and distribution, the *financial soundness* of the electricity distribution industry, the *quality* of electricity delivered by the distributors, and the *competitiveness* of the electricity supply business.

The *transparency* of the electricity distribution companies and the last-resort supply companies has been thwarted by cross-subsidization and political intervention. The so-called transient non-market elements to ensure a smooth transition are fundamental to the current regulatory system. There is a great likelihood that the implementation of a national tariff (with embedded cross-subsidies) will be extended to 2020 by the Council of Ministers for the undisrupted continuation of the “Solution Process”, whose aim is to address the Kurdish issue that has been the country's biggest problem for decades. For the very same political concern, the government is not expected to clamp down on high loss-theft ratios in the East and Southeast Anatolia Regions, which jeopardizes the sustainability of companies operating in these areas.

The *financial soundness* of the distribution companies, as an indicator of sustainability, is also examined in this analysis. Private investors apparently attached a high value to obtaining monopoly rights for the distribution systems in order to access the customer base for retail business opportunities. In doing so, they have used funding from foreign sources, which has led the industry to obtain many loans in foreign currency, with exposure to exchange-rate risk.

*Quality* will be an important element affecting the sustainability of electricity distributors in the near future. Due to the structure of the generic formulas for calculating revenue caps, as considered by the Energy Market Regulatory Board (EMRB), service quality factors could bring either prosperity or devastation to the distributors.

A *competitive supply market* is another element of sustainability in the electricity sector. The news is more promising for incumbent suppliers with the strength to survive the many threats posed by competition. Contrary to many electricity retail markets opened up to competition, switching rates for large-scale consumers fluctuate between 15 and 18%, which is considered low. Furthermore, if policymakers do not take further action, the switching rates for small-scale consumers in the near future are predicted to be even lower.

The structure of the paper is as follows. The second part describes the transformation of the Turkish electricity sector and argues that it is now characterized by cross-subsidies and public dominance, which implies an opaque market structure. Part 3 addresses the financial soundness of the Turkish electricity distribution industry in the aftermath of privatization, which involved significant investment. The fourth part studies the introduction of service quality factors to the regulation of the distribution companies and associated implications. Part 5 investigates the competitiveness of the electricity supply market, focusing on the results obtained so far and expectations about future. Finally, the sixth part discusses the findings and concludes.

## 2. The transparency of the Turkish electricity market: blurred by cross-subsidies and public dominance

The regulatory framework of the Turkish electricity sector during the last 15 years has turbulent. In an effort to transform

the market from a monopoly model to full retail competition, the government implemented a series of reforms starting with the enactment of the Turkish Electricity Market Law (Law No. 4628). The Law designated a bilateral contracts model with a balancing and settlement mechanism, which requires a private law framework, an eligible-consumers scheme, and a regulated third-party access regime. Abolishment of cross-subsidies and utilization of cost-reflective pricing were essential pillars of the Law.<sup>2</sup> The reforms for the transformation of the electricity market, *inter alia*, included the establishment of an organized wholesale market, the initiation of quality measurement for distribution and transmission networks, the passage of relevant legislation on distributed generation, the initiation of the privatization of state-owned distribution companies, and the completion of legal unbundling of retail and distribution companies.<sup>3,4</sup> However, in order to overcome challenges seen in practice and to provide a more mature legislative framework, the new Electricity Market Law (Law No. 6446) was enacted in 2013. Just like the previous one, the new Electricity Market Law is based on the principle of competition in the market and its aim is “to ensure the development of a financially sound and transparent electricity market operating in a competitive environment under provisions of civil law and the delivery of sufficient, good quality, low cost and environment-friendly electricity to consumers and to ensure the autonomous regulation and supervision of this market”.<sup>5</sup> The new Law further entrenched the unbundling of retail sale and distribution activities by setting new boundaries for distribution and retail-sale enterprises (or suppliers).<sup>6</sup> Besides the entrenchment of unbundling, the new Law also aims to ensure the operation of distribution system on a non-discriminatory and fair manner, and to foster competition in the retail business.<sup>7,8</sup> In line with the aim of introducing competition at the retail level, the eligible consumption limit has been continuously decreased by the EMRB, a process that began after the first Eligible Consumer Legislation was published in the Turkish Official Gazette on the 4th of September 2002.<sup>9</sup> The new Law also introduced a new institution called Energy Markets Management Company (EPIAŞ), which is yet to become the market operator in the future and of which a greater share is to be held by the private sector.

Thus, the main aim of these legislative changes and reforms during the last 15 years was the transition to a transparent and liberalized electricity market that is under the regulation of the

<sup>2</sup> “In cases where consumers in certain regions and/or in line with certain objectives need to be supported, such subsidy is provided in the form direct cash refunds to consumers without affecting the prices, where the amount, procedure and principles of these refunds are determined by the Council of Minister upon the Ministry's proposal.” (Law No: 4628, Art. 13 under the heading: c) Consumer Support).

<sup>3</sup> Other reforms include the construction of the infrastructure enabling synchronized energy trade with Europe, the start of interconnected capacity auctions, the functioning of the Renewable Energy Support Mechanism.

<sup>4</sup> For analyses of various reforms in Turkish electricity industry, see Bağdadioglu and Odyakmaz (2009), Bağdadioglu (2011), Ulusoy and Oguz (2007), Erdogdu (2007), Atiyas et al. (2012). For the description of the reforms see EMRA (2014).

<sup>5</sup> Law No: 6446, Art. 1.

<sup>6</sup> “Legal entities engaged in market activity cannot directly become a partner of a distribution company, nor can a distribution company become a partner of legal entities engaged in market activity. Distribution companies cannot engage in any activity other than distribution.” (Art. 9 p.1).

<sup>7</sup> “Distribution companies shall be obliged to operate the distribution system in the region allocated in its license in a manner facilitating competition for electricity generation and sale: ... and provide services to all distribution system users connected and/or to be connected to the system on a non-discriminatory basis among equal parties, in line with the provisions of the applicable legislation.” (Art.9, p.2).

<sup>8</sup> The translations of the relevant provisions of the Law are obtained from Tiryaki (2013).

<sup>9</sup> The Turkish Official Gazette, 4 September 2002, No. 24866.

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