AN INSTITUTIONAL PERSPECTIVE ON TURKISH NATURAL GAS MARKET REFORM

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY
IN
THE DEPARTMENT OF POLITICAL SCIENCE AND PUBLIC ADMINISTRATION

JULY 2021

Approval of the thesis:

AN INSTITUTIONAL PERSPECTIVE ON TURKISH NATURAL GAS MARKET REFORM

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ABSTRACT

AN INSTITUTIONAL PERSPECTIVE ON TURKISH NATURAL GAS MARKET REFORM

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July 2021, 274 Pages

Turkey has liberalized its natural gas market two decades ago and this thesis analyzed the targets and achievements of the Turkish natural gas market liberalization process basing on the tenets of institutional theories. At the center of the reform lies privatization or franchising gas market activities to private companies, transfer of import contracts, and separation of business chains, unbundling of incumbent companies and setting market share limits. These elements merit the application of institutional theories with their focus on transaction cost economics, conduits of rent-seeking, embeddedness in informal rules, and the role of public organizations. The thesis gets to the point that reform objectives have not yet been achieved even two decades after the reform. While there are some improvements in terms of security of supply, the objective of a competitive market was by no means achieved. As the thesis unveils, the reforms in the natural gas market and the liberalization efforts have merit. However, in many cases, the foundational objectives of the reform are not maintained. The failure of Turkish natural gas market reform is evidenced by the incomplete unbundling, problems concerning import licensing and network tariffs, non-market motives in

natural gas pricing and investment policies, lack of regulatory commitment and administrative capabilities as well as inefficient sharing of responsibilities among the public authorities.

Keywords: Natural Gas Market, Market Reform, Liberalization, Institutional Theories, New Institutional Economics

ÖZ

TÜRKİYE DOĞAL GAZ PİYASASI REFORMU ÜZERİNE KURUMSAL BİR PERSPEKTİF

DAŞTAN, Seyit Ali

Doktora, Siyaset Bilimi ve Kamu Yönetimi Bölümü

Tez Yöneticisi: Assoc. Prof. Dr. Gamze AŞÇIOGLU ÖZ

Temmuz 2021, 274 Sayfa

Tez kurumsal teorilerin ilkelerine dayanarak 20 yıl önce başlayan Türk doğal gaz piyasası serbestleştirme sürecinin hedeflerini ve kazanımlarını analiz etmektedir. Reformun merkezinde gaz piyasası faaliyetlerinin özelleştirilmesi veya özel şirketlere açılması, ithalat sözleşmelerinin devri, sunulan hizmetlerin farklı iş dallarına ayrılması, şirketlerin ayrıştırılması ve pazar payı sınırlarının belirlenmesi bulunmaktadır. Sayılan hususlar açısından kurumsal teoriler faydalı perspektifler sunabilmekte olup bunlar tezin kapsamında işlem maliyetleri ve rant arama yollarının ortaya çıkması, gayri resmi kurumların önemi ve kamu kuruluşlarının rolünü içermektedir. Tez, reform hedeflerine reformdan yirmi yıl sonra bile henüz ulaşılamadığını tespit etmiştir. Arz güvenliği açısından bazı iyileştirmeler olsa da, rekabetçi bir piyasa hedefine hiçbir şekilde ulaşılamamıştır. Yapılan analiz çerçevesinde doğalgaz piyasasındaki reform ve serbestleşme çabalarının bir gereklilik sonucu olduğu anlaşılmaktadır. Bununla birlikte, pek çok anlamda reformun kurucu hedeflerinin dışına çıkılmıştır. Doğal Gaz piyasası reformunun

başarısız olmasının nedenleri arasında tamamlanmayan ayrıştırma hedefleri, ithalat lisansları ve şebeke tarifelerindeki sorunlar, düzenleyici istikrarı ve idari yeteneklerin eksik oluşu ve kamu kurumları arasındaki rollerin etkili bir şekilde paylaşılamaması hususları bulunmaktadır.

Anahtar Kelimeler: Doğal Gaz Piyasası, Piyasa Reformu, Serbestleştirme, Kurumsal Teoriler, Yeni Kurumsal Ekonomi

To my father Mehmet Daştan

ACKNOWLEDGMENTS

I would like to thank my supervisor Assoc. Prof. Dr. Gamze Aşcıoğlu Öz for her guidance in the achievement of this tough task. I also would like to appreciate the valuable assistance of Assoc. Prof. Dr. Yılmaz Üstüner and Prof. Dr. Ebru Voyvoda in the preparation of the thesis, as well as the contributions of Prof. Dr. Can Umut Çiner and Assoc. Prof. Dr. Burak Öztürk in the final stage. Most importantly, this thesis was accomplished thanks to my wife Seda whose presence has helped me pass through an unprecedented period of my life. And, my son Vefa Uras provided valuable study pauses to me and increased my motivation fundamentally with his joy and vigor.

Overall, I thank the lecturers and staff of Middle East Technical University who ensured a premium academic atmosphere equipped with intellectual freedom and dynamism.

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BCM	Billion cubic meters
BOT	Build Operate and Transfer
EMRA	Energy Market Regulatory Authority:
EPIAS	Energy Market Management Inc.
EU	European Union
FERC	Federal Energy Regulatory Commission
HHI	Herfindahl Hirschman Index
IMF	International Monetary Fund
LNG	Liquefied Natural Gas
MENR	Ministry of Energy and Natural Resources
MOSES	Measurement of Short-term Energy Security
OFGEM	The Office of Gas and Electricity Markets
SUF	System Use Fee
TCA	Turkish Competition Authority
TPA	Third Party Access
TPAO	Turkish Petroleum Inc.
UCSD	Unit Cost of Service and Depreciation
US	United States

CHAPTER 1

INTRODUCTION

This thesis research addresses the Turkish natural gas market reform initiated almost two decades ago. It mainly investigates the progress of reform through the lenses of institutional theory. In this respect, the research provides three essential contributions: showing failures of the reform process after two decades, discussing the root causes of these failures from an institutional perspective, and analyzing the merits of diagnosis and prescriptions of institutional theories in policy reforms.

The issue is worth studying since natural gas has become a major primary energy source over recent decades. The International Energy Agency has already noted (2011) that the globe is entering the "golden era of natural gas" which is forecasted to replace oil over this century. In the cycles of energy transitions starting from wood to coal in the 19th century and to oil in the 20th century, natural gas appears to be the fuel of the 20th century as the demand and supply dynamics show. Natural gas will be produced in greater amounts thanks to the developing extraction and fraction technologies and shipped in larger quantities with the construction of cheaper LNG terminals and the rise of floating LNG terminal technologies. On the demand side, gas is preferable as it leads to lower carbon emissions compared to coal and oil; and nuclear projects are now phasing out after the Fukushima disaster in 2004. Besides, natural gas-fired power plants are more reliable than renewable plants which are dependent on climatic variations like wind, sun, rain, or wave. One should also add the flexibility, affordability, and cleanness of natural gas for heating purposes that make it preferable for households.

The rise of natural gas as the prime source of energy is also valid in Turkey. Despite negligible indigenous production and heavy dependence (%99) on imported gas, consumption has been increasing in the last two decades. Apart from the over-mentioned advantages of natural gas, in the Turkish case, it should also be added that the gas consumption trend was largely started together with the construction of power plants in the 1980s with early schemes of public-private partnerships. Today gas consumption has risen from nil to almost 50 billion cubic meters in around three decades (EPDK, 2019) and Turkey became one of the biggest gas consumers and importer countries in the world (https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html). Considering the average consumer gas prices (check for instance: https://portal.enerya.com.tr/DogalGazBirimFiyatlari/index.xhtml?city=07) in Turkey, the annual trade volume of the gas appears over 100 billion TL, which is huge. More importantly, a great share of this amount is transferred to foreign countries as the price of the commodity and it is an important item in the macroeconomic balances of the country. One should also consider ancillary services such as those provided by construction companies that employ a great number of people and makes a significant amount of investments. As a consequence, It would be safe to argue that our research on natural gas is necessary considering the size and importance of the gas supply in Turkey.

Turkey has also initiated a natural gas market reform in 2001 that aimed at completely liberalizing the gas supply business. The reform was an item in the neoliberal transformation of economic governance in Turkey. After two decades of adjustment between 1980 and 2000, the 2001 economic crisis provided the ground for an even stronger push for economic liberalization to cover areas hitherto exclusively served by state-owned enterprises. Natural gas was among these rare areas in which governments had little plan to open to competition before the 2000s. But the reform law laid the foundations of a liberal gas market which was supposed to become one of the most competitive markets in the world. The

envisaged market structure was overlapping with the typical World Bank and IMF prescriptions that were hastily adopted by national governments under economic distress.

In this setting, Turkey's preferred market model was even a dream for some of the European countries that were also starting to transform their gas markets. However, a major question arises: Have these natural gas market reforms achieved the intended consequences of competitive prices without making a compromise of supply risks. More than two decades have passed when the EU, a pioneer, has enacted the first gas market liberalization directive which will be elucidated through the paper. It would be reasonable to check the status of the reforms the countries have left the initial years of the transformation long ago. In this context, Turkey's model would be a good test for the rest of the world as to the question if a liberalized market would bring the purported benefits of competition. This research seeks an answer to this question two decades after the enactment of the reform law.

The research is grounded on the institutional theories which have become highly influential in recent decades. The merit of institutional theories for this research is that they would enable us to see why the neoclassical approach may not fit into a specific institutional setting, thus the expected benefits of full competition do not work. Turkey's experience of gas markets sets a good stage for institutional analysis where the policymakers (pushed by international creditors) are trying to insert rules of a functioning market that had previously been seen as a public service provided by the government, not a commodity sold in the market. Arguably, such a huge conceptual change needs a strong institutional backing and design so that it achieves the objectives. Otherwise, one should expect an amorphous structure where the worst of capitalism meets with the worst of statism, which would be a nightmare for any policymaker in the neoliberal reforms in the post-1990s. As the research elucidates, institutions resist, divert, or block any changes in the status quo

in multiple ways. These ways include some formal mechanisms such as undoing the reform act conditions, distorting or negating them often with re-making the minds of future policymakers. However, this research does not take the prescriptions of neoliberal policy goals as taken for granted. It, rather, critically evaluates the usefulness of reform instruments in achieving the goals of liberalization. In this respect, the resistance of institutions does not necessarily decrease the welfare even in many cases do so. Where relevant, the purpose of the study is to put the merits of pro-market as well as pro-state policies and develop a balanced analysis to get to the bottom line.

In this respect, the methodological boundaries, as well as challenges of the thesis, should be highlighted. As it will be discussed in the theoretical framework chapter ahead, institutional theories diverge and also converge among many disciplines of social sciences. To put it in advance, this thesis is mainly grounded on new institutional economics with special emphasis on the *impact of law on economics.* Four focal areas are prioritized to explain the natural gas market reform in Turkey: transaction cost approach to firms, rent-seeking approach to firm-state relations, the role of informal institutions in understanding the limits of formal rules, and public organizations as formers of institutional endowments. These four columns form the main body of the research where institutions are applied as explanatory variables of the natural gas market developments in Turkey. On the other hand, this is not the entire goal of the research. The thesis, especially at the evaluation of the findings, also problematizes the success of institutional reforms in general as well as the limits of the institutional theory.

Some challenges and boundaries of the research are also worth to mention. As mentioned above, the institutional theories are feeding from various strands of social sciences. In many cases, the claim of these strands overlaps and intertwines while the origin of the scholarly agenda may be different. The challenge is that any comprehensive research in the area bears the risk of loosely shifting among these

approaches without sticking to their methodological framework. This research tried to stick to the over-mentioned tenet of new institutional economics to overcome this risk. Another challenge is the fact that theory is by nature relevant to broad areas within social sciences, which will be elaborated below in Figure 1 derived from Williamson (2000). Thus, the researchers faced the risk of dragging into various subjects and losing their commitment to the purported agenda. To evade such a problem, the research tried to remain as close as possible to the natural gas market law and secondary regulations in Turkey and invoke theoretical arguments only when it is strongly necessary. In this respect, this research makes an original contribution to the existing studies. There have been various works that cross the area of this study but none of them fully overlaps the objective of this research. For instance, Çakmak (2011) focuses on Energy Market Regulatory Authority from a purely legal perspective and Yayla (2012) makes similar research with an extended focus on the natural gas sector. Yardımcı (2016), on the other hand, analyses the effectiveness of regulation through an investigation of the Turkish natural gas distribution sector. His thesis is on the tariffs applied to the distribution companies. A more similar analysis is made by Düzyol (2012) who develops a critique of neoliberal theory in the frame of the natural gas market model in Turkey. While these researches contribute to the analytical efforts on Turkish gas market reform in Turkey, this research seems to be the first academic effort to build an institutional analysis on the elements of Turkish gas market reform. In this respect, the thesis collects different aspects of the reform, i.e. unbundling, licenses, tariffs, gas pricing, network investments, EMRA, and the interaction of EMRA with the Competition Authority under the same theoretical framework. This forms the original contribution of the thesis to the existing gamut of research.

Finally, it is worth adding some basic technical aspects of natural gas so that the legal and economic analysis provided through the paper should better be conceptualized. Natural gas as a commodity needs a distinctive analysis as its technical supply conditions have peculiarities. It gets closer to oil as it is a primary

energy source, it has a liquid form, and its production is geographically bounded. But it can also be resembled electricity as it needs networks to be supplied while the networks function as a pool and should always be balanced, and it is also a final product used for heating purposes. To elaborate, it should first be noted that natural gas[1] is a relatively new primary source of energy compared to coal and oil. It had often been a by-product of oil production which was vented or flared into the air during the oil extraction process. From its discovery as a potential commercial primary energy source in the mid-19th century to today, a great amount of natural gas was not utilized. One of the main reasons behind the difficulty of introducing gas to final consumption has been that, compared to oil, it requires advanced transport and storage technologies with huge investment costs. Oil, once extracted, can easily be stored in barrels, tanks, etc., and transported by trains, ships, land tankers, or pipelines. It can be stored in relevant tanks without any loss. However, natural gas, by nature, needs more protective means to transport and store; otherwise, it can just fly into the atmosphere. This made the gas heavily dependent on pipelines. Besides, ship and land tanker transports need additional investments and it can be transported in liquefied (LNG) or condensed forms (CNG). LNG can be obtained in special terminals and transported via purpose-built tankers while both the liquefaction and liquefaction processes need extensive investment costs. This also applies to CNG facilities although they are less costly.

Since natural gas is heavily bound to pipelines, its supply, and commercial dynamic make it closer to electricity than oil. Just like electricity, gas needs a well-functioning network, from transport pipelines with huge diameter and pressures to smaller distribution pipelines in cities and final consumption pipelines at the houses or facilities of the consumers. Similarly, electricity has to be consumed as it is generated. Although this is not so strict in gas, the system can safely function as

[1] Natural gas should not be confused with town gas. While the first is a naturally occurring hydrocarbon gas primarily consisting of methane, the latter which is obtained by processing of coal. Throughout the paper, the ‘‘gas’’ always refer to ‘‘natural gas’’.

soon as the balance between production (entry) and consumption (exit) is achieved over the network. From the policy perspective, these reasons made natural gas be dealt together with electricity markets in institutional terms. For instance, the regulatory authorities, such as OFGEM[2] in the UK and Energy Market Regulatory Authority (EMRA) in Turkey, as well as spot market operators, such as Exchange Istanbul (EXIST) in Turkey, often cover both the electricity and natural gas markets. The evolution of natural gas markets can be better understood under this technical setting. The political economy of gas markets, then, approximates to electricity markets towards the downstream (consumption) but oil towards the upstream) production. The research covers five main chapters. The next chapter develops an institutional perspective on gas market reforms in general. In narrowing windows, the research first shows what the institutional reforms refer especially for the aim of this research, then it elaborates the relevance of institutional theories in terms of market regulation and utility reforms. The chapter is concluded in more focal analysis on natural gas markets from an institutional perspective. The third chapter is devoted to the gas market reforms all over the world to see the general pattern of reforms. As there would be endless cases that cannot be covered in this research, only the main trends of the US and certain EU countries concerning their experience of gas market liberalization are shown. The EU cases are broadly divided into more liberal (UK, Netherlands) and less liberal (Italy, France) forms of gas market transformations. This chapter is tried to be limited and just to be illustrative of the experience of Turkey so that we can refer to it in the rest of the study. The fourth chapter deals with gas market reform in Turkey, with a sub-section on pre-reform structure, reform goals, and the actual result of the reform. While the first two sub-sections include brief descriptive analysis of Turkish gas market reform, the third sub-section provides an analytical perspective on the failures and achievements of the reform, which can be seen as a basic scorecard two decades after the reform.

[2] OFGEM is the Office of Gas and Electricity Markets created by the merger of separate institutions for Electricity (OFFER) and natural gas (OFGAS).

The fifth part merges the theory with the practice and shows how institutional theory explains the findings in the previous chapter. This chapter provides a thorough analysis of formal and informal rules in shaping the structure of the Turkish gas market. In this respect, the chapter starts with the analysis of the unbundling of the gas market in Turkey. The unbundling is the spine of the reform as it is the main instrument to ensure competition in the gas market, but it is the most controversial and problematic part as well. This section combines the transaction cost perspective with rules and applications of vertical integration and vertical unbundling in the gas market. It is followed by the title of rent-seeking where the issues of contract transfers and distribution license tenders and LNG terminal operations are discussed. Rent-seeking is a matter of any market reform that institutional theorists mostly concern and try to eliminate the risk of welfare decrease due to rent-seeking. In this respect, the research shows how the application of gas market reform can be explained by rent-seeking theories. Another section deals with the informal institutions in Turkey with specific references to state-led developmentalist roots and centralization of public administration. This section demonstrates how the government has been dealing with the gas industry to develop electoral politics and try to increase social welfare manually which was eroded by rent-seeking. In this way, one can observe how the government is trying to establish a balance between two tendencies through formal and informal ways. The research finally deals with the issue of the administrative capability of the regulatory organization as part of the institutional endowment of Turkey. It sheds light on the regulatory authority, competition authority as well as the ministry in the multi-actor setting of energy policymaking in Turkey. The sixth chapter provides a combined analysis of the fourth and fifth chapters by discussing the evolution of the Turkish gas market. The research unveils both the explanatory power and limitation of the institutional theories against Turkey's natural gas market reform. Policy implications of the thesis findings are also briefly mentioned before concluding the thesis.

CHAPTER 2

DEVELOPING AN INSTITUTIONAL PERSPECTIVE ON GAS MARKET LIBERALIZATION REFORMS

This section provides an overview of “institutional economics’ and its relevance with energy market reforms. Our effort would be justified by the breadth and complexity of institutional economics that has already accumulated extensive ideas.

2.1 Institutional theories

The concept of the institution has become central to a broad range of economic and political analyses especially since the end of the 20th century. Despite variations across sub-disciplines, the focal theme is the rules and organized practices that prescribe a certain behavior for specific actors. The overarching objective of these perspectives is to explicate the creation, diffusion, and evolution of these elements spatially and temporally. As the institutional theories gained supremacy over time, there is a tendency to put a "new" label ahead of it to emphasize the level accumulated of ideas in the field.

In political science, the new institutionalism often refers to the efforts of researchers to "bring institutions back in", especially after the 1980s, against the dominant behavioral approaches, as well as the society-centric explanations of state-society relations. Such efforts amounted to an increasing interest in social, political, and economic institutions as a large, complex, and resourceful study field with a greater emphasis on variation of economic problems and responses among different jurisdictions (e.g. Skocpol, Evans, & Rueschemeyer, 1985). The perspective is followed by a massive interest in institutional structuring and public sector reform especially in the 1990s and onwards. This is the area where the institutional

perspective in political science connects with that of economics, i.e. "new institutional economics".

The "new institutional economics" is the revival of earlier institutional challenges to neoclassical economics which constitutes the orthodoxy in the study of economics. The neoclassical economists, such as Menger, Walras, and Jevons replaced the classical value theories, e.g. from Smith to Ricardo, Malthus, Mill, and Marx, with subjective elements of value as "supply" and "demand" by the end of the 19th century. They have simple and catching assumptions that even today forms the fundamentals of economics teaching: that is the individual, as the unit of analysis, is rational, utility seeker, and fully informed of choices. With the "scientification" or "mathematization" of economics, the neo-classics achieved to separate the field of economics from political science and "legitimized" it among other disciplines[3]. The early institutionalists, such as the German historical school of economists, which soon inspire their counterparts in the US challenged this view in the sense that no mathematical modeling can formulate the functioning of economics which can be understood in the historical experience of a nation. They rejected the deductive "laws" of neoclassical economics and defended an approach encompassing the development of the entire social order which itself defines the economic motives and decisions. Strictly following the German tradition, they see the legal intervention in the economy (rule-setting) as a necessary interference. Their counterparts in the US were also puzzled by the rise of mergers and monopolies in the late 19th century when the government had to enact antitrust and merger laws. This was the critical point in the government intervention in which the institutionalists see merit, but the neoclassical economy does not have a say (Hodgson, 2004; Hamilton, 1999). In this respect, the intersection of law and economics started to embolden institutionalists although the neoclassical orthodoxy prevailed throughout the coming century. The "new institutional

[3] Such effort can well resemble to the emergence of other disciplines like public administration or sociology.

economics" has made a stronger challenge to neoclassical economics, especially in the last decades. It is different from other institutional approaches in the sense it emerged out of the field of economics itself and does not deny the neoclassical assumptions of scarcity and competition, however they split from the orthodoxy by rejecting the perfect information and instrumental rationality. On the other hand, it is different from earlier institutionalists as they are not hostile to abstract theoretical models in the areas of marginalism or utility maximization and apply the analytical method of neoclassical theory to explain the functioning of institutional arrangements (Furubotn & Richter, 2010, p.2). As the new institutional economists see choices to be embedded in institutions, they gained greater reach compared to the neoclassical economists who are much focused on the equilibrium, price, and outcomes (Menard & Shirley, 2005, pp. 12, 13).

The new institutional economics, by definition, is a branch of economics, but it inherently has a multi-disciplinary breadth with the flexibility to adapt concepts in political science, sociology, law, etc. In this respect, any discipline that sheds light on the institutions covering rules and norms in human interactions in the production and exchange is related to the new institutional economics as far as they can be utilized under the microeconomics' framework. The sub-fields vary and often overlap with the studies in law, organizational theory, and public policy and administration. Transaction cost economics, for instance, deals with costs of information, bargaining, decision-making, policing, and enforcement (such as North D. C., 1989; Williamson, 1999). It opened another horizon of research on property rights and economic theory of contracts, while the first is concerned with the impact of property-rights arrangements on economic outcomes, and the latter deal with the asymmetric information problems in contract making. The incomplete contract theories, agency theories, and the principal-agent problems arise out of these spectra of studies which has so far attracted a massive amount of work. On the other hand, the new institutional economics also brought a fruitful contribution to the development economics with attempts to explain why institutions with poor

economic performance persist and the institutional foundations of poverty, “why nations fail” (Acemoglu & Robinson, 2012), as well as the sources of liberty and authoritarianism (Acemoglu & Robinson, 2020)

At this point, it can be safely argued that the new institutional economics, as well as other intersecting institutional research mentioned above, has important potential to contribute to the studies on public sector reforms and the institutional dimensions of market formation. Regulation and antitrust measures are areas of research where the cannons of the institutional agenda could be well employed. In this respect, this research benefits from the discussions among institutional economists thanks to which the success and/or failures of market reform in Turkey would be better understood. But before proceeding, we should narrow our focus to the regulation of public utilities and market formation issues from the perspective of institutional theories.

2.2 New institutional economics, law and political science

In explaining Turkey’s natural gas marker process, we will mainly refer to basic arguments of new institutional economics. Admittedly, the rise of the new institutional economics is more related to the theory of firm and market; so, we need to crystalize the link between such an approach and the market regulation which is fundamentally associated with various fields of administrative sciences and law. In this respect, we can follow Nobel laureate Williamson’s (2000) own articulation of institutional approaches in general and new institutional economics in particular.

Williamson (2000) sketches four levels of social analysis (Figure 1). Accordingly, resource allocation is a matter of prices and quantities; but they are realized in the impure world of incomplete contracts, transaction costs, and weak property rights. To get the governance structure right, i.e. achieve complete contracts, zero transaction costs, and sacrosanct property rights, one needs to establish strong

institutions, buttressed by formal rules or law in general. On the other hand, even these rules are not free from their historical paths and contexts as they are firmly embedded in overarching institutions in informal nature.

New Institutional Economics is concerned with the 2nd and 3rd levels of social analysis as shown in Figure 1. It is also an interdisciplinary field of study having inalienable connections with various accounts of institutional theories. In this respect, one can argue that institutional theories, in general, cover the areas of the 1st, 2nd, and 3rd levels of analysis.

New institutional economics, in particular, tries to explain firm behavior and market formation towards the peak of the triangle, while it rests on the institutional environment or formal rules towards the base. In other words, new institutional economics stands in the middle as it explains governance among economic actors (level 3) which eventually determines resource allocation (level 4) by referring to formal institutions (level 2) which are embedded in broader and deeper informal institutions (level 1).

As formal institutions are rules, which are in the forms of legislation, regulations, and all other codified code of conduct, new institutional economics is firmly related to law. It mostly applies the economic theory in the predicting effects of law (positive law) or developing policy prescriptions (normative law). From the economists' perspective, the law can be used to ensure efficient transactions among the market participants primarily by removing or alleviating market failures, enforcing contracts, protecting private property, and eliminating the cost of information.

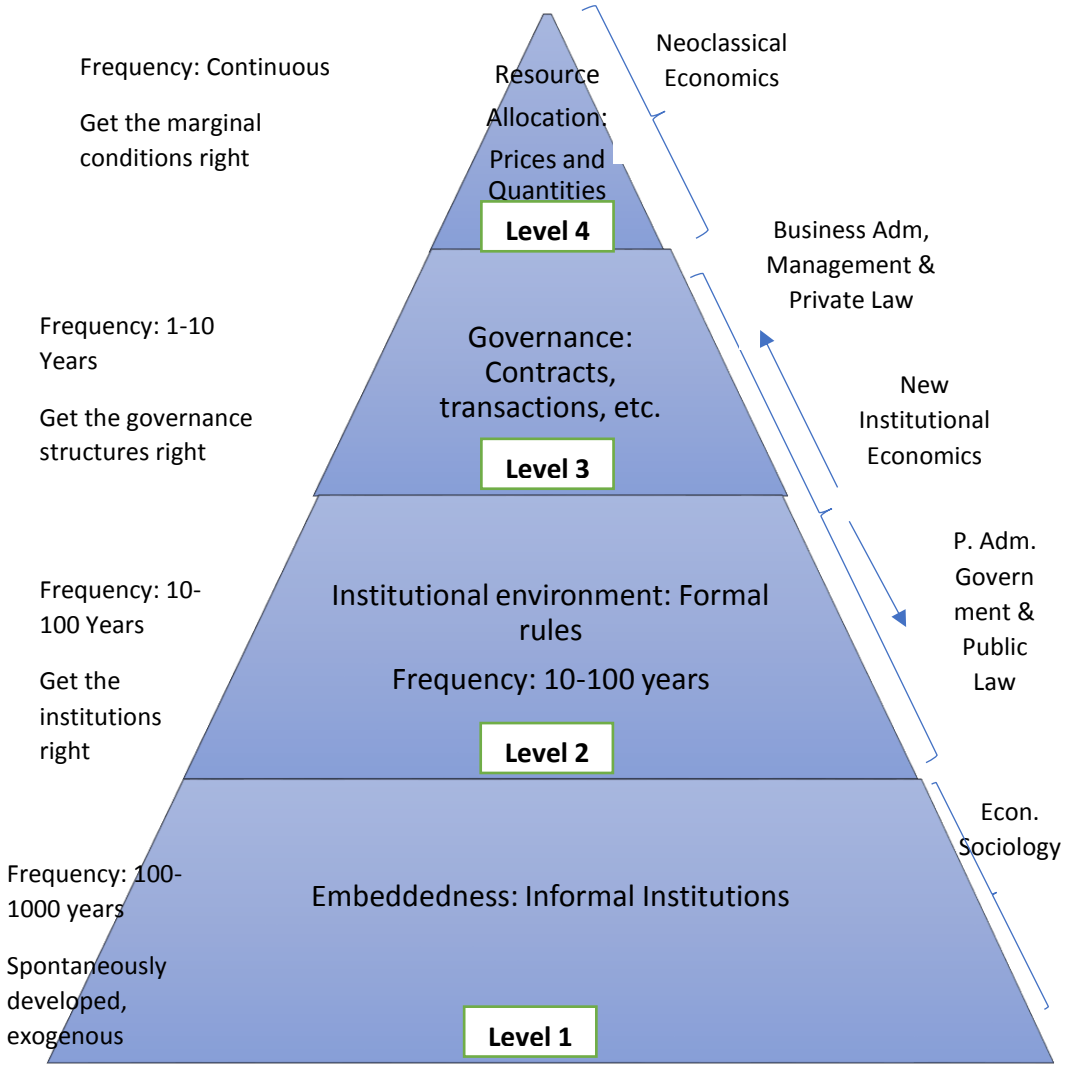

Figure 1 Institutional Theories in Four Level of Social Analysis

Source: Derived from Williamson (2000)

The law and economics literature has largely grown out of the sophisticated needs of industrial societies during the early 20th century. As the economic consequences of legal actions vary, the researchers started to focus on many sectoral studies in this regard, such as price discrimination in medicine (Kessel, 1958), predatory oil prices (McGee, 1958), the allocation and pricing of broadcast frequencies (Coase,

1959), creating a market for water (Milliman 1959), etc. These researches, made by economists, are common in the sense that they model the actual consequences of legal institutions, which will be further elaborated through this research. In this respect, one of the earliest and most influential essays on the issue is Coase's seminal work (1960) on the problem of social cost. In this article, he problematized the court decisions and statutes in terms of costs of bargaining and information gathering, argued that if there is no transaction cost, individuals can bargain to reach the most efficient distribution of resources. His work implied that government involvement in the markets, such as the one Pigou (1920) claimed long ago to tax environmental externalities, is less required than economists consider. This was the departure point of law and economist scholars often labeled as Chicago School, who, for the rest of the century, tried to devalue any state interference in the market transactions by shedding light on the sphere of law. But it was not only the economists that apply their methods in the legal field, but lawyers also started to enlarge their analyses over the microeconomic theory. Calabrese (1961), for instance, examined how tort liability affects the allocation of scarce resources and spreads losses over the society while he tried to find out a normatively better distributive outcome. Posner (1974), a lawyer, developed one of the most systematic efforts to combine two disciplines under his *"Economic Analysis of Law",* which by and large draw the boundaries of these inter-disciplinary works.

The relationship between law and economics necessarily leads to debates towards political science and specifically the role of government. Indeed, Posner's over-mentioned work and his debut in the political arena represent the reflection of the newly accumulating debates to the politics. Posner has a close affinity with his fellows in the Chicago School economists who were defending a minimal government presence by the preference of market allocation over any collective and political decision-making. In the 1960s, this anti-government standpoint was still shadowed by the Cambridge School, represented by Harvard and MIT in the US,

which favors greater government intervention to achieve efficiency and, more importantly, equity (Herrman, 1974). Arguably, when the concept of "equity" comes to the fore, so does political science, which addresses the issue of "distribution". That is why Chicago school took off with the rise of the new right in the late 1970s. Posner's appointment as a senior judge by the Reagan administration represented the triumph of the accumulated legal-economic ideas in the field of politics.

Arguably, the relationship between law and economics has not been solely investigated by institutional economists. The rise of the political economy or the classical economists was realized out of the concern on how rules affect economic outcomes and resource allocation. Both Smith and Ricardo challenged the mercantilist legislation, such as corn law, on this ground. What made the institutional approach special in the relationship between law and economics is that it is bringing new solutions and windows of analysis for the advanced economic relationships of the modern era. Among others, antitrust legislation, regulation, and deregulation of markets, pricing of congestion rents and governance of commons (environmental regulations) all fall into this category that needs a comprehensive perspective on the economic consequences of legislation. Institutional economics tries to assume the mission to merge these two areas together with links to public policy, comparative governments, industrial economics, etc.

It should also be noted that the relationship depicted in Figure 1 is not unidirectional from bottom to top, or does not necessarily imply that the below level determines the upper one. From the institutional perspective, there may also be reverse causality. Rent-seeking theories, for instance, argue that the actors and the relationships in level 3 affect the institutions in level 2. Such mesh of causal relationships among these social levels of analysis increased the complexity of the institutional theories, such that Williamson (2000) admitted during the much-respected period of institutional economics that they were still very ignorant about

institutions even though there has been enormous progress in the study of institutions. In overcoming such ignorance, he recommended that complex institutions can be studied by various instructive lenses, and a plural approach would enhance the overall explanatory power of institutional approaches. That is why institutional economics often overlaps with various sorts of analyses in neighboring disciplines. For instance, the influential books of Huntington on "Political Order in Changing Societies" (1968) and Fukuyama on "Origins of Political Power" (2011), which are edifices in the political science and rarely refer to economics, include various references to the role of institutions as the prime determinants of economic growth, development, and social welfare. Their approaches and findings are much reflected in the new institutional economics approaches, such as Acemoglu and Robinson (2012) who mostly stick to methods of economics. In sum, we can argue that institutional theories are more in patchwork form in which the new institutional economics leads.

2.3 Why the institutional approach matters in analyzing gas market regulation?

Having explicated the links between economics, law, and politics in the institutional approach, we now get closer to answer the question as to why the institutional approach matters in analyzing gas market regulation. Throughout the 1990s, the institutional theories faced the active agenda of neoliberal transformation of economic governances all over the world. The main item in the reform agendas of governments was to liberate the markets to achieve efficiency. However, the institutional theories are more concerned with the institutions that can enable competitive efficiency to work. In this respect, the neoliberal agenda met with various strands of institutional theories to realize the targets of reform goals, which are often symbolized by the efforts of the IMF and the World Bank. Turkey's own story towards neoliberal structuring is also relevant to her relationship with these Bretton Woods institutions. The deteriorating macroeconomic balance in the

second half of the 1990s pushed Turkey to sign stand-by agreements with IMF. The letter of intent submitted to the IMF by Turkey in 1999 includes references to Turkey's goal to develop a liberal regulatory framework for the electricity and natural gas markets[4]. In a similar vein, World Bank's economic reform loans were tied to the liberalization of the energy markets during the early 2000s[5].

Institutional theories found a great leeway in the neoliberal transformation of natural gas markets, such as the subject of this thesis, i.e. natural gas market reform, and regulation. In that era, the privatization of utilities and regulatory reforms were heavily billed as the cure to release market forces, improve service quality, and provide affordable prices. However, as the institutionalists dig into the issue, they realized that expectations are over-optimistic (Levy and Spiller, 1996). Institutions vary among countries and this variation matters. Formal institutions, that are legislations, organizations, regulations, etc., and informal ones, much-rooted ideas, ideologies as well traditions became an area of focus to understand the success path of any market liberalization. In other words, while the government started to retreat from the markets especially in the utility services, they started to expand in terms of regulations and other public surveillance mechanisms. This created a patchwork of institutions embedded in transactions in the market in which various players exist: various branches of governmental bodies, judiciaries, newly-formed regulatory institutions, in addition to new sort of market players to replace the incumbent utility companies which were often previously owned by the government.

[4] Please see Turkey's letter of intent (Paragraph 50) signed on 9 December 1999: https://ms.hmb.gov.tr/uploads/2018/11/IMF-ile-yap%C4%B1lan-Stand-By-D%C3%BCzenlemesine-%C4%B0li%C5%9Fkin-09.12.1999-Tarihli-Niyet-Mektubu.pdf,accessed on 3 January 2021

[5] Please see Economic Reform Loan Report of World Bank dated 2000: http://documents1.worldbank.org/curated/en/894981589072864822/pdf/Turkey-Economic-Reform-Loan-Project.pdf, accessed on 3 January 2021

One of the mainstream institutional approaches applied in market regulation is the transaction costs approach. The transaction costs approach was first developed by Coase (1937) but he was mainly concerned with the question of why the price mechanism does not suffice to explain the formation of a firm, contrary to the neoclassical expectation. To him, there are costs of information and negotiation as well as concluding a contract through decentralized individuals. To avoid these costs, i.e. transaction costs, small actors tend to unite and establish or enlarge the firms. As far as the transaction costs get close to zero, the market would then more decentralized and competitive. Institutions can diminish transaction costs or increase them. Coase's innovative approach was soon applied to the political sphere as well. Arrow (1969, p.1), for instance, defined the transaction costs as the "costs of running the economic system". In other words, the institutions of a country define how costly to make an economic transaction in a country, and political transactions become part of the game. North (1981) raised an important point that inefficient property rights are a result of high political transaction costs as the policymakers cooperate with powerful constituents. This explains the barrier to trade, market inefficiency, and economic stagnation. But, if political costs are low, the property rights would be efficient. The political transaction costs, as Furubothn and Richter (2010, p.56) put, include supplying public goods by collective action. Specifically, they are setting up, maintaining, and changing a system's formal political organization which are associated with the establishment of the legal framework, administrative structure, the judiciary so on. These are also running a polity that corresponds to the information costs, costs of decision making, monitoring, and enforcement (Levi, 1988, p.12).

The transaction cost approach to politics has provided a fruitful field of study which mainly investigates the institutional setting of a country in term of how the transaction costs occur, and result in possible economic outcomes. For example, North (1989) extended the transaction cost approach to political exchange and analyzed how the political and economic institutions developed the polities and

economies. Williamson (1999) made a more specific analysis of public and private hierarchies and explained how public bureaucracy is suited to some transactions and not to others. He provides a comparison of public and private bureaucracies and argued that the efficiency of public bureaucracy could be increased by diminishing transaction costs. Acemoglu (2003) also applied the Coase theorem on political conflict and commitment and analyzed the inefficient policies and institutions through a transaction cost perspective. Among many other studies, we can also mention the regional study of Spiller and Tommasi (2003) who applied the transactions approach to analyze how the political institutions define the political transactions in the case of Argentina. Our research will also provide an analysis of Turkish gas market reform and the interplay among actors to see how the institutions define transaction costs in this process. We will also stick to Coase's original perspective on transaction costs (1937) to assess the unbundling provisions of the gas market regulation and how it affected the market formation. In this respect, the works of Joskow (2003), who has so far provided essential analysis on the issues of vertical integration of firms from an institutional perspective, will be reflected

Another institutional approach to be applied in the market regulation are the agency theories and especially the principal-agent relationship analyses. The principal agency theories emerged in the 1970s with a valuable contribution to the study of organizational institutions. They made a significant contribution to economics and politics with the concepts of regulatory capture, moral hazard, etc. As North (1990, p.5) argues, organizations come into existence and evolved through the mechanisms of the institutional framework while they include political bodies (political parties, the Senate, a city council, a regulatory agency), economic bodies (firms, trade unions). Institutions define the principal agency relationship among these organizations, i.e. the hierarchical relationship as well as all forms of exchange. The agency relationship is established when a principal forms a contractual relationship with an agent and delegate some of the rights and

responsibilities to it. The critical point in this relationship is that the agent inherently has more information than the principal concerning the subject of the assignment as the cost of getting information is less for the agent than the principal. The information asymmetry gives the agent the advantage of shirking from responsibilities and exhibiting various opportunistic behaviors (Eggertson, 1990). Arguably, this concern has vast repercussions for the institutions of market reforms and regulation of utilities. There are mainly two matters of concern: First, the market reforms often included the creation of an independent agency between the government and the firm. The independence of such an agency has been an institutional innovation, or an issue, in many countries as it created sort of a principal (legislator and/or government) -agent (regulatory commission) relationship. How the regulatory commission is established is a matter of public administration in each of the countries having diverse institutional settings. For instance, Spiller and Urbiztondo (1994), observed that in unified system governments with stable polities, control over the bureaucracy would be stronger compared to the divided government systems. There many other studies (such as Weingast and Moran, 1983; Spiller, 1990) analyzing the principal-agent relationship between the legislator and the regulator. These analyses will be illustrative in the Turkish case as regards how the Turkish Energy Market Regulatory Authority (EMRA) functions in the Turkish administrative apparatus and transacts within the constraints of government and judiciary.

Besides, the principal and agency relationship is more relevant to the relationship between the regulatory authority and the firm. At this point, other tools of institutional theory, such as the economics of property and contract would provide useful lenses of analysis. The regulators often provide licenses to the firms which define the rights and responsibilities. The regulation of a property is actually a state intervention in property rights that has important economic consequences (Barzel, 1997). This is especially important in the regulation of natural (or legal) monopolies because in such cases customers are captive to the service provider and any

regulatory failure has greater consequences. During the mid-1990s, international organizations, such as the World Bank, sustained great effort to understand why privatizations did not work. These efforts, e.g. Shirley, 1999, often compares the performance of the firm against different institutional set-up, such as under regulation of an agency or with a direct contractual relationship with the government. The performance of a state-owned enterprise (SOE) in comparison to its private peer is also an important sphere of concern as SOEs persist even after the stream of privatizations in the 1990s. We can analyze the Turkish natural gas market from the same perspective as EMRA is typically assigned to tasks of a principal in the face of the licensee firms. The interplay between EMRA, the natural gas former incumbent utility company, BOTAS, the non-privatized or newly formed gas distribution companies, as well as the traders, fits into the theoretical setting which we will elaborate on in the relevant sections below.

Another point to be highlighted is that regulatory incentives (Shirley, 1999, P. 158-61), or tariff making are one of the most crucial parts of regulation, thus our investigation. There is ample literature as to how to set tariffs on natural monopolies. The point here is that the company should be precisely renumerated so that it operates but does not abuse its monopoly power. The regulator's task is then to prevent monopoly pricing and allow profit to the company in a well-designed way. The institutional framework of the market regulation is critical in the setting of this precise balance.

A final note on the issue is that, the institutions of regulation matter in terms of both government opportunism and rent-seeking. As North (1991, p.52) argues, institutions define who enters a market and how it operates. Whereas, institutions themselves do not necessarily improve socially Pareto-optimum efficiency. Rather, institutional set-up is determined by more powerful constituents and they define the rules (institutions) of the game so that they gain more. This again makes us think about "capture" theories as well as the best way to eliminate the risk of

shirking and corruption. Typical work on the issue was Krueger's (1974) article on the political economy of the rent-seeking society in which she tried to develop an institutional device to reduce rent-seeking. One can add many other pieces of research in this field which would be very beneficial to analyze any market where doing business is highly regulated. The case of the Turkish natural gas market can benefit from these approaches as well. The regulator license companies in different market segments, which have significant financial consequences and would arguably increase the rent-seeking tendency.

2.4 The distinctiveness of utilities and natural gas market

Before proceeding to the next section, it is also noteworthy to develop a more specific perspective on the natural gas markets. As we will see in the next section, natural gas has generally been supplied by utility companies which could be characterized by monopolies under state ownership. Such character necessitates us to develop a distinctive perspective on utilities and natural gas supply service (Levy & P.T., 1994). First, economies of scale and scope are common in utilities, implying that the number of service providers becomes very small over time. As the firm gets larger, the more cost savings it can make. This makes pressure on the firms to get larger both horizontally and vertically and only big capital or state-owned enterprises can assume such tasks. In such cases arises natural monopolies when it becomes least costly for one firm to produce a single commodity. As we will see in the discussion of the Turkish natural gas distribution and transmission sectors, the matter of natural monopoly is essential in developing an institutional perspective.

A second and also relevant point is that utility assets cover a huge portion of sunk costs. Companies in the gas business need to make massive investments and over a relatively high period to recover them (Dastan, 2018; Dastan & Selcuk, 2016). The recovery of sunk costs is important from an institutional perspective because only a credible regulatory commitment can ensure the potential investor to assume such costs. Since sunk costs are the difference between the ex-ante opportunity costs

and the recovered ex-post, the investors would need a stable environment and assured service. This point is highly controversial in incentivizing investments where are theoretically open to competition, such as LNG and storage facilities, as well as franchising distribution facilities and then applying tariffs to them.

Finally, unlike many other goods, natural gas is massively and commonly used among people with low demand elasticity. This makes the natural gas supply issue a highly political one with strong electoral consequences. Albeit the efforts to depoliticize the service of gas through the foundation of regulatory authorities and objective rules are defined to avoid possible short-term political intervention in many parts of the world, the political strain did not cease to exist. Rather, as we will see in the Turkish case, governments tend to regulate the market in informal ways, usually through SOEs as well as regulatory authorities. Gas consumption in Turkey has been highly increased over the last two decades as almost every provincial city is connected to the network (EPDK, 2018). Natural gas largely replaced fossil fuels in household consumption as well as in electricity generation. Even if not to the extent of electricity, gas consumption is now an important issue of electoral politics. The institutional perspective we try to exhibit in this research is then quite useful to see how the political apparatuses join in the interplay among actors.

CHAPTER 3

GLOBAL TRANSFORMATION OF NATURAL GAS MARKETS

The liberalization of gas markets covers opposite tendencies. The first case is the US where the market evolved spontaneously without government intervention. The market regulation for the US amounted to the removal of market failures that emerged in the course of market transactions. The second sort of market regulation, pioneered by the EU, is the termination of State-Owned Enterprises' monopolies and encouraging new investment under government regulation. They largely aim to come to the same point where the gas supply service is provided by the private entrepreneurs in a competitive market but under government regulation. The government is not the actual supplier of the service, but it is the enabler with monitoring and enforcing the conditions of fair competition. Ideally, such a goal would entail cheaper prices and quality supply where quality mainly corresponds to the security of supply. In the next section, we will provide a brief picture of market reforms in these two general clusters.

3.1 From a decentralized supply to the regulated competition: The United States

The US was the first country in which natural gas is commercially supplied to the market. The extraction and transport of natural gas in the US have largely followed the oil path. The exploration and extraction of oil as well as its transport had always been realized by private entrepreneurs in the US, very well-fitting to the American market capitalism. The rise of the oil giant, Rockefeller's Standard Oil, was a fruit of American capitalism's spirit of entrepreneurship and, in more adverse terms, its relentless nature as it demonstrates the monopolization of the industry through mergers and take-overs. The response of the US government to the gargantuan

character of the oil industry was to regulate the rail industry[6] first, as it was then the main tool to transport the produced oil to the consumption centers. As one of the early examples of the enforcement of the Sherman Anti-Trust Act dated 1890, Standard Oil Company was divided into 34 companies in 1911 (https://www.ourdocuments.gov/doc.php?flash=false&doc=51).

The natural gas industry followed a similar path in the US (Branden, 2008). The gas industry was flourished by private entrepreneurs for commercial purposes, who developed ways of introducing gas to domestic consumption. Over the 19th century, companies in the US made technological advances in pumping, transport as well as storage technologies. However, the gas boom came under government scrutiny due to the rise of market power in the industry, just like it was in oil. Two holding companies (Rockefeller and Morgan) owned a great part of natural gas production (36%) as well as transportation (90%). They carefully created market segments and abused their market power to prevent competition and maximize profit.

But, following the Great Depression, the heydays of natural gas suppliers have attracted opposition which is followed by strict government surveillance. The Federal Trade Commission eventually concluded that there was a strong monopolistic structure in the natural gas industry encircled by unfair pricing and excessive profits. As a result, the gas industry was put into state regulation with the Natural Gas Act of 1938 and the Federal Power Commission (FPC), previously established to regulate electricity markets, was authorized to control the prices charged by the interstate pipelines. In this pre-reform setting, gas producers were selling their production to transmission companies which then were selling the gas to distribution companies. The natural gas is delivered and sold to the final consumer by these distribution companies. The federal government was controlling the gas sale prices while the local government was controlling the distribution

[6] The Interstate Commerce Act of 1887

company's prices to the end-users. In other words, state supervision was covering all segments of the market.

As we approach the 1980s, the gas industry has started to be exposed to the neoliberal ideals that the government's direct or indirect presence in the gas market was hindering the flourishing of the industry and meeting the latent demand. This idea was firstly and heavily promoted in the US where the liberal ideals were gathering pace especially in the second half of the 1970s (Branden, 2008). For the gas industry, the regulation of the tariffs in various segments of the gas market should not be a model of the US which has been the vanguard of capitalism. Echoing Friedman as well as Hayek, the gas industry lobbies claimed that the "price" itself best optimizes resources in the gas market, not the regulations of government. They also benefitted from the repercussions of the 1973 oil crisis as it highlighted the need for substitutes of oil, e.g. natural gas. In this atmosphere, the industry achieved the enactment of the Natural Gas Policy Act of 1978. This regulation has established the Federal Energy Regulatory Commission (FERC) which was mandated to determine the tariffs. The act introduced a gradual plan for the relaxation of natural gas wellhead pricing controls and encouraged the opening up of the pipelines to third-party access. FERC initially deregulated the natural gas well-head prices and then deregulated the pipeline tariffs. Through the 1980s, it ended customer captivity and enforced the pipeline companies to allow fair third-party access. These liberalization efforts culminated in the unbundling regulation of FERC in 1992 which required the separation of gas sales, transportation, and storage activities, to be concluded in 2000 (Ishwaran, 2017, p. 290).

3.2 From a centralized supply to the regulated competition: The European Union

Market liberalization is truly the case of European countries which was spurred and coordinated by the EU. While the EU aims to unify national gas policies in general terms, there are national variations in responses to the regulations issued by the

European Commission. As it is seen below, different political economies and institutional settings served as the facilitator or retarders of the reforms. After elaboration of the EU's role as the coordinator of reforms, the research will address some individual cases, which have also set a model for Turkey.

3.2.1 The EU as the enabler of natural gas market liberalization

As mentioned in the introductory part of this section, direct state involvement in natural gas supply had been prevalent in the EU until the liberalization efforts. Natural gas transmission and trade were carried out by joint-venture companies formed by natural gas producers and national and local authorities. On the other hand, at the local level, municipal companies were managing low-pressure networks and retail sales. The commercial terms of the natural gas trade are largely defined by long-term contracts, which have take-or-pay and destination clauses. Thus, the sides of the contracts were locked into each other for a long time.

This framework was challenged at the EU level with the efforts to create a Single European Market, which was adopted by the European Community in 1985. The background idea of such liberalization effort was that a common market would not be possible if barriers for trade split countries through the continent. In this respect, prospects for European electricity and then natural gas markets elevated, which were so far heavily reflecting for national supply and demand characteristics. On the legal grounds, the liberalization reflected the EU Acquis with three main goals: unbundling of existing utilities, ensuring fair third-party access to the networks, and creating independent regulatory authorities whose main tasks were to publish transparent and economically efficient tariffs for natural monopolies (Correljé, 2016).

The European Commission adopted three consecutive natural gas directives and the provisions for liberal natural gas markets became increasingly explicit and stringent over time. While the first two directives were giving a large room for maneuver to the countries, the third directive, adopted in 2009, highly narrowed this space as it

highly solidified the unbundling conditions, stipulating either ownership unbundling or interim solutions close to it. On the other hand, the Commission has also established the Agency for the Cooperation of National Energy Regulators (ACER) which coordinates the efforts of national regulators to uniform the technical level regulations, so that a level playing field is created at the EU level.

On the other hand, one of the main retarders of the liberalization efforts was the concerns of the security of supply. To respond to such concerns, the Commission also adopted three security of natural gas supply directives which were heavily influenced by the disputes between Russia and Ukraine. These directives mainly include preventive action plans, emergency plans, and increased infrastructure standards.

The Commission announced its Energy Union policy in 2015, which envisaged a fundamental transformation in Europe's energy system through ensuring energy security, solidarity, and trust among members. The reflection of the Energy Union on the gas policies are mainly diversification of gas imports especially for the countries heavily bound to single suppliers, e.g. to Russia; establishment of liquid gas hubs where the gas prices are responsive to demand; funding new infrastructures, and preparation of community-wide LNG plans.

In the following headings on certain EU members as well as analysis of the Turkish gas market liberalization, some details will be provided to understand the EU's role as the enabler of natural gas market reforms throughout the continent and beyond. These experiences would provide a mirror for Turkey's own reform progress as well.

3.2.2 The Netherlands

We can firstly make a review of Dutch gas first which is the first European country to extract natural gas, introduce it to local consumption, and then export to neighboring countries. Considering the rise of capitalism in continental Europe

through the Netherlands, one can expect the existence of a relatively more liberal gas market as well. However, this is not so as the country has always tried to balance the existence of the private sector with public ownership. The Netherlands had granted extraction concessions to a consortium (NAM) of two privately-owned companies, Shell and Exxon, while the first was owned by British-Dutch private capital and the latter was one of the offspring of US-based Standard Oil. While carrying out oil exploration and extraction activities in the mid-1950s, NAM unexpectedly discovered a huge amount of natural gas in the soils of the Netherlands (Correljé & C Van der Linde, 2003, p. 27-28). This was an exceptional movement in European energy markets as natural gas had not been commercialized before. The Netherlands government established a state-owned company, State Gas Company (SBP), which has been authorized to transport and deliver the gas to the municipally-owned gas companies. In 1964, SGB signed a twenty-year contract with NAM and it had produced and sold the gas on a cost-plus basis to the SGB. However, the Dutch government soon stipulated these privately-owned companies to make a partnership with the state-owned mining company, Dutch State Mines, 40 percent share and grant right to make strategic decisions, against all the resistance of the Shell and Exxon. This was an important stage in state and private capital relationships in the extraction business as these giant companies had so far given loyalty to the home country (i.e. Middle East countries) without making it participate in the business itself. However, the Dutch government agreed on a lesser royalty (%10) in return for making the state-owned company gain expertise over the business over time. Besides, these companies established Gasunie, the gas transmission company as a public-private partnership where the government was owning half of the shares. The local distribution companies, for their part, were established as municipal companies under full state ownership. As regards the export business, the NAM/Gas-Export is granted the export of gas in coordination with Gasunie. Although Gasunie was not directly involved in gas export, the relationship between NAM and Gasunie was designed such that the export of the

gas would be well coordinated by taking into consideration the production at Groningen and national consumption. Besides, the Minister of Economic Affairs, as the provider of export permits, supervised the export activity by determining the destination of the contracted gas and approving the supply prices and tariffs as well as pipeline and facility construction. Prioritizing the gas domestic market, the Dutch government restricted the amount of gas available for export.

When the market reforms started to sweep through Europe, the Netherlands joined the path after a staunch resistance to the liberalization of natural gas markets at the EU level (Correljé & C Van der Linde, 2003, p.22). The resistance was understandable in the sense that the state was getting a huge revenue from the status quo. However, this pro-state policy was not sustainable. Observing the looming neoliberal waves, it preferred to be a first-mover rather than a laggard to get advantages of a free market. In this respect, the Dutch government published White Paper on Energy in 1995 which was outlining the neoliberal transformation of natural gas markets. The paper envisaged typical steps of gas market liberalization. First, customers were allowed to choose their suppliers progressively starting from large-scale users. Second, all segments of the gas market are liberalized and mechanisms to encourage new suppliers and traders were developed. Finally, fair third-party access is ensured under the control of a regulatory agency. The gas law, which was enacted in 2000, largely incorporated these goals. The former monopoly, Gasunie, however, did not lose its market share initially even after these measures, and the Dutch competition authority took the initiative to unbundle Gasunie's network and trading divisions. The push from the competition authority can well resemble that of MMC in the UK. However, the split was much resisted by Gasunie. The company's main argument against the unbundling that it would jeopardize the integrity and supply security of the gas system. The supply security, as argued, can be ensured only if it could maintain sufficient capacity in all constituent components of the network, i.e. separation of trade and network activities is impractical and risky. Gasunie feared the service fee should not cover the costs of security. On the

contrary, potential traders were claiming that they were in a highly disadvantageous position against Gasunie as it owns the network company as well. Gasunie would naturally favor its trading affiliate. Eventually, the company was divided into a gas trading company, GasTerra, and a gas transportation company, Gasunie whose shares held by Shell and ExxonMobil were nationalized by the government during the split. In the final market structure, the extraction, trade, retail sales remained under the full competition of private firms while the transport activity was carried out by the state-owned transmission company, which is also providing storage and LNG services.

In general terms, we can see that the Netherlands was the first country to develop a mechanism of balancing public goals with active state involvement with private capital's profit motives. Unlike many other resource-rich countries, the Dutch model ensured the socialization of resource rents both over state revenues through royalties and corporate taxes as well as the transfer of industrial expertise and skills.

3.2.3 The United Kingdom

Another notable county in terms of the evolution of gas markets is the United Kingdom. The gas business in the UK was rooted in the town (coal) gas production facilities which emerged in the early 20th century as private initiatives (Webber, 2010, p.2). In 1948, the Labor government nationalized these companies as 12 gas boards. The gas act of 1972 merged these boards under British Gas Corporation as a state-owned monopoly. The state-owned British Gas remained as the monopoly company responsible for the sale and distribution of natural gas to end-users until 1986. Gas production, as in the case of the Netherlands, was open to competition, and it was dominated by multinational oil companies. British Gas was a monopsony and a monopoly that was buying all the gas produced in the UK and selling it to the final British customers. The company was negotiating each of its purchases and was applying sales prices to customers covering a weighted average cost of purchased natural gas, transportation, and distribution costs as well as reasonable profit.

The liberalization was more dramatic in the UK, which would be illustrative to the rest of Europe in the coming decade. Contrary to the US, the UK had a more state-centric approach to the energy business governance which made the transformation process a challenging project. However, Thatcher's government, when took power in 1979, had already gained support for a fundamental reform that was mainly fed from the discontent against the Keynesian welfare state. Thatcher's main agenda in her initial years was the privatization of state companies which she believed to be a way to relieve the burden on the budget (Heater, 2010, p.1). The privatization was mainly justified under neoliberal ideals that free markets would maximize welfare, which gained strong backing from the City of London during the liberalization process (Heater, 2010, p.2).

Thatcher government's first measure was to terminate the monopsony and monopoly of British Gas with the enactment of the Oil and Gas Act in 1982. This act was first to ensure third-party access to state-owned transportation and distribution networks. British Gas was privatized with the Gas Act of 1986 and its shares floated on the London stock market. The privatization of British Gas represented a landmark in the privatization policy of the UK Government and portrayed as a triumph for Margaret Thatcher as the company valued at £9 billion which was the period's highest equity offering ever.[7]

Although British Gas's statutory monopoly was annulled, the company remained to keep its market power, which was a greater problem, especially after privatization. The prime measure of the government was the establishment of specialized regulatory authority which would ensure that the company does not abuse its power. In this respect, the Office of Gas Supply (OFGAS) was created by the same act as the gas regulator independent from the central bureaucracy (Whitehall). Compared to the US where regulatory commissions have had a century-long past,

[7] Please check: https://www.thisismoney.co.uk/money/investing/article-2061085/How-privatisation-shares-like-British-Gas-paid-handsomely.html , accessed on 19 March 2021

this was a significant institutional reform in the UK where the independent regulatory institution had not been a case in the UK context. OFGAS, which soon merged with the electricity board in the coming years, became the central agent in the restructuring of the market and it also functioned as a model for Europe.

The British liberalization rulebook, which was soon replaced all over Europe including Turkey, was simple: Privatize the incumbent gas company, terminate its monopoly, allow other traders to compete against the former giant, establish a regulatory authority which was independent of the government to facilitate this process. However, as Britain was first to encounter, the plan did not work automatically as British Gas virtually persevered its monopoly. As a result, the Monopolies and Mergers Commission (MMC), i.e. privatization authority of the UK, took an initiative and recommended that British Gas should not assume more than 90% of new purchase contracts. This was by no means a timid measure as the Company had already fixed its position. As a result, the Office of Fair Trading started another investigation in 1991 and indicated an insufficient level of competition. British Gas then agreed to reduce its market size releasing some of its contracts to potential rivals. Next year, the MMC re-made its market review and argued that British Gas should be unbundled among three separate subsidiaries. In this respect, the Transco was separated from British Gas as the network operator. The efforts yielded benefits and the company lost two-thirds of its market share up to 1996.

Despite setbacks, the UK and Netherlands set a more mature model of market liberalization where the government-owned utilities relatively smoothly transferred into a private-model setting. They also functioned as a motivator of EU bodies in encouraging the continent-wide reform process. On the other hand, France and Italy followed a more resistant path. Two high intense gas-consuming countries of France and Italy represent cases of cautious liberalization and reminds of Turkey's experience.

3.2.4 Italy

To begin with the Italian case, until the liberalization, the Italian natural gas industry had been dominated by Ente Nazionale Idrocarburi (ENI), the vertically integrated monopoly owned by the government (Cavaliere, 2007). Unlike many of its peers, ENI's areas of operation were also covering the extraction business. ENI had operated truly as a government-owned company, not as a profit-seeker, as the government socialized the costs of investment in non-profitable and less developed areas, i.e. southern Italy, by cross-subsidization from wholesale operations in other regions. ENI was supplying the transmission service with its subsidiary, SNAM, but there was a fragmented market structure in the distribution and retail sales allowing the presence of small-sized private firms and municipal undertakings operating as local natural monopolies along with ENI subsidiaries. Local gas distribution monopolies were mainly owned by municipal companies and in some cases by other small firms granted a concession by the municipalities. ENI was also present with a %30 percent share in the less profitable areas in the south where the central government assumed the risk of losses, as mentioned above.

Italy started to liberalize its gas market through the 1990s with the partial privatization of ENI in which the state-ownership was reduced to 30% (Cavaliere, 2007, p.9) and an independent regulatory agency was established for setting tariffs. Italy's adoption of a more liberal stance was realized in 2001 after pressure from the EU with the legal unbundling and partial privatization of ENI's transmission subsidiary, SNAM whose 40% shares are floated on the stock exchange. SNAM's ownership separation was realized in 2012.[8] The distribution companies were also separated from their retail businesses in 2003 (Cavaliere, 2007, p.10).

As regards the actual functioning of the competitive market, one can see that ENI had long exerted the incumbent market power over the market. The government

[8] Please check: https://www.snam.it/en/about-us/history/ , accessed on 19 March 2021

initially projected humble market share limits (70%) for the company to be realized over time. Unlike the British case, the government didn't impose pressure on the company to release its contracts. Moreover, ENI was possessing an even stronger position compared to many other European gas traders as it was also extracting the gas commodity itself. Such vertical integration in the upstream was giving an unprecedented position against its possible rivals in the domestic market.

The push to loosen the ENI's grab on the domestic natural gas market came from the Italian competition authority as was the case in the UK and the Netherlands. The competition authority argued that ENI was abusing its comparative advantage in the market, especially in the sense of unfairly booking capacity in the transmission network which was operated under ENI's control. The point was that ENI was also owning the transit pipelines to Italy which the company itself once constructed. The competition authority asked ENI to apply fair third-party access to these networks to increase competition in the domestic wholesale market.

However, the problem was not settled for the new traders in the market as the capacities in the interconnection points were overbooked by ENI for the long term. The competition authority then asked ENI to increase capacity at the interconnection (Tunisia-Algeria) so that new traders can import gas. ENI resisted such demand claiming that the country did not need new amounts of gas and the new investments would waste the sources. The company's claims for resistance was refuted in the coming years as the country was exposed to gas shortage rather than a bubble (Cavaliere, 2007, p.30).

3.2.5 France

The adoption of neoliberal prescriptions on the natural gas market was even more stressful in France, which has exhibited the most vigorous resistance to natural gas market reform. The reform was moderate, delayed, and simply s transfer of the European gas directive. The reason for the resistance was that the robust and rigid

French public service model shaped the gas industry in the same way as it did in most of the network industries. The sources the rigidity, as Finon (2002) argues, are the existence of a state-owned monopoly under strong ministerial supervision, emphasis on "equality" for the supply of essential goods or services, stronger unions, which identify themselves as the representative of general interest, and finally a strong interventionist economy to achieve national economic power and political independence, crowned by national champions. The French government had always kept the grip on the gas industry under the general political and commercial objectives and orchestrated the operations in the market for greater goals. For instance, the gas import contracts are subject to ministerial approval where political considerations are also on the table. French governments have also used import contracts to promote exports of French industrial goods to where it imports natural gas. Foreign policy considerations had also affected the natural gas market especially its relations with Algeria (Finon, 2002, p.8).

The French natural gas monopoly, Gas de France (GdF), was established in 1946 with the integrated tasks of purchase, transportation, distribution, and supply of gas but without involvement in gas extraction. GDF holds the legal monopoly in import and distribution while a small share part of the distribution is operated by municipalities and some part of the transmission pipeline was operated by Total. Despite the existence of a private company in transmission, its market activities were highly concentrated by law for a certain type of customer (Finon, 2002).

One of the distinctive natures of the French gas supply service is that utility services in France are accepted as a public service standard, more explicit in electricity distribution but also valid in gas. Such standard is deeply rooted in the administrative law and stipulated that customers should be served with essential goods as inexpensively as possible and indiscriminately. The principle implies that the gas company, i.e. GDF should not seek profit in its activities but try to maintain general social interest. The “egalitarian” approach has been one of the barriers to

transformation to market-based governance in the gas business, which could be possible with the EU pressure.

The government has always kept the GDF under strong control and supervision as the company has few discretions in determining tariffs and making strategic choices. Nevertheless, the government relieved the control in the mid-1990s and determined certain efficiency targets for the company to be measured by include economic, financial, and commercial yardsticks (Finon, 2002). The government applied price-cap regulation for the company so that the company sought ways of achieving the targets without increasing consumer prices. As Finon argues (2002, p.8), this methodology worked well as French gas price averages remained to be under European averages. GDF is also deemed to be an active player in making and negotiating contracts with natural gas suppliers. However, there was still a heavy public policy restriction on GDF that was running counter the commercial dynamism and reducing the unit costs.

Under such constraints and pressure from the EU, the choice of the French government was a minimal liberalization reform with a two years delay from what was envisaged in the EU directive. The reform act of 2002 included minimal network unbundling, limited opening of the final market, and no projection to change the industrial structure or release the gas contracts.

The EU functioned as the single driving force for natural gas market liberalization in France as the potential new entrants, such as oil companies, were not daring to challenge the status quo, which is backed by trade unions, bureaucratic establishment, influential left-wing political actors. The focus on the French identity of the service and the so-called strategic importance of the natural gas supply was also attracting support from right-wing actors (Finon, 2002, p.14). This last point was much defended in the sense that France was, unlike such as the UK and the Netherlands has been fully dependent on imported gas, leading to hesitance to

liberalization as it would put the country into a fragile situation under the market-oriented considerations of private firms which may have foreign ownership.

CHAPTER 4

NATURAL GAS MARKET REFORM IN TURKEY

4.1 Historical trajectory

Turkey's transition to a liberal economy in the early 1980s had the first repercussion in the electricity service. The natural gas supply service emerged as a state-led sector and had remained effectively so until the late 1990s. The Turkish government had the intention to open the gates to private capital in energy markets. The Law No. 3096 in 1984, allowing the Build-Operate-Transfer contracts in the electricity generation, proves this liberal orientation Whereas, the gas business was newly familiarized at that period and its future was not projected. The first natural gas import contract was signed in 1986 especially to introduce gas to Ankara for heating and alleviating weather pollution. The gas was first supplied to power plants first in the Trakya region in 1986 and then to Ankara in 1988. Some major cities including Istanbul, Bursa, Eskişehir, Kocaeli, and Sakarya followed suit.[9]

During the early years of natural gas supply, the service was exhaustively made by public enterprises in Turkey[10]. BOTAŞ has grown as the dominant actor in the natural gas market partly because of the legal barriers against private entry and partly to the fact that the natural gas supply was uncommon and the profitability of the business had not been fully realized yet. Table 1 and Table 2 outline the early framework of the gas supply business in Turkey. Accordingly, BOTAS had two legal

[9] Please check http://www.botas.gov.tr/, accessed on 03.01.2021

[10] A minor exception was the Bahçeşehir Gas Distribution Company which was established for new residential areas in west-end of Istanbul.

monopolies: Importing natural gas and selling it to major customers. On the other hand, the private companies were allowed to do business in the distribution[11] as well as sales branches. Nevertheless, during that period, private capital did not have sufficient skills to assume a service that was formerly carried out by a state-owned incumbent company (electricity distribution and telecommunication are other notable examples). Thus, the municipality enterprises assumed natural gas distribution business in Ankara, İstanbul, Sakarya, and Kocaeli while BOTAŞ did so in Eskişehir and Bursa. Besides, as noted earlier, the private enterprises did not rush into the natural gas business because the profit potential of the gas product was not fully comprehended. Not only for Turkey, and also for many parts of the world, natural gas was a new product and its business channels were uncommon. Only a public service motivation would assume such a new service. The potential private entrepreneurs would lobby for the government to remove the legal barriers if they had been aware of the profit potentials. And, amendments to the legislation would not require too much effort since the regulation was enacted with a decree-law, which was a common mode of law-making in the Özal era (Öniş, 2004, p.114).

Russia, the main supplier of the Turkish natural gas market. Following the birth of the Russian Federation in 1991, Turkish construction firms have built links with the political and commercial circles in Russia. As Gazel (2004) documents and provides details, the rising plutocracy has also allowed Turkish companies to gain a foothold in the gas business. In 1993, the Turkish and Russian governments agreed to enhance a partnership among Gazprom and BOTAS to increase the amount of traded gas. Meanwhile, Gazprom, the Russian gas monopoly, and a Turkish construction company in Russia have established a joint company with a specific aim to export natural gas to Turkey and sell it to Turkish customers. In other words,

[11] Distribution of gas means the supply of gas in low-pressure pipelines residential areas while transmission corresponds to transportation with high-pressure pipelines.

BOTAŞ would purchase the gas at the Bulgarian entry point from a third company that is partly privatized on the Russian side.

Table 1 Decree-Law No. 350 dated 1988 on the Usage of Natural Gas

Activity	Actor	Permit (share formation)
Import	BOTAŞ	Prime Minister
Distribution and Sales in Metropolitan Municipalities	Municipalities (or their Enterprises) BOTAŞ Other Companies	
Distribution and Sales in Metropolitan Municipalities to industrial customers/regions having minimum 5.000.000 m3/year consumption	BOTAŞ	
Distribution and Sales to other regions	BOTAŞ (or its affiliates)	

Source: http://www.resmigazete.gov.tr/arsiv/20014.pdf)

Table 2 Decree-Law No. 397 dated 1990 on the Usage of Natural Gas

Activity	Actor	Permit
Import	BOTAŞ	The Board of Ministers
Distribution and Sales in Cities	BOTAŞ Other Companies	
Distribution and Sales to customers/regions having minimum 1.000.000 m3/year consumption	BOTAŞ	
Distribution and Sales to other regions	BOTAŞ Other Companies (if permitted by BOTAS)	

Source: http://www.resmigazete.gov.tr/arsiv/20428.pdf)

Private companies started to participate in the gas business in the mid-1990s after its profit-making potential was realized. But the participation was originated from Arguably this is the transfer of rents in Russia since some amount paid by Turkey would flow to this company's account. However, such a transfer could be realized only after Turkey's approval. Gazprom assured the Turkish government's consent by making a partnership with an influential Turkish company. But, for Russians, the barrier was the bureaucrats, not the politicians. The Ministry of Energy and Natural Resources and BOTAŞ have not rushed into such an agreement and did not facilitate it. Then, they found an interim solution: Making BOTAŞ, itself, a shareholder of this company which BOTAŞ would import gas, which was accepted by both sides. In this respect, TURUSGAS was established with a mission to takeover some of Gazprom's exports to Turkey. The agreement was concluded in 1996 and it was renewed with an increased amount two years later. BOTAŞ was reported to purchase gas from TURUSGAZ at a higher price (Gazel, 2004), but the matter only got noticed with public sensitiveness during the financial distress of the early 2000s. The point is that almost all the coalition governments of the 1990s had been party to the creation of this rent transfer. The first cooperation agreements were signed in 1993-4 during the center-right True Path Party and the leftist Social Democrat Party coalition; it was concluded during the coalition of Welfare Party-True Path Party in 1996. Then, the contracted amount was increased during the Motherland Party and Democratic Left Party coalition. In brief terms, the rents created out of the TURUSGAS contracts were not the fruit of a single government; and they emerged in the unstable political atmosphere of the 1990s. In 2004, the newly elected Justice and Development Party (JDP) opened the way to High Court for the ministers who were in charge in the signing of the natural gas purchase extension agreement in 1998[12]. The public awareness on the issue grew with the 2001 financial crisis that led to an essential regulatory reform, to be analyzed in the next section.

[12] But JDP's appeal to the High Court was somewhat politically motivated as the original agreement was signed by the JDP's political predecessor, the Welfare Party.

4.2 Natural gas market reform: legal framework

Turkey's natural gas market reform was realized with the enactment of Natural Gas Market Law No. 4646 in April 2001 (See Figure 2). However, as touched above, these reforms are extensions of various liberal reforms starting from the 1980s. The liberalization of the 1980s was stressful for Turkey as it was trying to establish a liberal market structure on *state-led developmentalist* foundations. For instance, the privatization schemes, such as Build Operate and Transfer (BOT), as well as Build Operate and Own and Transfer of Operating Rights faced legal problems as they were designed as concession contracts under the framework of Turkish Administrative Law, a qualification which prevented the existence of international arbitration clauses in the contracts. In addition to that, the government recognized take-or-pay clauses as well as Treasury guarantees for the new contracts, which impose the entire risk of the business to the public funds.

At the dawn of the 2000s, two factors paved the way for fundamental reform in energy markets. One of them was that international actors, i.e. World Bank and IMF were quite influential in Turkey's policy-making process due to the persisting macroeconomics instability. Both Turkey's stand-by agreement signed with the IMF in 1999, as well as the Economic Recovery Loan Agreement, signed with the World Bank, envisaged the application of the neoliberal rulebook for the energy market's restructuring. These plans came into existence after the dramatic 2001 economic crisis. Within two months after the crash of the Turkish lira in February 2001, the government enacted laws that completely overhaul the markets in energy supply, including electricity and natural gas. The laws were among many other reform laws that were rapidly prepared to assure the international creditors concerning a neoliberal institutional adjustment. The rent-seeking had played a considerable role in the emergence of the 2001 economic crisis, which was bred in the neoliberal setting of the post-1980 era. However, the idea behind the 2001 reforms was to even solidify the notion of the liberal economy by holding the *state-led*

developmentalist tradition accountable for the governance problems in the post-1980 era (Bedirhanoğlu & Yalman, 2010). The energy industry was no exception, as the reform law envisaged a market structure as a textbook example of neoliberal energy market restructuring.

A second driver in this period was the EU candidacy process of Turkey. As mentioned above, the EU specified a comprehensive framework for energy market liberalization for its members. These guidelines firstly drafted in the relevant directives have also functioned as a reference for Turkey's path to energy market liberalization as the EU had just started the candidacy negotiations with Turkey in 1999. The candidacy process caused momentum for Turkey to ensure institutional alignment with the EU. As a result, the outline of Natural Gas Market Law No. 4646 resembles the EU acquis as it includes unbundling requirements, fair third-party access clauses, giving the responsibility of market supervision to an independent regulatory authority, which will be elaborated below.

The basic aim of Law No. 4646[13], which can be defined as the reform law as it has completely changed the understanding of natural gas supply in Turkey was to enable competition in all segments of the market by the vertical and horizontal disintegration of market actors, allowing fair third-party access, and privatization and depoliticizing of the market environment with an independent regulatory body. Vertical and horizontal disintegration means the introduction of unbundling and setting market limits respectively. In the traditional framework, incumbent companies were assuming every task in the market from transmission to distribution and from import to retail sales. The Law No. 4646 envisaged different licenses to different entities for each market segment, specified in Article 4 of the Law and outlined in Table 3. No company is allowed to do business in two different market segments or have the control of more than one company in a specific

[13] The first version is available at https://www.tbmm.gov.tr/kanunlar/k4646.html (accessed on 1.1.2018)

market segment (Article 7/3). Besides, according to the market share thresholds, an importer cannot import more than 20% of Turkey's total consumption while the market share of a wholesaler cannot exceed 20% (Article 4 and Article 7/2).

Table 3 Natural Gas Market Activities According to Natural Gas Market Law No. 4646

Network/Trading	Segments
Network Services	Transmission (Pipeline and Land Tankers) Distribution Storage (LNG and Underground)
Trading Services	Import[14] (Pipeline and LNG) Wholesale Export

The second tool to introduce competition is the assurance of fair third-party access in the network (Article 6/b/2). The transmission, distribution, and storage companies are required to ensure fair access to the import, wholesale, and export companies. The goal is to encourage the potential market players to enter the market and thereby increase competition. The fairness means the fair treatment of the companies during the operation of the network and other facilities and applying objective tariff in the use of the facility (Article 11). As it will be detailed in the following sections of the thesis, the network tariffs are subject to regulation for the distribution and transmission companies while the prices are negotiated among storage companies and their customers.

[14] The importers can engage in sales services without getting a wholesaler license.

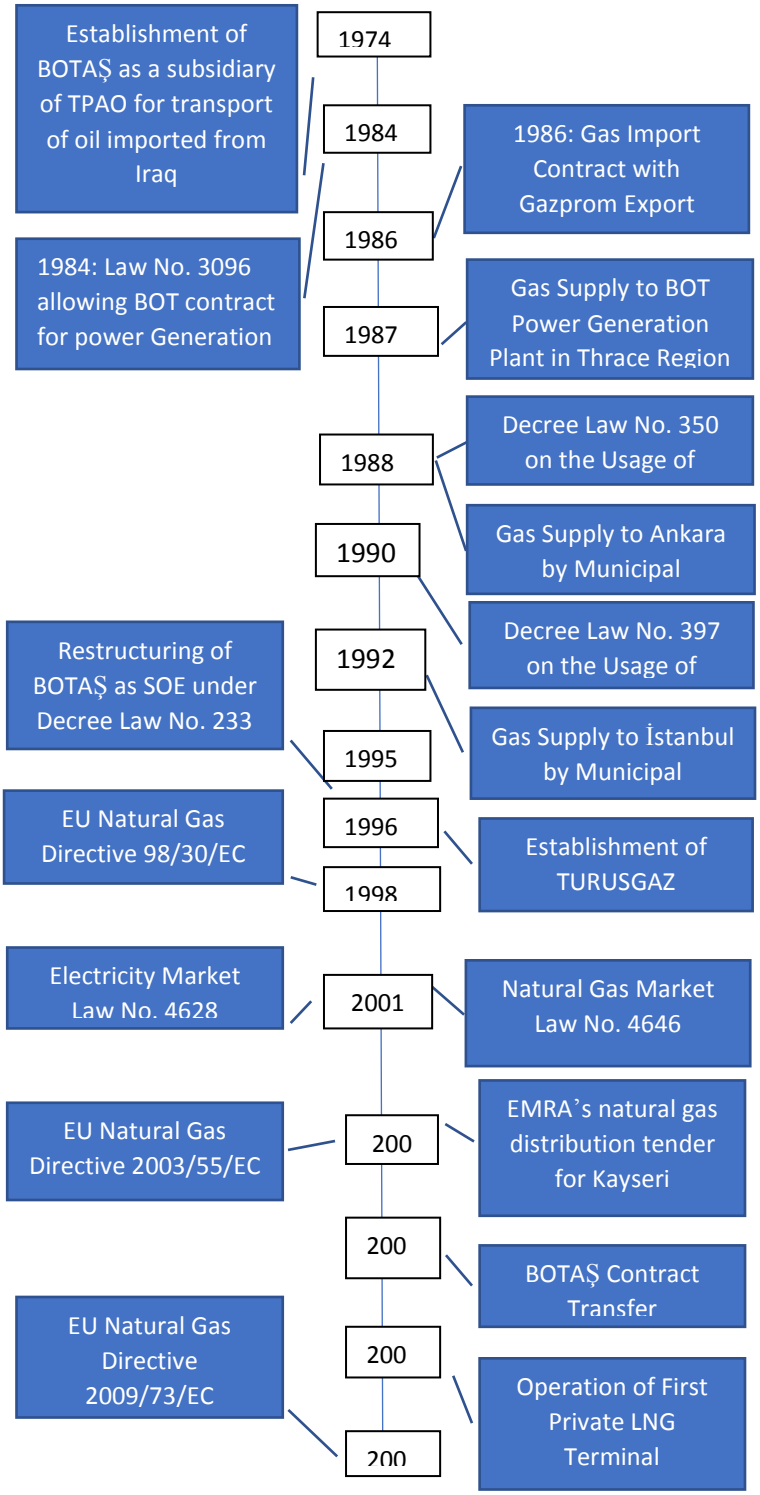

Figure 2 Timeline of Natural Gas Market Developments in Turkey

The third measure of the law was to ensure competition by the privatization of the existing state-owned enterprises (Provisional Article 3). As noted, almost all of the distribution companies were owned by BOTAŞ or municipalities while and the trading business was made under BOTAS's de facto monopoly. The Provisional Article 3 of Law No. 4646 stipulates the complete privatization of the distribution companies owned by BOTAŞ in eight months. As regards the municipality-owned distribution companies, the Law no. 4646 recognizes them three years to restructure themselves so that the state shares of the company fall to below 20%. The Law also conditions the (i) downsizing, (ii) fragmentation, and (iii) partial privatization of BOTAŞ's other activities. Drastically, BOTAŞ was required to transfer the already signed contracts to other companies until its contracted amount falls to below %20. This objective was supposed be achieved in eight years as the transfers should be at least 10% each year. Unless EMRA allows the otherwise -based on the competition conditions-, BOTAŞ is not allowed to make new contracts before the goal to shrink to below 20% is maintained. Then, BOTAŞ's transmission section was supposed to be left to a different state company while other companies would be privatized in just two years. In short, the Law no. 4646 envisages a decade-long transformation in the gas market which would ultimately end up with a single public owned company engaged in the transmission segment.

Finally, the Law no. 4646 established Energy Market Regulatory Authority ("EMRA") as the authority to regulate and supervise the market players. More specifically, the EMRA Board has been authorized for licensing market activities, franchising the new distribution regions to private companies, settling the inter-company disputes, and making tariffs of the network companies. It was designed as an independent regulatory authority so as to assure credible regulatory commitment (Levy and Spiller, 1994). The aim was to depoliticize the field of energy markets, leading the problem of the democratic deficit. Those who are not politically accountable to the public are making regulatory decisions while political interference could be possible only through legislative means (Thatcher, 1998). On the merit side, this prevents

myopia of politicians who wish to the next elections with a cost charged on the future governments. Theoretically, EMRA is required to take the regulatory measures only in consideration of the market dynamics. Having equipped with such a semi-judiciary nature going beyond a typical administrative organ, it has the authority to settle disputes among the market players and between the licensee and the customer.

The outline and main features of the reform Law no. 4646 which is listed above were not peculiar to Turkey. Turkey was exposed to a powerful global stream of liberalization of energy markets which had already started in the mid-90s and in which the EU also played a part. The above section has provided an overview of the goals of the reform as well as the historical context. The next section will get into details of the natural gas market legislation in Turkey, and explore see how the institutions defined the evolution of the natural gas market in Turkey. By doing so, we will be able to see the achievements as well as failures of the Turkish gas market as well as the role of institutions in this process.

4.3 Results of the natural gas market reform

This section provides a gap analysis of the Turkish gas market reform which includes what is aimed at by the liberalization reform law and what is achieved. The goal of the reform is clearly articulated in Article 1 of Law No. 4646 as *"…to ensure supply of good-quality natural gas at competitive prices to consumers in a regular and environmentally sound manner under competitive conditions."*

In this respect, the law has three main goals: *competitive prices* and *security of supply,* and being *environmentally sound*. In this section, we will analyze the first two goals while the third one, "environmentally sound manner[15]" is more related to the electricity markets and has no reflections in the gas market.

[15] The term is the same as first article of the electricity market law.

4.3.1 Competitive prices

Gas price includes commodity price and transport price. The commodity price is determined in the theoretically competitive market, as EMRA terminated the regulation of wholesale prices[16] in 2007. The price of the transport covers the price paid by the traders to the network operators, which are transmission, distribution, and storage system operators. The prices of these facilities are subject to regulation, so, competitive prices for these facilities have different dynamics. For the non-regulated segments of the market, we can use typical competition measures as Herfindahl-Hirschman Index (HHI), and the number of players in the market (IPA Advisory, 2015).

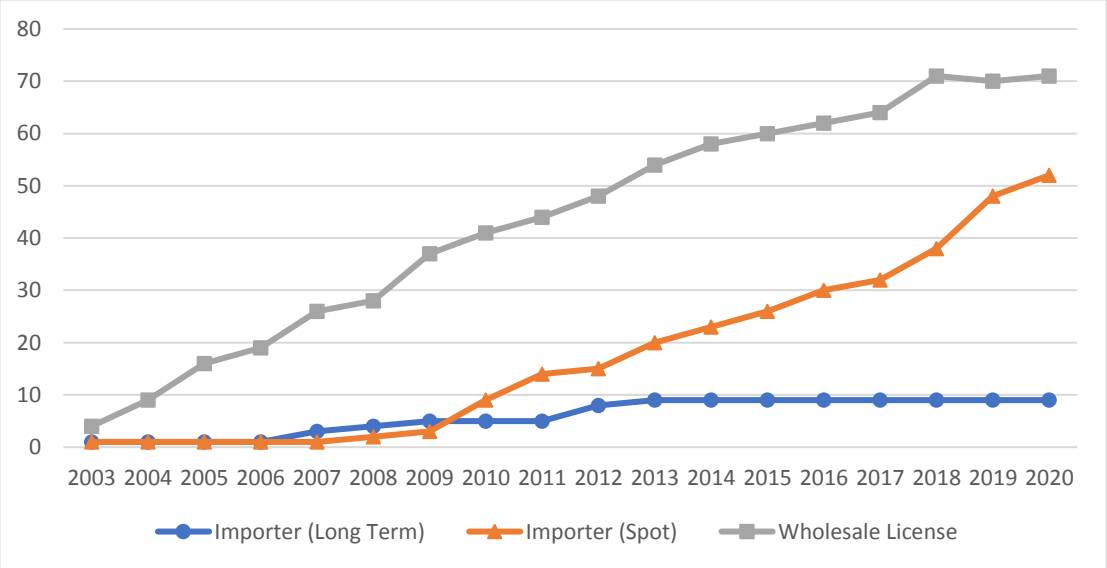

Figure 3 Number of Suppliers in Turkish Natural Gas Market

Source: Derived from EMRA license tables available at https://www.epdk.org.tr/Detay/Icerik/3-0-90-1007/dogal-gazlisans-islemleri

[16] Board decision dated 27/12/2007 and no 1439/2 available at: https://www.epdk.org.tr/Detay/Icerik/3-0-0-1213/dogal-gaz-piyasasi-kurul-kararlari

First, the number of actors in the gas market will be analyzed, which gives some ideas as regards market entry and private sector interest in the market. These numbers are charted in Figure 3.

As we can see the number of licensees is steadily increasing in the market especially in terms of wholesalers and spot gas importers. The number of long-term importers is relatively stable as it requires stricter terms to get a long-term import license. The reasons for such variation will be discussed in the below chapters. At this stage, we can see that there has been just one gas importer, BOTAŞ, until 2007. Between 2007 and 2009 new suppliers participated in the market with the contract release program of BOTAŞ, during when 4 new suppliers got licenses. The second wave of new suppliers was realized in 2012, when the earliest contract of BOTAŞ with Russian Gazprom terminated and, due to legal constraints, only private actors made a new contract with Gazprom. Finally, in 2013, another private actor made a deal with Iraq to import gas and got a license from EMRA. So, we can see that there have been 9 actors in the gas market since 2013.

The wholesale and spot LNG licenses have regularly increased. In the first years of the market reform, the producers started to get a wholesale license. While the gas extraction permit is given by the Ministry of Energy (General Directorate of Petroleum Affairs), the sale of the gas to market could be possible through wholesale licenses given by EMRA. However, their numbers are below 10 and a great majority of the wholesalers are an affiliate of distribution or import companies. We will discuss this issue in the next chapter. As regards the spot import licenses, we can say that there are two sources of spot import: LNG and pipeline gas. The first rise in the figure is the late 2000s, when the privately-owned Aliağa LNG terminal was opened. Together with the decline of LNG prices, new actors got licenses from EMRA to import LNG to Turkey. We can see another rise recently,

which was realized with the EMRA decision[17] to open spot pipeline gas opportunity in 2019.

However, Figure 3 does not provide a shred of sufficient evidence to show the level of competition in the Turkish gas market. It has a value to show the number of players but lacks the market shares of each player. In reality, the aim of the gas market law was to diminish BOTAŞ's market share to a maximum of 20 percent and also set the same limit both in wholesale and import branches to all possible suppliers. Therefore, Figure 4 charts the HHI of the Turkish gas market, which is commonly used to calculate market power and concentration in a given market. HHI presents the sum of squares of each player's market share. As the shares become smaller, the index gets to zero. In the case of monopoly, it rises to 10,000.

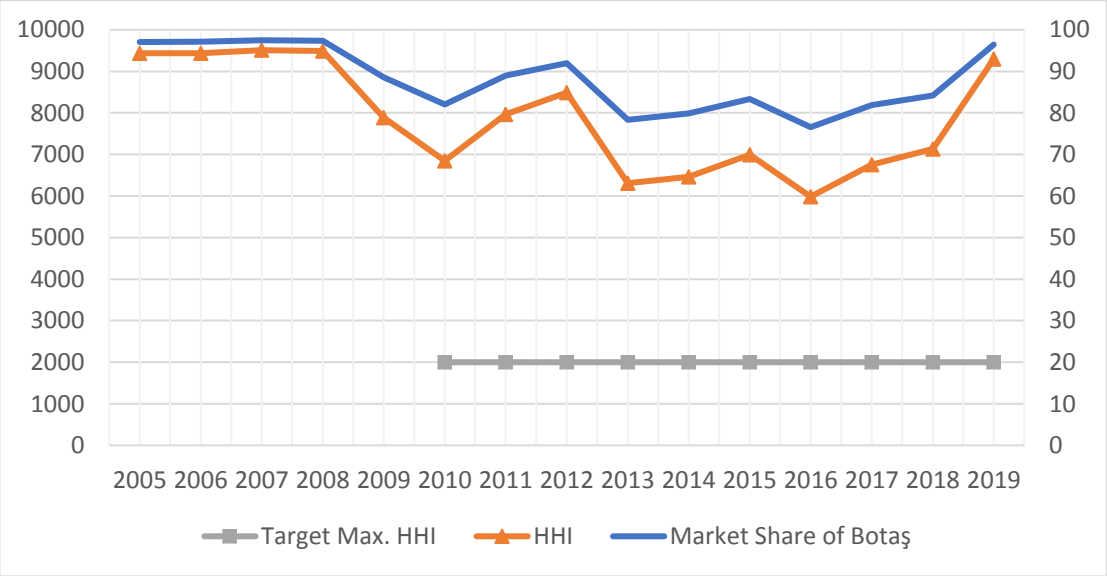

Figure 4 HHI and BOTAŞ's Market Share

Source: Derived from EMRA sectoral reports published from 2009 to 2020. All reports are available on EMRA's website: https://www.epdk.org.tr/Detay/Icerik/3-0-94-1007/dogal-gazyillik-sektor-raporu

[17] Decision No: 8828 dated 12/09/2019

As Figure 4 shows, the concentration in the gas market has always been far above the targeted levels. The grey line below shows the target of the law which specifies that BOTAŞ's market share should fall to a maximum level of 20% by 2009. It is also the maximum market share threshold for a supplier as defined in the law. However, the HHI (score is from 0 to 10000 at the left) has never fallen to below 6000 and it even exceeds 9000 in 2019. In this respect, we can argue that the target concentration level of the law has not been achieved, and the trend does not imply the achievement of such a level in the coming years.

As we see BOTAŞ (shares are shown at the right) has kept its dominance since the very beginning of the reform. It temporally fell to 70% in 2010 which is a result of first contract releases from 2007 to 2009 as well as LNG imports from a private company in 2010. However, with the growing consumption in the 2010s and rising LNG prices, BOTAŞ's market share stabilized through the mid-2010s. The decline in 2013 which is a result of BOTAŞ's termination of the contract with Russian Gazprom did not change the trend. Especially after the construction of the Trans-Anatolian Pipeline (TANAP) from Azerbaijan and the new gas purchase contract from Azerbaijan's SOCAR company increased BOTAŞ's market share to the previous level. As of 2020, we can say that BOTAŞ's share is at the pre-reform levels again.

At the bottom line, we can check the natural gas sales prices. Figure 5 demonstrates natural gas retail sale prices. The blue line represents the retail sale price applied in the İstanbul region[18], while the yellow line represents inflation-adjusted prices. As Figure 5 makes it clear, the natural gas prices , overall, have grown above the inflation rate after the natural gas market reform.

[18] Istanbul region is by and large representative for the retail sale prices over distribution network. Even the network tariffs varies, the natural gas commodity prices cover a great part of the final price discussed below in section 5.2.4.2.2.

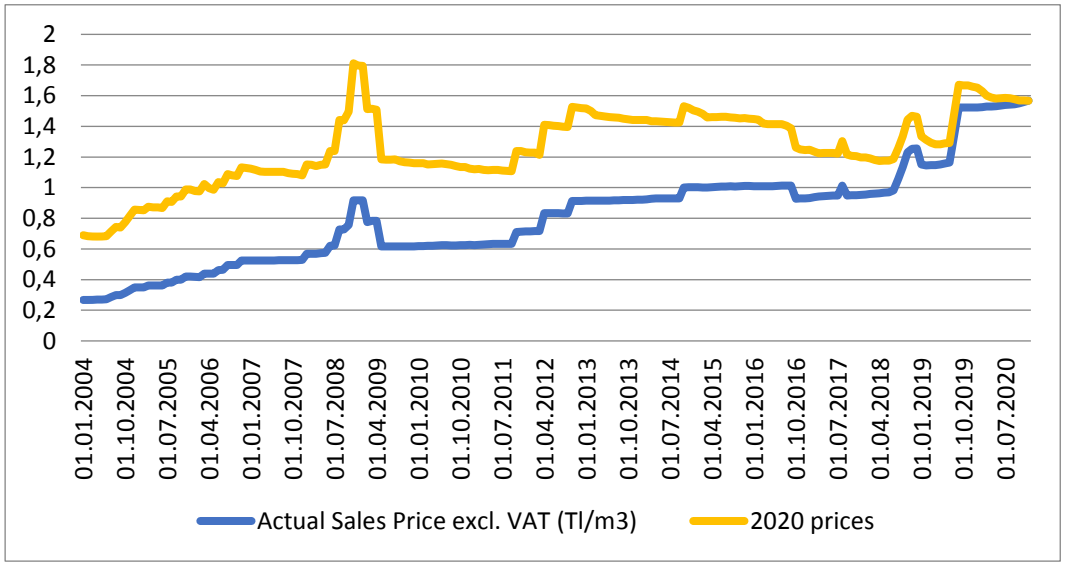

Figure 5 Natural Gas Retail Sales Prices (TL/m3 in İstanbul)

Source: Prices are obtained from IGDAŞ website (https://www.igdas.istanbul/perakende-satis) while the inflation rate is taken from Central Bank of Turkey: https://www.tcmb.gov.tr/wps/wcm/connect/TR/TCMB+TR/Main+Menu/Istatistikler/Enflasyon+Verileri/Tuketici+Fiyatlari

One can interpret the change in natural gas prices by the change is oil prices. To see if they have a relationship, we can check Figure 6. As Figures 5 and 6 are compared, the gas market rise in the first decade largely follows the path of oil market prices for the first decade. However, especially after 2014, the natural gas market prices appeared high despite the falls in the oil market prices after this period. These two figures demonstrate two points: The natural gas prices have increased overtime in Turkey. In clear terms, The price increase in the last five years was realized despite the falls in the oil prices which the natural gas prices are linked to.

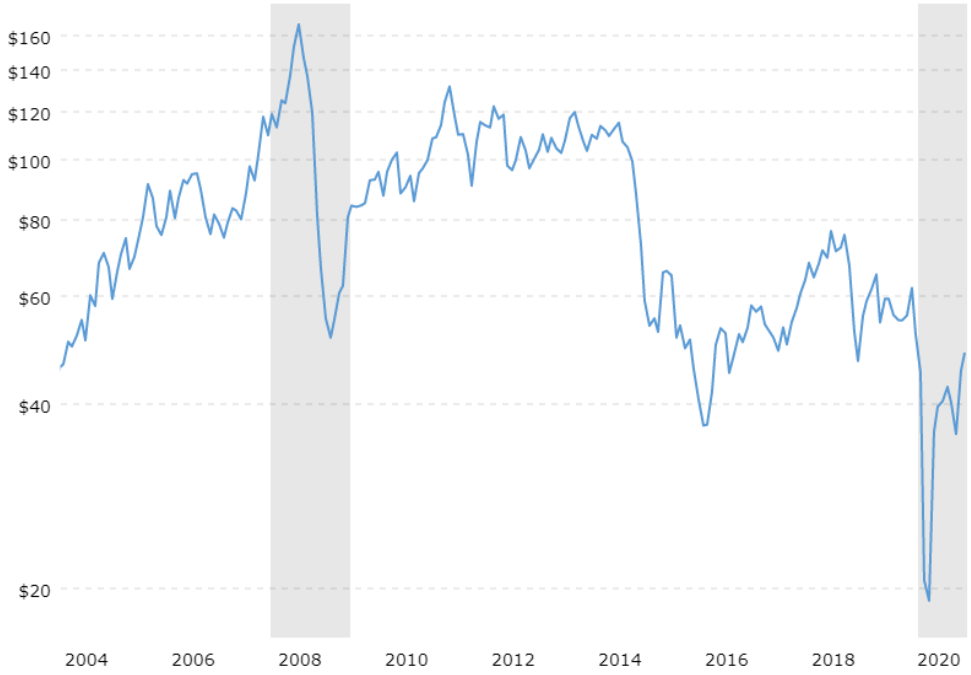

Figure 6 Oil Prices between 2004 to 2020 ($ per barrel)

Source: https://www.macrotrends.net/1369/crude-oil-price-history-chart

4.3.2 Security of supply

The security of gas supply is a more complicated topic and its measurement requires various parameters. These measures are vast and hardly put into a single form like in the case of competition. In this respect, the Measurement of Short-term Energy Security (MOSES) index of the International Energy Agency (International Energy Agency, 2011) will be applied. This index measures country vulnerabilities to supply disruptions that can last for weeks. It identifies a set of indicators for external and domestic risks as well as for resilience capacities to deal with such disruptions (Table 4).

Table 4 Parameters of Natural Gas Supply Security

Dimension	Indicator		Low	Medium	High
External	Import Dependency		≤10%	30%-40%	≥70%
	Political Stability of Suppliers		<1.0	1.0-4.0	≥4.0
Domestic Risk	Share of offshore production		≤30%	≥80%	≥80%
External Resilience	Diversity of suppliers (HHI)		>0.6	0.30-0.6	≤0.30
	Entry Points	Ports	0	1-2	≥3
		Pipelines	1-2	3-4	≥5
Domestic resilience	Send-out capacity		<50%	50%-100%	>100%
	Natural gas intensity, bcm/$1000 USD		<20	20-60	>60

Source: IEA, 2011b

In this respect, we can start by analyzing the risk of supply security and import dependency. As Figure 7 shows Turkey is strongly dependent on imported natural gas while indigenous production is negligible.

While import dependence is a risk for the security of supply in Turkey, this can be relieved by the diversity of suppliers. If there are too many suppliers, the risk of supply disruption from a single point diminishes. We can measure the diversity again through the HHI which shows us in any external source is dominant in Turkey. Figure 8 plots the shares of Turkey's imports by countries as well as the HHI.

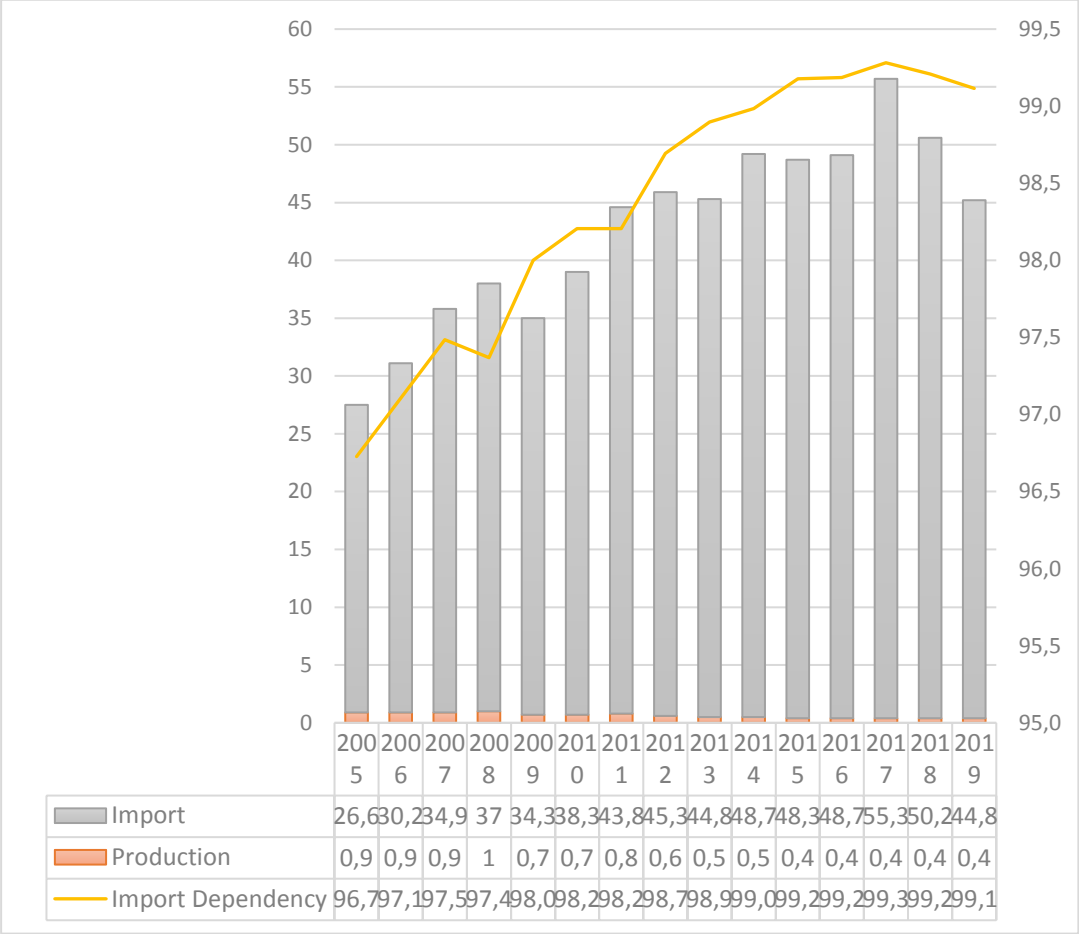

Figure 7 Turkey's Natural Gas Import Dependency

Source: Derived from EMRA Natural Gas Market Reforms 2009 to 2020

To begin with the HHI, we can see that there has been a gradual decrease in the value from around 5000 to 2000 (right scale) since the beginning of the reform process. The first decline in 2010 can be explained by the relative decline of LNG prices and the rise of spot LNG trade. But the second and more persistent decline is mainly due to Russia's gradual loss of share in Turkish gas markets. Especially after the introduction of TANAP gas in 2007, Azerbaijan's share increased dramatically and has almost reached Russia's share.

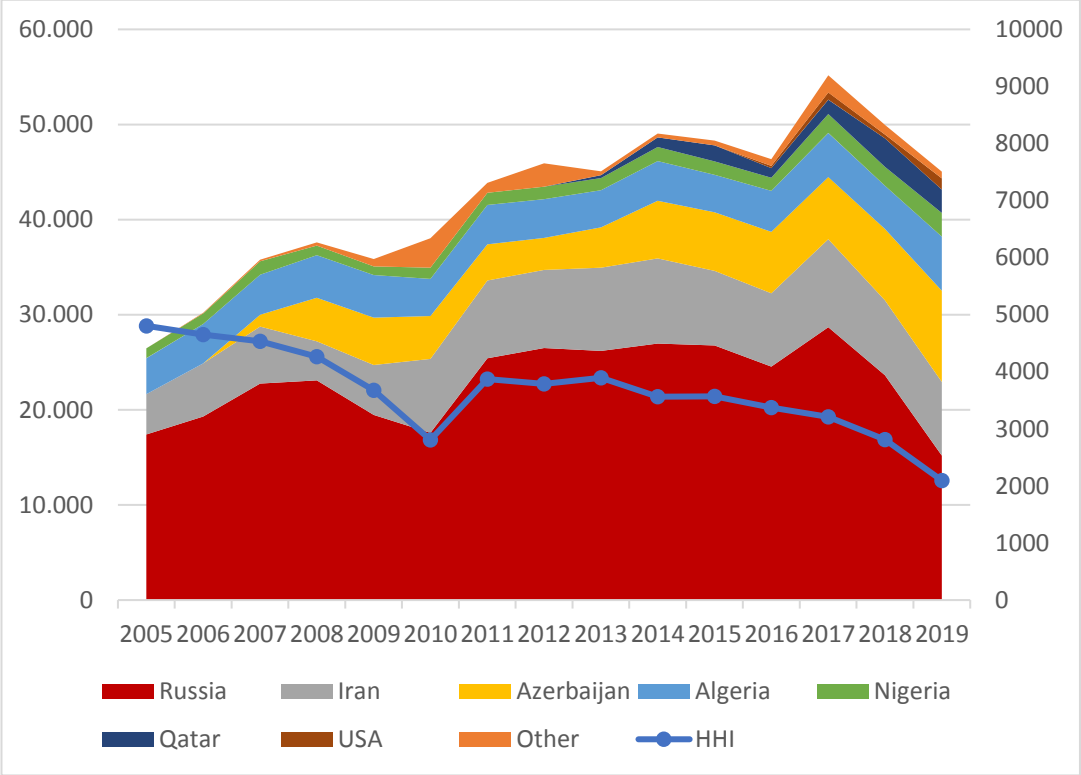

Figure 8 Diversity of Gas Resources

Source: Derived from EMRA Natural Gas Market Reports 2009 to 2019

From both competition and security of supply perspectives, the trend is positive in the sense that Turkey's import sources get more diversified. As the trend continues, we can argue that gas is now imported in more competitive terms and more securely. When Russia was the dominant supplier with a share of over 50% up to 2010, Turkey's relative vulnerability against Russia was high. However, today, we can say that dependency on a single source is not a case in Turkey.

Another criterion mentioned in Table 4 is the political stability of suppliers. IEA calculates the political stability of suppliers by taking the weighted average of

supplying countries using the OECD political stability rating[19]. When we apply this rating to Turkey, we can see that the score is high as defined in the index. The variation of scores from 2005 to 2019 can be seen in Figure 9.

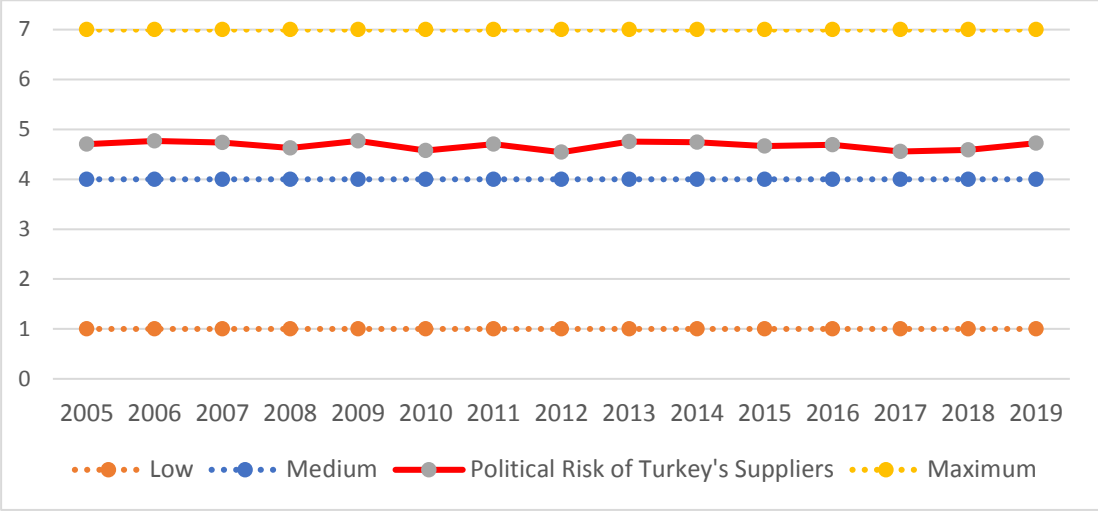

Figure 9 Political Risk of Turkey's Natural Gas Suppliers

Source: Derived from EMRA Natural Gas Market Reports 2009 to 2019 and OECD ratings (https://www.oecd.org/trade/topics/export-credits/arrangement-and-sector-understandings/financing-terms-and-conditions/country-risk-classification/)

As Figure 9 shows Turkey's sources of natural gas are relatively unstable countries, which put a risk on supply security. Although Turkey has not been exposed to disruption on political grounds, the risk is not ignorable as there are cases, such as the Libyan civil war, that halted energy supply for the importer countries. But the sources of gas can hardly be changed as a policy option since geography is given. In the long run more reliable diversity, both considering Figures 8 and 9, can be achieved through the LNG imports.

[19] The rating is available at OECD webpage: https://www.oecd.org/trade/topics/export-credits/arrangement-and-sector-understandings/financing-terms-and-conditions/country-risk-classification/

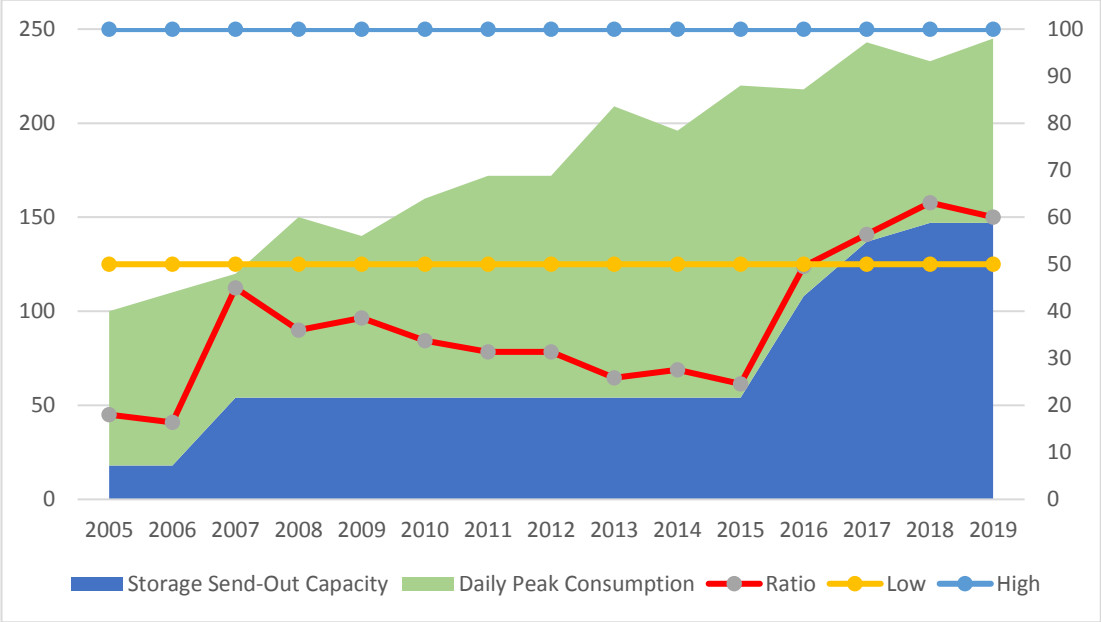

Figure 10 Daily Natural Gas Send-Out Capacity and Peak Consumptions

Source: Daily Peak Consumptions are derived from EMRA Natural Gas Market Reports 2009 to 2019 (Amounts 2005 to 2010 are extrapolated based on annual consumption) and the Send-out capacities are derived from company web pages (www.botas.gov.tr, etkiliman.com.tr, and egegaz.com.tr)

Figure 10 shows Turkey's domestic resilience capacity against supply risks. The intuition is that to the extent that underground and LNG daily send-out capacity meets daily consumption, the natural gas system is more resilient to short-term natural gas disruptions. Ideally, such send-out capacity can meet the domestic consumption at peak times so that disruptions from cross-border supplies can be tolerated. As the red line in Figure 10 shows, Turkey's domestic peak consumption/daily storage send-out ratio is barely over 50 percent that amounts to mid-level resilience. It was even worse before 2015 during when the consumption was skyrocketing but the capacity was stable. Thanks to new investments in underground storage (opening of Tuz Gölü salt caverns as underground storage facility, improvement of Silivri underground facilities) and new LNG terminals

(Floating Storage Regasification Unit (FSRU) at Aliağa/İzmir and Dörtyol/Hatay as well as capacity improvements in the exiting two facilities) have increased the mentioned ratio and relieved the risk of supply disruptions.

Finally, we can move to the gas intensity of Turkey which basically shows the country's economic exposure to gas disruptions. If the gas intensity is high, any disruption would lead to higher economic consequences because of the relative importance of gas in economic growth. For instance, gas supply risks and resilience capacity are not a matter for a country that does not rely on gas in its economy. Practically, the issue is more relevant to the share of natural gas in power generation.

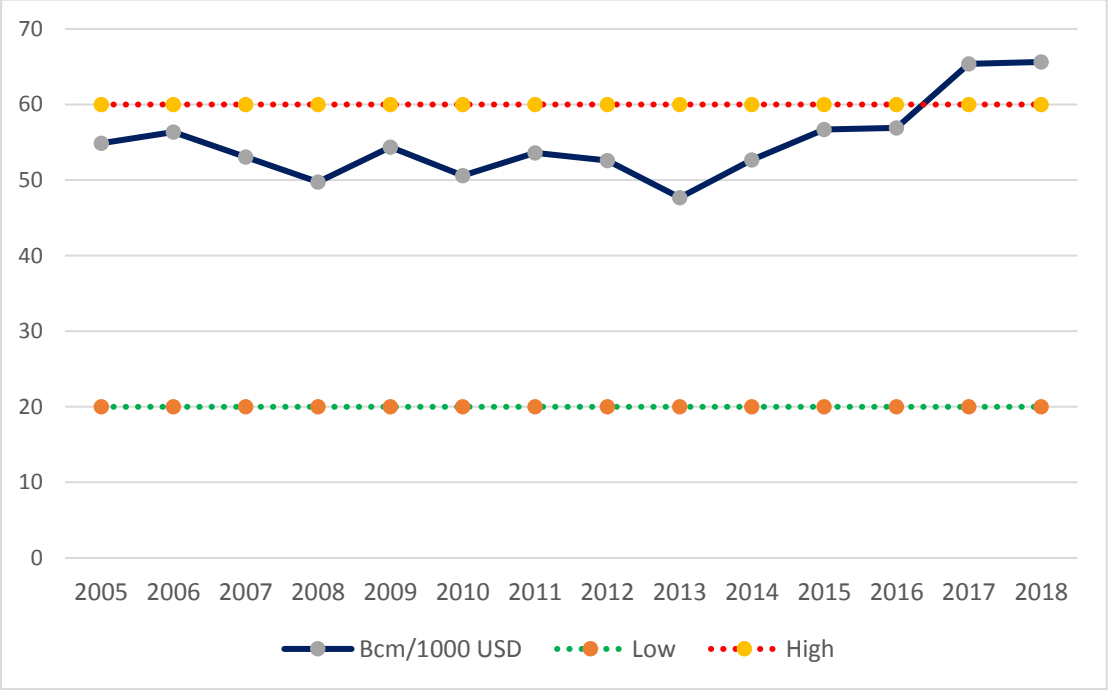

Figure 11 Natural Gas Intensity in Turkey

Source: Derived from EMRA, 2019 and World Bank data: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2018&locations=TR&start=2003&view=chart

The low and high levels of gas intensity, shown in green and red dotted lines in Figure 11 are taken from IEA (2011b). Accordingly, we can argue that Turkey's natural gas intensity is high; and especially after 2013, the trend has turned even upward. The figure shows the higher level of vulnerability of the Turkish economy against supply risks.

As regards the security of supply, overall, we can argue that there are some favorable developments especially in increasing resilience capacity against some lagging indicators. Turkey's gas intensity has increased over time which makes the country more vulnerable to an energy source. Worse, this energy source is not indigenously produced, and she is extensively dependent on foreign production while these are countries with relatively unstable political regimes. On the merit side, the import sources have been diversified throughout the reform process, and reliance on a single source, i.e. Russia, is no longer a matter. Besides, there have been some new investments especially after 2015 which increased the number of LNG ports (2 FSRU terminals), interconnection points (TANAP, Turkstream) as well as an increased level of storage send-out capacity.

4.3.3 Assessment

Based on the overall picture we developed above, one can see that the market reform process failed in terms of competition as BOTAŞ kept its gigantic structure all over the market. Natural gas is supplied under BOTAŞ's near-monopoly service, both in the import and wholesale branches of the market. As regards the security of supply, the targets have been somewhat achieved since gas is now imported through more diversified resources and there are new investments that would tolerate supply disruptions. However, as the gas consumption and daily peak amounts in winter seasons increase, the new investments fall short of the desired resilience levels.

The next chapter will analyze these failures and achievements from an institutional perspective and show how institutions practically determine the developments in the gas market. This will allow us to see the contradictions between competition and security of supply goals and the efforts of actors to get aligned with the reform process through formal and informal rules.

CHAPTER 5

ANALYSIS OF TURKISH GAS MARKET REFORM FROM AN INSTITUTIONAL PERSPECTIVE

5.1 Transaction costs and barriers to unbundling

5.1.1 Why firms vertically integrate?

Vertical unbundling of energy utilities is one of the essential steps towards the liberalization of markets. From a policy perspective, the unbundling is a result of government intervention in the industrial organization to prevent anti-competitive behaviors. But from an economic and industrial perspective, the unbundling is enforced disintegration of a vertically integrated company. In other words, both the tendency to vertically integrate and to disintegrate can arise as a government choice or after the firm's own choice. While the first is a sort of regulation the second is the firm's preference for efficiency gains. There is much to discuss vertical unbundling, but we better start with vertical integration so that we can understand why firms resist unbundling against government regulations.

Vertical integration, from a neoclassical perspective, is an alternative to "buy" in the market instead of making it internally. Indeed, microeconomics is the application of an anonymous spot market for the allocation of resources. This perspective ignores the issues associated with the internal organization of the firms and concomitant resource allocation. Firms are assumed as production sets that rely on anonymous spot markets to trade inputs and outputs. Firms' actions are complementary to the market actions while resource allocation through markets and resource allocation within the firm itself or hierarchical organizations (public enterprises) are irrelevant to each other. (Joskow, 2003 pp. 320-322).

On the other hand, industrial organization theorists, such as Perry (1978) and Tirole (1988), sustained an effort to understand the causes of vertical integration. Among others, these explanations include ending double marginalization, facilitation of price discrimination and market power abuses, or ensuring supply security. The contribution of the new institutional economics in these discussions is that they add the "costs" of vertical integration, which they call "transaction costs". Coase's seminal article on the nature of the firm (1937) is an alternative explanation of why firms integrate to avoid transaction costs. In this respect, the new institutional economics also investigates the hybrid forms of governance between the two polarities of spot market transactions and vertical integration. Such governance forms include long-term contracts, joint ventures, holding companies, partial integration as well as public enterprises. To Williamson (1971), the tendency to integrate increases with the market imperfections of various types as the transaction costs are common in market imperfections.

The transaction costs involve costs of drafting, monitoring, and enforcing contracts, and the costs arising out of ex-ante investment and ex-post contractual hazards as well as ex-post bargaining, haggling, pricing, and supply decisions because of changes in market conditions (Willamson, 1975). Bounded rationality, on the other hand, plays an important role as the parties of a contract cannot foresee all contingencies that would affect their intention before the competition of the contract. Among these governance structures, the firms chose the one that reduces inefficiencies associated with both ex-ante investment and ex-post performance. Asset specificity, complexity, and uncertainty are critical in the evaluation of costs among the spectrum of market-based transactions or settlements within a vertically integrated firm. If the costs are high, a vertically integrated firm would well harmonize the conflicting interests and smoothly adapt to the changing conditions within the contract period. This facilitates efficient investment and adaptation to market conditions. As Williamson argues (1971, p.115), each firm in a bilateral contract negotiation faces a dilemma: they have to estimate all contingencies that

may arise during the contract period. But this is not possible as each contingency cannot be specified in advance. If the contract is seriously incomplete, the contingencies would lead to parties exhibiting opportunistic behavior and joint losses. A vertical integration, then, eliminates the conflicting interests, reconciles differences, and increases efficiency.

Joskow (2003 p. 326) highlights asset specificity as an important source of transaction cost that leads the parties of bilateral trade to vertically integrate. Accordingly, as the specificity of a good traded among two parties increases, they become more locked-in with each other. In such cases, the investments are sunk and have little value if the contract is not fully applied. In such cases, the party which is more dependent on the trade, i.e. have greater sunk costs, is more akin to vertical integration. The motivation of such a tendency is that the counterparty may shirk from the responsibilities or exhibit opportunism to abuse the locked-in firm. The tendency to integrate could be both towards upstream and downstream, although in many cases the upstream companies are more vulnerable and thus prefer expansion towards downstream.

The contexts of asset specificity vary (Joskow, 2003, pp. 327-328). These include site-specificity, where the site of the delivery is so specific that once the investment is made the parties cannot change the location; physical asset specificity, where a product of a firm fits a certain product of the trading partner and they consist of sunk costs; human asset specificity where the human resources and skills are developed to meet the requirements of a specific trading partner; finally intangible assets, such as brand names, where the holder of these assets need extra care to protect it even after delivery to the counterparty.

For the relevance of asset specificity, the following examples from two different value chains of flour and oil provide would provide a good comparative basis before analyzing the natural gas market. If we think about the relationship between a mill where flour is produced and a bakery that buys the flour from this mill and produce

bread. This is just a ring of a supply chain of bread starting from cereals farming to selling to final customers in a market. In this ring, the asset specificity between the trade of mill and bakery is not high. There may be some verification costs for the bakery which needs the assurance of the quality of flour and the mill should ensure smooth supply not affected by annual cereal production cycles. The problem would occur if the market size is small and, for instance, a mill and bakery operate as bilateral monopolies. In the latter case, the tendency of the firms to integrate increases to avoid contractual losses and increase efficiency. However, such a small market size is not realistic in today's highly developed transport facilities and enlarged market sizes. So, we can more or less agree that asset specificity shall not be valid in the trade between a mill and a bakery, and their tendency to vertically integrate is less.

Now we can think about an oil company that produces oil and sell it to a refinery. Oil is produced in many parts of the world, but their extraction locations entirely depend on geological formation and irrelevant to possible demand locations. The locations of refineries are more flexible with consideration to closeness to seaports so that oil tankers embark on the load. The sunk costs are much higher compared to the previous example and the quality of the product varies. Besides, the supply and demand of oil, i.e. the market conditions, often fluctuate and make the parties vulnerable to future changes. While the specifications of raw oil match many refineries all over the world, some raw oil can be processed in a certain type of refineries, making them locked in with each other. For instance, Venezuelan oil can be processed in US refineries by and large. This made the Venezuelan oil company make ventures in the US to ensure the continuity of oil exports. We can also see that refineries are commonly owned by oil producers all over the world which can be well explained by the transaction cost economics. To compare with the previous example, we hardly come across a mill company to integrate with a bakery so that it produces not only flour but also bread. However, oil production companies integrate with refineries to avoid transaction costs and increase internal efficiency.

The two examples given above provide a basis for a solid analysis for the natural gas markets and provide the opportunity to review the natural gas market from the same viewpoint. A gas extraction firm needs to bear huge exploration costs and extraction costs, just like an oil firm. However, as gas flares and vents easily, one should meet significant extra costs after unearthing the gas. They can't just put it into barrels and ship long distances with a tanker. Rather they have to be transported through high-pressure pipelines needing compressor stations that ensure smooth transportation with pressure adjustments. The storage facility is quite limited to the geological formations and it can mainly rely on pipeline volumetric capacity (line pack). While LNG is an option, it can hardly resemble oil as it needs very expensive liquefaction and gasification terminals and specifically built tankers that can't keep it for a long time in its tanks. Now, if a company, say Russian Gazprom, wishes to sell gas to a trading company, say BOTAŞ, at the delivery point, both of the companies need to bear huge investment costs. If we go over this example, when Gazprom is agreed to sell gas to BOTAŞ at the Turkish-Bulgarian border, they both need to lay pipelines in thousands of kilometers long and build multiple stations on the route. They need to well arrange the production and delivery, and more importantly, meet the varying consumption figures over time. Such conditions strongly lock the parties of the trade with each other and they can hardly change partners once the investment is made. In such a case, the problem of incomplete contract, as well as the asset specificity, is too high especially compared to the previous examples. The potential excess of transaction costs would increase the tendency of gas companies to vertically integrate to gain efficiency and avoid greater costs. This is not only valid in our example above, but almost in all segments of the gas supply chain. As it was explained in the history of BOTAŞ above, we saw that the company was extensively integrated as a vertical company.

However, the over-tendency in the gas business to vertically integrate is the matter itself for the governments. To get back to the previous examples, the government rarely involves the commercial relationship between a mill and a bakery while there

may be occasional interference to the mergers in the oil business. What makes gas supply different is that it consists of natural monopolies, and this brings us to the matter of unbundling as government regulation.

Gas has been supplied through companies that are vertical integration of a natural monopoly and trading company. For instance, in the above case, the company that connects the pipeline at the import point is the transmission division of BOTAŞ while the trading is made by the trade division. What regulation asks, theoretically is that if the natural monopoly segment of BOTAŞ is unbundled from the competitive segment, there is room for gains from the competitive forces of the market. This is the first principle of any gas market liberalization rulebook as envisaged by the liberal market theories and principally the neoclassic theories of the market.

However, an institutionalist would object to this scheme in the sense that the vertical integration of two firms is spontaneous actions of market players. That is, a vertical unbundling would lead to inefficiencies that would not be covered by the gains of the market. The solution to this dilemma, as initially developed by the US and soon promoted by the UK and then the EU, is to invent the power of "regulation". Among the unbundled companies, the one which is not open to competition, i.e. the network operator, would be regulated while the trading company would be exposed to competition. Regulation should operate as the new actor that prevents the losses that may arise due to the vertical unbundling (Gómez-Ibáñez, 2003).

5.1.2 Reasons and applications of unbundling

Although there are economic and legal reasons and consequences, below the institutional perspective is discussed which also have legal, economic, and rational consequences. In terms of technological advances, unbundling has become possible with some technological developments in the last two or three decades. These

developments put a strain on monopolies and opened leeway for new ones. We can count at least three game-changers in the market: decline in the LNG facility investment and transport costs, rush to gas-fired power plants due to their reduced capital costs as well as environmental superiorities of gas over coal and oil, finally the revolution in gas fracking technologies which led an abundance and diversity in gas production. These developments have facilitated the governments' involvement in the market to terminate the existing monopoly structures as competition became more than feasible.

As the windows of opportunities are opened with the technological advances in the gas supply chain, the governments, under the influence of neoliberal ideas, considered the potential advantages of unbundling. Arguably, the creation of a level playing field for trading companies is one of the first potential advantages that governments seek. Unbundling would prevent the network owner to give undue preference to its trading company against potential rivals. The access of rivals can be hindered by setting high tariffs and using commercially sensitive information that only the network owner possesses. Finally, the network company can cross-subsidy the trading affiliate so that the competition is hampered in the supply segment of the market.

Apart from these purported benefits on competition, one can also note that the unbundling is a necessary step for privatization as well (Baarsma, Nooij, Koster, & Weijden, 2007, p. 1787). After unbundling, the restructured company can be more easily sold with different parts or at least one of the fragmented parts. The UK, for instance, adopted an unbundling strategy to privatize the railway business first. Turkey's gas market strategy and privatization are also based on a proper unbundling in advance, which we will see below.

On the global scale, unbundling as a government act started in the late 19th century US with the Sherman Act (1889) and Clayton Act (1914) prohibiting agreements that may limit competition (Perry, 1989, pp. 241-247). As we explained in the previous

chapter, unbundling efforts were finalized in the most developed version in the late 1990s for the US. Today, the US model is often represented as the workability of unbundling in the gas market (Lapuerta, 2008, pp.11-12).

As regards the EU, unbundling has been the essential and most controversial element in the EU regulations on gas market liberalization. The first gas directive in 1998 stipulated the termination of monopolies and asked the incumbent network companies to ensure fair third-party access. The requirement of unbundling was reinforced in the second gas directive in 2003, through which regulated third part access is made compulsory. The level of unbundling envisaged by the first two EU directives was legal or functional unbundling that comes with separation of accounts. Essentially, gas companies are required to create different legal entities for network activities. Accordingly, this must be accompanied by a separation of executive management and operational decision-making concerning network activities. The parent company should not involve in the management of the network company.

However, the directives yielded little benefit to introduce competition in the gas market. In 2009, the Commission drafted a sector inquiry report and concluded that the barrier behind the competition in the gas market is the ongoing conflict of interest between the division of the vertically integrated companies. There is a risk that they may abuse their control over the network to prevent the expansion of their competitors is significant (EC, 2006). As the Commission has realized even if there is a sincere attempt to fulfill unbundling obligations, the network company is under the strain of combining divergent targets, which at best lead to a sub-optimal behavior for the operator. The means of discrimination include, among others, complicating the access conditions to networks, abusing the balancing regime, application of unfair and non-transparent capacity mechanisms. On the other hand, there emerged information leakage between the supply and network affiliates of the parent company no matter if they are legally different companies. Finally, the

investment decisions of the network companies were heavily distorted by the interest of the trading affiliate. We have previously discussed the case of Italian ENI, the Italian former incumbent, which was often accused of not investing in capacities to prevent entries for the rival companies (Löwe et.al., 2007), which would barely overcome by the Italian competition authority's involvement.

Referring to such barriers on the transition to a competitive market, the EC issued a new directive in 2009 which envisaged ownership unbundling that is the final way of separating the network and trading companies. Ownership unbundling is the separation of all network operations from trading activities so that they have no common interest. In this respect, the companies do not have distinctive legal identities; and they don't have significant share or control among each other. A critical point in this provision is that the EC directive does not envisage the privatization of the network companies, so that "the strategic asset" concern of national governments is satisfied. However, in the case of public ownership, the directive stipulates that the companies should be established under different ministers. This condition has merit in cases of cabinet system government where rulemaking is collegial; that is why it has room for application in the EU. We will discuss the Turkish case in detail below especially in terms of government structure.

5.1.3 Unbundling of natural gas sector in Turkey

5.1.3.1 Legal foundations

Turkey's gas unbundling provisions run parallel to a global agenda to separate the network owner and the trading company. Turkey has defined different licenses to different market activities that serve this separation much easier. While the network activities include transmission, storage[20], and distribution and trading activities include import and wholesale. Any actor who wishes to operate in the above fields is required to take a license from EMRA.

[20] Storage license is given for both LNG storage and underground storage.

Figure 12 shows the network and trade links as envisaged in the Turkish gas market law. In the figure, the black rectangular boxes represent network operators that are subject to license while the orange oval boxes are traders in the system. Similarly, the blue arrows are the pipelines and the orange arrows show the commercial relationship. The direction of the arrows is the direction of flows. The unbundling requirement in the gas market is essentially the separation of black boxes from orange boxes so that system users can use the system fairly.

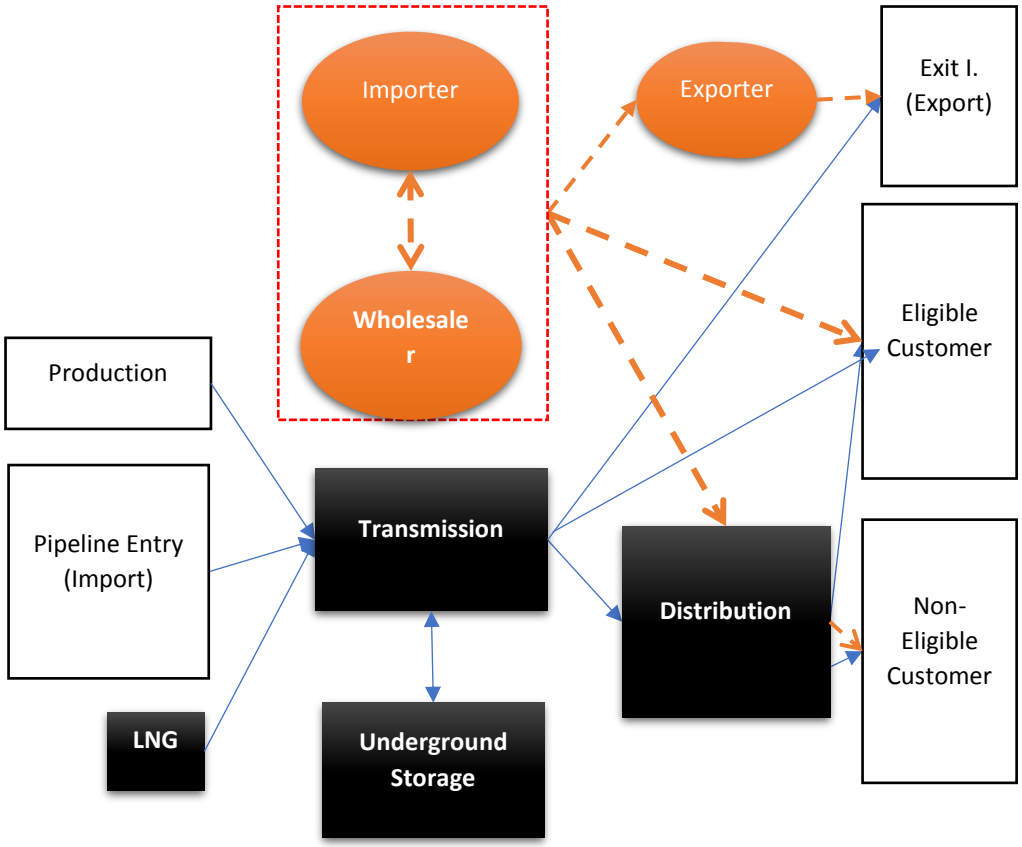

Figure 12 Turkish Gas Network and Trade Links

Source: Author's own derivation from the Natural Gas Market Law No. 4646

To enable competition by unbundling, the gas market law has two basic instruments. The first one (Article 7-a-1) is referring to the Competition Law dated 1994 as follows:

> The provisions concerning the freedom of competition, prevention of the abuse of dominant position, mergers, and acquisitions set forth in Law on Protection of Competition No. 4054 of 7 December 1994 shall also apply to the legal persons carrying activities in the natural gas market.

This generic provision draws a general framework for companies in general which also applies to the gas market and specifies that any vertical integration, regardless of other provisions, is subject to the supervision of the Competition Authority. The Competition Authority can investigate and prevent any vertical integration in the gas market by arguing that the integration would reduce competition in the market. The natural gas market, therefore, is also within the scope of the Law. No. 4054 and competition rules in Turkey.

More specifically on unbundling, Natural Gas Market Law No. 4646 specifies the following provision (Article 7-a-1) which restricts vertical integration:

> Any legal person carrying out natural gas market activities is entitled to participate in only one of the legal persons performing activities in a field different from its own field of activity. This legal person, however, is not entitled to establish a separate company. It is not entitled to directly or indirectly obtain more than half of the capital or commercial assets of the legal person it participates in and is not entitled to have the right to use more than half of the voting rights or the right to appoint more than half of the members of the auditory board or executive board or of the bodies authorized to represent the company, and is not entitled to have the right to manage the said company...

As the Article makes it clear, a company cannot own or even control another company in the gas market.

On the other hand, the same Article also provides an exception for BOTAS:

> …This article shall not apply to the existing subsidiaries of BOTAŞ, the companies, and subsidiaries to be established by BOTAŞ for international projects.

This exception seems to be an important hole in the designed system considering the size of BOTAŞ. However, the law also indicates a program on the dissolution of BOTAŞ over time. According to the Provisional Article 2:

> … except for the distribution activities, the vertically integrated legal personality of BOTAS shall continue until the year 2009. Following this date, BOTAS shall be restructured into a horizontally integrated legal person. Among the legal persons to be established as a result of restructuring, only the company which has gas purchase and sale contracts and will carry out import activities shall represent BOTAS and shall be called BOTAS. Among the companies to be established as a result of restructuring, the companies, except for the ones engaged in transmission activities, shall be privatized within two years. The separation of the accounts of BOTAS regarding the transmission, storage, sale, and import activities shall be realized within twelve months following the end of the preparatory period.

As this article clarifies, BOTAŞ was supposed to be restructured so that the trading company would be entirely privatized, and the state-owned branch would only carry out the network operation service. Until the realization of this projection, the accounts of the company would be separated. As Pollit (2008, pp. 706-707) indicates, privatization can be realized after unbundling so that the marketable section of the company comes out. This has been the traditional skeptical look on any form of unbundling as it is assumed as a clandestine project to terminate the "national champions" and strengthen the stronger companies with global outreach (Lapuerta, 2008, p.4).

In consequence, the contours of the gas market law make it explicit that ownership unbundling is projected to be the spine of the gas market architecture in Turkey, where the only temporal exception is the case of BOTAŞ which would lose the vertically unbundled structure within 8 years after enactment of the law. In other

words, Turkey's foreseen unbundling regime is the toughest one as the legal, account and functional unbundling are the modest versions. Even the EU did not stipulate an obligatory unbundling in the first and second gas directives. For instance, when Turkey was enacting the gas market law, the first gas directive was valid in the EU and it was just imposing an account and legal unbundling. It was only in the third directive, adopted in 2009, the EU accepted the ownership unbundling model after much resistance from member countries (Löwe, et.al., 2007).

5.1.3.2 Evolution and application of the unbundling provisions

While the gas market law defines the most advanced form of unbundling for the gas business, i.e. ownership unbundling, the government, as well as EMRA, did not apply it either by just not fulfilling the requirements of law or by excessive interpretation of the law. We can analyze how this was realized in three different segments of the network: transmission, storage, and distribution.

For the transmission, as noted above, BOTAŞ was the sole owner and operator of the gas transmission network (The illustration of the Turkish gas network is shown in Figure 13). This was also confirmed during the enactment of the law (Article 4-c-9): “The national transmission network or any part thereof which is already existing or planned or under construction shall belong to BOTAS.”

On the other hand, the trading segment of the BOTAŞ was supposed to be separated from the network operations and then privatized after 2009. However, this was never realized and BOTAŞ preserved its vertically integrated structure. We can argue that the unbundling of BOTAŞ was not realized as the over-mentioned provision of the law is vague and did not apply specific tasks to specific institutions, such as BOTAŞ itself, EMRA, or privatization authority. More importantly, the subsequent governments have not shared the will of the law and did not initiate the restructuring and privatization process. At this point, we have to note that the

reform law was enacted in 2001 when there was a coalition government while all the subsequent governments were founded by the Justice and Development Party.

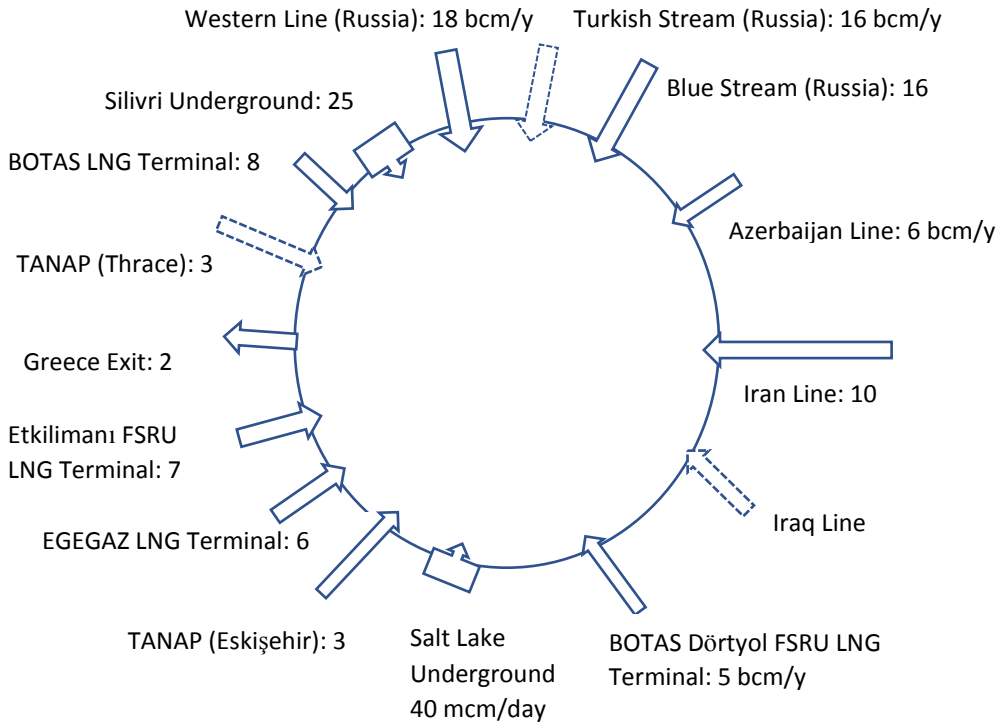

Figure 13 Turkish Gas Network (Illustration) and capacities of main transmission entry points and export exit point (billion cubic meters (bcm)/year)

Source: Derived from www.botas.gov.tr, www.tanap.com, www.gazprom.com, www.epdk.org.tr

As regards storage, there are six storage facilities in Turkey: Two underground storage facilities and four LNG storage facilities[21]. One of the underground storage

[21] The list of these companies and some basic details of the facilities are available in EMRA website: http://lisans.epdk.org.tr/epvys-web/faces/pages/lisans/dogalgazDepolama/dogalgazDepolamaOzetSorgula.xhtml (accessed on 25.4.20)

facilities was belonging to the state-owned oil and gas extraction company Turkish Petroleum Inc. (TPAO) when the law was enacted. The government did not have the policy to keep a separate government-owned company other than BOTAŞ. Rather, the gas storage facilities are often converted from depleted gas reservoirs, and the operation of the reservoirs was left to TPAO as the old owner. Before the law, BOTAS made an agreement with TPAO to use the capacity of the reservoir for its own purposes (EPDK, 2012). On the other hand, TPAO transferred it to BOTAŞ in 2016 as a government policy that allowed BOTAŞ to vertically integrate towards the underground facility operation. The other underground facility was again opened by BOTAS in Tuzgölü under salt-lake caverns which were started to be operated in 2018. With these underground integration towards storage businesses, BOTAŞ is now the single company that owns and operates an underground facility in the gas market. BOTAŞ now has a stronger vertically integrated structure than it was when the gas reform act was enacted in 2001, contrary to what the law aimed at.

As we have seen in the case of transmission, BOTAŞ did not make ownership unbundling for the storage facility operation either. The previous violation of the law can be considered more a matter of government while the latter is EMRA's ignorance of the explicit expression of the law that prevents companies to establish separate companies in different segments of the gas market. However, EMRA devised a way to negate the obligation in the law with Regulation on Licenses in the Natural Gas Market. According to Article 31 of the mentioned Regulation:

> Legal entities may engage in more than one activity in the market, provided that they obtain a license for each market activity and each facility where they operate. However, the legal person engaged in the wholesale activity of natural gas cannot carry out transmission or distribution activities and cannot participate in the legal entity operating transmission or distribution.

As noted above, there are three main unbundling types which are, from lightest to the sharpest, functional/account, legal, and ownership. The functional separation at the left-hand side is not a form of unbundling. It is just indicating that tasks are

done through different divisions of the same company. Indeed, it is the pre-reform structure of BOTAŞ where transmission and trade are organized under different departments. The second form is not separating the company itself but enforcing the company to keep separate accounts for different divisions of the same company. This is the first unbundling requirement of the EU, as well as the current form of unbundling of BOTAŞ. It does not ensure fair third party access, but has two practical benefits: First, the incomes and costs of the division's activities are separated so that tariffs of the divisions can be better made by the regulator; second cross-subsidy among the divisions is not allowed. The legal unbundling is the separation of the companies, but they can be affiliated with each other. When it comes to ownership unbundling, it is also the separation of a company but affiliation among them is not allowed. This is what the Third EU directive and Turkish Gas Market law envisage as the eventual market structure.

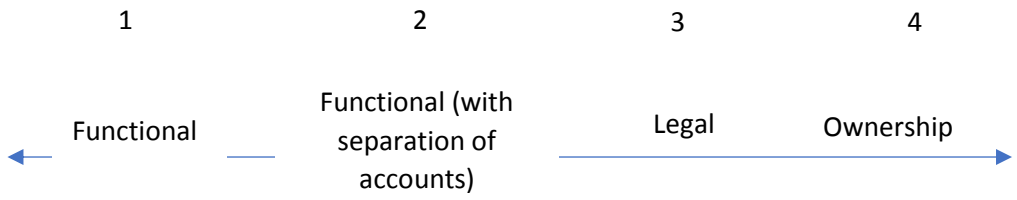

Figure 14 Forms of Unbundling

Source: Author's own illustration

The law explicitly bans legal unbundling. That is, a model of two different companies with different legal personalities but under the same shareholder structure is not allowed for the companies in the gas market. EMRA interpreted the unbundling provision in the law such that it does not really necessitate the

ownership unbundling. In this interpretation, a company cannot create a new company or control another company that has an operation in other fields of the market, however, they can operate in different fields under the frame of the same company. To show it in Figure 14, the prevention of the 3rd form of unbundling is not necessarily the prevention of the 2nd form. Such interpretation arguably negated the objective of the law which specified the prevention of vertical integration under the title of "Assurance of Competition". This interpretation and codification under EMRA's regulation enabled BOTAS to preserve its virtual monopoly in the gas underground storage facility operation.

On the other hand, EMRA's interpretation did not solely give an advantage to BOTAŞ to operate in the storage field. It also applied to Turkey's unique privately owned LNG regasification facility in Aliağa/İzmir. The situation of the operator of this facility is not completely the same as BOTAŞ in the sense that BOTAŞ had been operating an LNG facility before the enactment of the law and there is a special condition concerning BOTAŞ's restructuring. However, the concerned LNG facility was started to be built before the enactment of the law and it has been in operation since 2009 (EPDK, 2010). EMRA granted a spot import license to the operator of the company with the same reference to its earlier implementation of the unbundling provision. As a result, a privately owned company became both the operator of the facility and the importer of the gas as an import license holder.

The third network operator type is the distribution system operator. The distribution system operation is more critical compared to transmission and storage because they are the only legal monopolies in the system. That is, their abuse of market power has dire consequences if not well regulated. Within this consideration, the above-quoted article in the License Regulation does not apply such extensive interpretation to the distribution business. The article was also amended in 2004 by adding the following expression (Article 31-g): *"…and cannot participate in the legal entity operating transmission or distribution."*

It was no coincidence that the amendment was realized following the first distribution license tenders dated 2003.

However, the market actors found ways of bypassing the provisions of the law and regulation. While a wholesale company cannot establish or participate in a distribution company, a third company – often a holding company- can establish or participate in companies in both segments of the market. A company having a distribution license, and another one operating in the wholesale business, can both be an affiliate of another company. This interpretation opened a new window of wholesalers and many holding companies entered the wholesale business aside from distribution. Thus, the unbundling provision of the law and regulation became useless.

5.1.3.3 Consequences of failed unbundling regime

As elaborated above, the foreseen legal unbundled regime is failed in Turkey in each segment of the network. But how did this failure affect the market is another debate. This section will provide some analysis of the consequences of the misapplication of unbundling in Turkey.

In the previous chapter, we noted that to vertically integrate or to unbundle can arise from opposite motivations of the firms. In pure neoclassical understanding, the market efficiency increases together with the unbundling of the actors and decentralization of the market, but in reality, firms vertically integrate to avoid transaction costs and thereby achieve efficiency gains. Then, how do these tendencies affect the existing unbundling regime in Turkey?

We can answer this question by first investigating the effects on competition. Following Löwe (2007), we can summarize the problems associated with unbundling as of unfair third-party access (TPA) to the network, information leakage, and distortion of investment decisions. The unfair TPA would arise out of capacity allocations, balancing, and the application of emergencies. A reasonable doubt on

the transmission system operator is that it can favor the affiliate trading company. This can happen even the legislation enforces the parent company to set a "Chinese wall" among the network and trading segments.

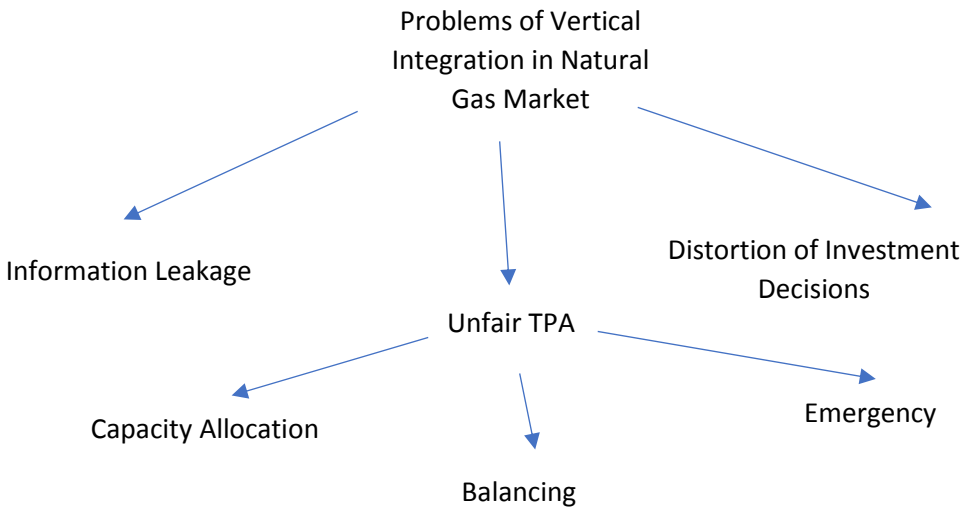

Figure 15 Problems of Vertical Integration

Source: Source: Author's own illustration based on Löwe (2020)

As we check through the regulations as well as the network code, there are different possibilities where BOTAŞ can be considered to have abused its dominant position in terms of preventing fair access in three ways depicted in Figure 15. First, BOTAŞ, as the transmission system operator, makes the capacity reservations of shippers[22]. In EU guidelines and regulations on capacity allocation and congestion management (Commission Regulation (EU) 2017/459)[23], the capacity tariff is

[22] Shippers correspond to traders in the gas network who transports gas among different points.

[23] Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation

regulated by the regulatory authority while in case of congestion, models of auctioning apply. While regulation of transmission tariff also applies in Turkey, congestion management is made by pro-rate capacity allocation. With multiple access points all over the country and a huge supply amount, the trading segment of BOTAŞ has a natural dominance against the rival trading companies to make capacity reservations.

The issue of capacity is more problematic in terms of allowing access to the system. According to the Article 8-b of the Natural Gas Market Law No. 4646:

> Legal entities engaged in natural gas market activities can reject the access of other legal entities and eligible consumers only in cases of having not enough capacity or non-fulfillment of other obligations or become exposed to significant financial and economic compensations due to existing contracts.

This provision suffices for BOTAŞ to distort access conditions against possible rivals. With the exemption in the law, BOTAŞ can claim significant losses to reject the access demands which do not have any objective criteria. This criterion is further emboldened by EMRA Board's Decision No 750[24] which specified that any new importers should first get approval from BOTAŞ to get a license from EMRA. While the law is more about technical reasons and a matter of the network segment of the company, the board decision is directly giving the trading segment of BOTAŞ superiority in the gas market to block rival access. This authority provided for BOTAŞ renders BOTAŞ as a semi-regulatory entity apart from being a player in the market. Therefore, the grounds for enjoying this power become even more significant.

(EU) No 984/2013, which is available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R0459

[24] Published in the Official Gazette dated 29 April 2006 and numbered 26153

Indeed, BOTAŞ has at least prevented twice the access to the network on financial grounds. The first one was realized in 2011 when the spot LNG prices plumbed, and a rival spot trader started to import an increasing amount of natural gas. To avoid competitive pressure, BOTAS halved the entry capacity of the LNG terminal from where its single private LNG trader rival was injecting gas to the transmission system.[25] The daily entry capacity of the terminal was diminished from 16 to 8 mcm/day by the transmission company without any technical explanation. The other case was BOTAŞ's rejection of a private company's application to import gas from Kazakhstan in 2013 (https://www.dunya.com/ekonomi/botas039tan-kazakistan-gazina-ret-haberi-200180). Again, based on infrastructural grounds, BOTAŞ denied providing access to a rival company that challenges its presence in the national market.

The second instrument that enables BOTAŞ to prevent fair access to all traders in the system is the matter of balancing. To provide basic technical information, balancing is the task of the system operator to balance the entry and exit of the gas in the pipeline so that the safety of the system is preserved. In a mature gas market, balancing is settled under market transactions where the traders bid to clear the short or long positions in the balancing market. As the number of transactions increases and the volume deepens, the spot transactions lay the foundations of a spot market, which indeed Turkey has long sought after in its vacation to become a regional gas hub. Private traders have the legitimate concern that their biggest rival could be favored by the transmission company in the balancing mechanism. BOTAS, as a transmission company often benefit from discretion in the purchase and selling of balancing gas. But the network segment of the company could be under the pressure of the trading segment in the formation of the balancing market and can take a position in line with its sister.

[25] Please check http://www.bosphorusgaz.com/natural-gas/storage?lang=en, accessed on 15.03.2021

Recently, an organized natural gas wholesale market mechanism was developed under the management of Energy Market Management Inc. (EPIAS). This was a step to create a spot market where the financial transactions among actors are done through an independent actor, connected to Borsa Istanbul. While this is an important step to liberalize the daily trade among traders in the system, naturally, the physical balancing is still done under the BOTAS transmission operator's discretion. The Regulation on Organized Natural Gas Wholesale Market[26] provides some responsibilities and rights to the transmission system operator, i.e. BOTAS, to join the market as an external balancer. More importantly, according to Article 11 of the Regulation, the transmission company can order non-market-based methods by considering the network stock, shippers' imbalances, and the volume in the trading platform. Such discretion would set ambiguities and provide a risk of arbitraries in the balancing market, where the transmission company may favor BOTAŞ as the trading company. We have to note that the regulation is an improvement in the previous balancing mechanism where BOTAŞ procures the balancing gas only from its supply company, which was making BOTAŞ always a winner in the system. However, these mechanisms were enacted in September 2018, and the application is still in the early stages. BOTAŞ still has strong market power in the gas market and this makes the company the dominant actor in the balancing mechanism.

The third problem in terms of the vertically integrated structure of BOTAŞ is the provisions of "exceptional states" in the relevant regulations. These conditions would allow the BOTAŞ transmission segment to relieve the obligation to behave as an impartial operator. For instance, as to Article 18 of the Regulation on Organized Natural Gas Wholesale Market, the transmission company is allowed to opt-out from functioning as an external balancer in cases in which a "*sufficient*" amount of buying and selling bids are not provided in the market. Another provision exists in

[26] Published in the Official Gazette dated 31 March 2017 No. 30024

Article 14.2 of the network code which specifies the conditions of "State of Emergency". Accordingly, the transmission company can declare a state of emergency in the system by its own will and discretion bound by its consideration of physical risks on the network. In such cases, the transmission company can both terminate the gas flow from any entry point or to any exit point. As the conditions of the state of emergency are by nature unexpected, the interruption in the flow has dire consequences for the consumers. Especially during the winter season, the high demand for gas leads to insufficiency in the network which decreases the pressure and puts the supply security at risk. In such cases, BOTAŞ transmission interrupts the flows to big consumers, such as gas-fired power generators (Dastan & Selcuk, 2016). But arguably, whose consumer to interrupt gas depends on BOTAŞ transmission's consideration, which is a risk factor for the private trader companies. In such cases, the private shippers can appeal the dispute to EMRA. However, EMRA would tend not to repeal BOTAŞ's actions as BOTAŞ would seek an excuse for its discriminative behaviors through subjective technical explanation.

A fourth problem is the "information leakage" between the network operator and trader. Arguably, the relevant legislation includes various provisions that enforce BOTAŞ transmission to be transparent in its activities. Indeed, a transparency platform was established within the EPIAS trading platform[27] that provides equal access to the traders. However, the BOTAŞ trading company is still in an advantageous position in contrast to others in the sense that BOTAŞ transmission gathers commercially confidential and sensitive information based on the relevant rules. This information includes, among others, customer consumption profiles of rival companies, trade links among shippers, the sources import, and similar information which a trader would not wish to share with its rivals. With the recent applications of big data processing, this information asymmetry would be a more serious concern.

[27] Please check https://seffaflik.epias.com.tr/transparency/ , accessed on 15 March 2021.

The fifth problem regarding vertically integrated transmission and trading companies is that the investment decisions of the transmission company can be distorted to provide access to new traders. BOTAŞ's investment decision is subject to government approval as it is a state-owned enterprise. While making new transmission investments BOTAŞ considers three elements: interconnection investments, investments towards distribution regions, and finally investments for the overall safety of the system, like compressor stations that help transport the gas. To begin with the last one, investments for the quality of gas supply over the network are largely a technical matter and under the discretion of BOTAŞ. The second one, however, is more of a government policy to spread gas consumption over the country. These two investment policies set little barrier against the rival companies of BOTAŞ. The problem mostly appears in terms of new investments in the entry and export interconnections which may be non-existing or have insufficient capacity. Using its monopoly on making investment decisions BOTAŞ can prevent the entry of new rivals into the market. The abovementioned Kazakhstan decision of BOTAŞ was based on technical matters, but it could overcome these constraints by new investments. Similarly, there have been some companies exporting gas to Bulgaria[28] early in 2010 which were not supported by BOTAŞ's investment decisions. These problems are also valid for possible entries from Iraq and Eastern Mediterranean, which are consequently subject to BOTAŞ's investment decisions. We can also count LNG facilities that need to be integrated into the BOTAŞ-operated transmission network. Considering the previously given example of BOTAŞ's effort to limit access from the privately-owned terminal when the LNG prices are low, it would not be a surprise that BOTAŞ would not extend its networks for new LNG terminals if it sees it as a commercial challenge.

So far, we have analyzed how the vertically integrated structure of BOTAŞ as a transmission and trading company poses a challenge to establish a competitive

[28] The list of export licenses is available on the EMRA website: http://lisans.epdk.org.tr/epvys-web/faces/pages/lisans/dogalgazIhracat/dogalgazIhracatOzetSorgula.xhtml

market. Now, we can check the problem for storage and distribution companies. The vertical integration in terms of underground storage has been solidified by the BOTAŞ's takeover of the storage facility owned and operated by TPAO. As the existing two storage facilities are operated by BOTAŞ, we can argue that similar anti-competitive problems, such as unfair access and usage and information leakage would be valid for these facilities as well. However, storage services are inherently competitive as gas storage is not much demanded by the wholesalers which are another cost item on the product. The gas market law, on the other hand, obligates the traders to store a certain amount of gas they trade after certain years of operation. Therefore, the incentive to store is more a legal obligation than a competitive motivation. As a matter of fact, BOTAŞ used to have preferential access to the TPAO storage basing on their pre-law contract (WEC 2007). However, this was removed when BOTAŞ took over the facility from TPAO as it appeared that there is no harsh competition for gas storage.

The problem of unbundling is mostly valid for LNG storage. As mentioned above, there is one private LNG facility, Egegaz Aliağa LNG regasification facility, which is owned by a private firm that also operates as an importer. Compared to a transmission network, the operation of an LNG facility is more complicated and subject to a greater amount of congestions. This makes the third parties more vulnerable to violation of third-party access conditions. In a transmission network, what a trader needs to do is to make a contract and allow the flow of gas molecules in the pipeline. There is a little source of conflict when more than one actor is trading gas. However, in the access to an LNG facility, traders need to well arrange LNG Tanker's traffic, the LNG amount in the facility's tank, and the gasification towards the transmission network. A facility owner, then, may not allow a smooth gasification process for any of the facility users. A rival trader can be prevented to use the facility in many ways under technical considerations. Such unfair treatment would naturally have huge consequences for the trader as they make a serious commitment both upstream and downstream due to contractual obligations.

Actually, traders note that[29] the LNG facility codes in Turkey are demanding for possible traders with strict conditions of usage. Such conditions are then drafted not to accept new traders but indeed reject their access to the facility, which is contrary to the storage facility objectives.

Indeed, no private importer other than the owner of the facility has so far used the LNG facility imported natural gas. This was especially so when the LNG prices went down around 2010. While the owner of the facility used the terminal to import gas such that it became one of the leader private importers, the other traders could not access to the terminal (see Figure 16). This can be attributed to unfair access conditions.

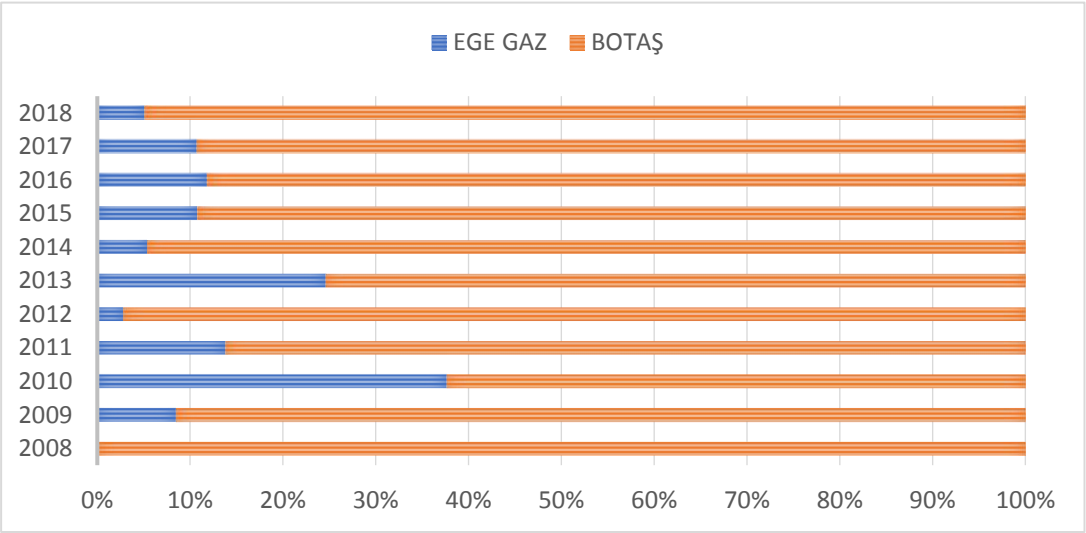

Figure 16 Share of LNG imports between BOTAŞ and Private Company (Ege Gaz)

Source: EMRA Natural Gas Sectoral Report 2018 (EPDK, 2018)

[29] see for instance: https://www.bosphorusgaz.com/natural-gas/storage?lang=en, accessed on 15.03.2021

We can finally mention the consequences of a lack of unbundling in the distribution segment. As noted, distribution is a legal monopoly and mainly serving to household customers which are captive to the distribution company. Distribution companies are also providing retail sales, but they can't make a profit from these sales. Rather, they pass through the prices they purchased from the wholesaler/importer to the consumer. The problem would emerge when the distribution companies purchase gas from their affiliate companies. Considering that the wholesale prices are not regulated, the distribution company can apply unregulated prices to captive customers. A vertically integrated distribution company and wholesale company, then, would pose a risk for an increase in prices. We have already discussed above that Article 31-g of the License Regulation to set a barrier against the integration of distribution companies is not alone preventing so.

Within these considerations, the law indeed provided another barrier for misconduct among these actors. According to Article 11-4: "Distribution companies must prove that they obtain gas from the cheapest source and that they operate effectively and safely, and they must fulfill this obligation within the license term."

Practically, this provision prevents the distribution companies to buy from their affiliates as BOTAŞ's prices to distribution companies are kept uneconomically cheapest as a government policy, to be analyzed in the coming sections. Consequently, the vertically integrated structure of distribution and wholesale companies did not lead to an increase in prices.

The imminent problem in this vertical integration is the gas sales to eligible customers[30] who can purchase gas from any trader. In other words, in each distribution region, the distribution company serves different traders when the customer is an eligible one. Distribution companies can favor their affiliate at the

[30] Eligible customers are those who consume gas above a threshold annually determined by the EMRA Board. As of the date of this study, all the customers, except for household customers, are eligible customers. The threshold for the eligible customers is 75.000 m3.

distribution level. This explains the increasing number of wholesale companies in the market. As the threshold to become an eligible customer is getting smaller over time, wholesale competition within a distribution region will intensify. Under such conditions, the wholesaler who also owns the distribution assets would have an advantage against its rival, an issue to be also dealt with below in examining distribution tenders.

5.1.3.4 Any merits of vertical integration for Turkey?

As mentioned in the previous chapter, vertical integration is often a result of transaction costs. Firms tend to vertically integrate to avoid such costs, not necessarily to abuse their market power after vertical integration. Vertical integration to eliminate transaction costs increases welfare, but vertical integration to abuse market power decreases welfare (Perry, 1989). Unbundling is made with an anti-trust motivation to prevent such loss of welfare. Thus, vertical integration and vertical unbundling lead to a trade-off among these welfare changes, which a policymaker should consider. Having said such a trade-off, we can look at the other side of the coin and see if vertical integration has merit in the structure of the Turkish natural gas market.

First, we can argue that unbundling leads to certain upfront costs arising out of reorganization, restructuring, and separation of the firm, which was initially observed in the UK's reform process (Newbery & Pollitt, 1997). There are also negotiation costs of the contracts. It is not easy to calculate such costs before happening. But we can argue that if the size of the market, as well as the economic value of the transactions, are high, it would be worthwhile to face such upfront costs. There are some arguments that below a certain threshold, competition makes a little contribution (Gómez-Ibáñez, 2003). In this respect, considering the size of the Turkish gas market, we can argue that potential reorganization and structuring costs would worth bearing. As regards the costs of renegotiation, Turkey has already made regulated third-party access to the network. That is, boundaries

of negotiations are heavily drawn by the regulatory authority and there is little field to negotiate the contracts again. One important detail, in this respect, is negotiating the cost of gas as a commodity with the producer. An unbundled trader would not only make a new contract with its former affiliated transmission company, but it will also need to make a deal with the producer, either local or foreign, with its new identity. For instance, BOTAŞ would make two contracts with the producer, e.g. with Gazprom: the first one is a commercial contract regarding the prices and quality of the gas, the second one is the technical conditions of the delivery like metering, etc. In terms of the first new contract, there is no ground to worry that the prices go up if Gazprom makes deal with an unbundled BOTAŞ trading company. This concern is much valid in the case of contract transfer and market share limits, which we will deal with in the below chapters. However, an unbundled BOTAŞ trading company can still make the same contract provisions with Gazprom. For the technical matters, we can argue that the contract scheme would change as it will be now a three-party relationship. There will be a need for good formulation of these new contracts to ensure smooth continuity of supply, otherwise, the risks of disputes arise.

The negotiation of the contract does have another dimension to be considered: contract enforcement and monitoring. Actually, this is one of the focal points of transaction cost economists in the sense that contract enforcement and contract monitoring could be such costly that firms tend to integrate to avoid future shirking of the counterparty. Does this apply in the Turkish natural gas market context? To answer this question, we have to refer to North (1990) who claims that vertical integration is most common in developing countries as their institutional strength does not maintain credible contract enforcement and monitoring. The incomplete contracts in the case of developing countries are more problematic in the ex-post application of the contract. This gives a further motivation of firms in these countries to become vertically integrated. As he adds, this also explains the existence of gigantic state-owned enterprises in developing countries that are more

successful to settle disputes under a hierarchical order, rather than through a contract between two equal sides. In this respect, BOTAŞ can compare its position against European peers and claim that it is, as the major supplier of gas, cannot leave the transmission business to another firm; otherwise, the risk of shirking after the contract would be highly-priced before the contract. Arguably, such a scenario leads to a decrease in social welfare. In the case of a vertically integrated company, BOTAŞ would not worry about whether the contract is applied, and any issue would be settled under the hierarchical order of the company.

This debate leads us to the issue of regulatory risks and political/administrative transaction costs (Levy and Spiller, 1994; Pollit, 2008). Unbundling of a vertically integrated company has been accompanied by the creation of a regulatory authority in Turkey as well as in other parts of the world. As mentioned earlier, the idea is to restore efficiency through a regulatory mechanism that is lost due to unbundling. An intelligent regulation can increase welfare such that the concerns of the parties of a contract would diminish, which is possible by instituting strong enforcement and monitoring mechanism. The lack of regulatory quality is a highly justifiable concern for the vertically integrated companies in Turkey, which we will elaborate on in the next chapters.

A somehow similar motivation to keep the firm vertically integrated is the matter of government ownership. Obviously, the objective functions of government and private capital are different. While the first try to increase social welfare, the latter aims at maximizing profit. The transactions among two privately-owned companies are more foreseeable because both seek to maximize the profit, which makes them remain stick to the contract for reputational purposes. However, the legal personality of government-owned enterprises is completely different; for instance, BOTAŞ is established with a decision of the Council of Ministers and its duration is completely dependent on the government's will. More importantly, governments can impose tasks on the government-owned company which is not increasing the

profit of the company. In many cases, the company's costs for a certain type of customer can be socialized to the entire society. These considerations are highly valid for BOTAŞ. For instance, while the price charged by BOTAŞ is often suppressed by the government, and the costs of transmission investment do not necessarily consider profits, which we will discuss further below. What we can say at this stage is that, if this company is unbundled, the transaction between the new companies would be problematic if one of them remains to be a government company but the other is not. Actually, in the projection, as noted above, the trading segment of BOTAŞ is planned to be privatized eventually, while the transmission operator will, in any case, remain to be a government-owned company.

Another cost that may arise out of unbundling is the problems of network operation and planning (Fügenschuh et.al. 2013). This concern is mostly related to the fact that there has to be smooth communication among the trader and network operator during the actual flow of the gas. If these companies are integrated under the same roof, such operation would be made better and more efficient. BOTAŞ's integration towards underground storage by taking over TPAO's facility can be interpreted by such grounds. When the storage operations are based on the transactions of two separate companies, they have to follow a stricter protocol to utilize the service, which includes more accurate day-before programming, allocations, etc.

The matter of network planning is more serious. As we discussed above, BOTAŞ's network planning and investment are subject to policy preferences as well as technical matters. Consider a trader that makes a deal with a foreign company to import gas to Turkey. If there is no interconnection between this country and Turkey, BOTAŞ's transmission branch should make this investment so that it realizes. Arguably, if the trade deal is made by the company which also makes the transmission investment, the harmony realizes by itself, as there is no conflict of interest between the two. But, when they are vertically unbundled, the trader

company needs to make two different deals at the same time. It both has to make sure that the exporter brings gas to the gate at the country border, and the national transmission company does the same. If any of them fails to do so, the trader company would incur losses to the other side as that contract would not come into existence. We can elaborate on the example from Iraq, for instance. When a company makes the contract to buy gas from Iraq at an interconnection point at the border between two countries, BOTAŞ should also agree to connect the pipeline at the point agreed on. In other words, in a vertically unbundled scheme, this is a tri-party agreement that is naturally harder to achieve. If, for instance, BOTAŞ fails to make the interconnection, the trading company would possibly be exposed to take-or-pay conditions and pay a serious amount of compensations.

Before finalizing this chapter, there is one more topic worth adding. When the EU was raising the level of unbundling condition in 2009, the main resistance was that there was no level playing field between the network companies among exporter countries and importer countries (Lapuerta, 2008, p.6). In its Natural Gas Market Sector Research, the Turkish Competition Authority followed the same argument that full ownership unbundling should not be applied to BOTAŞ as the Turkish gas market is fragile to the mischief of exporters and the market is quite shallow (RK, 2012).

The implied exporter country, both for the EU and Turkey, is Russia which is often accused of using its market power in other countries to leverage political goals. While the gas markets of importer countries become more disintegrated to achieve the local competitive market, this is not so in the exported countries, which maintain their export cartels. The fear is that Gazprom can get shares of unbundled countries in the downstream and can apply discriminative pricing to eliminate competition in the gas supply market. This concern is also valid in Turkey as Gazprom has affiliations with the gas supply companies. However, the risk is low in Turkey as the transmission network is not projected to be privatized and Gazprom's

possible anti-competitive involvement in the gas market is not a serious threat. There is risk in the distribution segment, but no Gazprom affiliated company has so far entered distribution tenders and got a license for the new regions. The only option left for Gazprom is getting the ownership of Turkey's biggest distribution company, İstanbul's İGDAŞ, which has been delayed for the time being, but it is often reported that it is on the Gazprom's agenda to get İGDAŞ.[31] On the other hand, Azerbaijan's exporter company, SOCAR, has already entered into distribution business in Turkey not by entering into tenders but soon buying the shares of the company that has won the distribution tender and started distribution services in two provinces, Kayseri and Bursa (EPDK, 2018). In this respect, we can argue that the risk of foreign involvement in the national market to get upper hand in the competition is valid in the distribution business, although there has not been observed an anti-competitive behavior so far, mainly due to the dominant position of BOTAŞ in all segments of the market.

5.1.4 Conclusion on the failed unbundling regime

This section analyzed the unbundling requirements of the Natural Gas Market Law No. 4646. We have seen that the unbundling requirements were not fulfilled by the companies and EMRA did not apply an effective enforcement mechanism to achieve such a goal. Two motives are notable to explain the failure of unbundling. For BOTAŞ, the main motivation to keep the integrated structure of the company is to ensure the security of supply. As the former incumbent company which internalized the government objectives, BOTAŞ preserves its position by resting on the argument that it can ensure a smooth gas supply through impeccable coordination between transmission and trade branches under the same legal roof. On the other hand, the failed unbundling regime in the natural gas distribution and LNG terminal operation businesses are more attributable to the profit motives of the companies.

[31] Please check: http://www.emo.org.tr/genel/bizden_detay.php?kod=78457, accessed on 03.01.2021

Considering the market dominance position of BOTAŞ, the company's resistance to unbundling is setting an essential barrier against the liberalization of the market. BOTAŞ's trading branch wields natural superiority over other rival firms thanks to information leakage, privileged access to the network, and distorted investment decisions.

As regards the distribution business, integrated company structures are preserved through affiliation with a parent company. While such a scheme is against the purpose of Law No. 4646, EMRA turns blind eye to the indirect shareholder relationships of these companies. The failed unbundled regime, currently, does not provide a serious barrier against competition as BOTAŞ already dominates the trade segment of the natural gas market. That is, the affiliated trading companies of the distribution companies do not have a de facto power to prevent competition at the retail level.

The integrated company structure in the storage segment is a problem in the LNG terminal operation services. As will be discussed below, spot LNG trade presents a feasible option for the natural gas companies. But this option is effectively blocked by the LNG terminal operators who favor their own trading companies.

Finally, we should note the problem of self-fulfilling prophecy in explaining the failure of unbundling regime from a broader perspective. This point will be elaborated on below in the sixth chapter, but for now, we can argue that a lack of trust against the institutions would lead to a self-fulfilling prophecy that institutions would fail. This point is relevant to the explanation of the failure of the natural gas market reform and will be elaborated in the sixth chapter where we discuss overall findings.

5.2 Rent-Seeking

5.2.1 Rent-seeking from an institutional perspective

Rent-seeking is inherently a matter of institutional theories as institutions create and distribute the rents, while we can define rent-seeking as “attempts by individuals, firms, and groups to get the state to act in their interest are labeled” (Medema, 1991, p. 1051). A rent seeker, then, spends efforts to penetrate, manipulate, or orientate the institutions to achieve the outcome to his/her best interest in the institutional design. As North affirms (1990, p.52), institutions are created or modified by the powerful circles at a given time so that they can preserve or change the status quo. This argument makes rent-seeking an important theme in institutional theories since they can explain resistance to change as well as ways of reforming institutions.

The impact of rent-seeking on policymaking and economics resembles transaction costs economics which we analyzed above. As the transaction costs approach argues, there are costs, apart from the costs of the traded commodity or service, which prevent the emergence of the market efficient outcome. As the transaction costs increase, the market gets smaller, and social welfare declines. The rent-seeking approach, as initially developed by Tullock (1967), argues that if rent-seeking grows in a polity, the sides of the trade, or agents with conflicting interests, devote their resources to determine the outcome of the policymaking process which does not improve the social welfare. Tullock defied his contemporary economists by arguing that the social costs of monopoly and regulation are higher than the deadweight loss. The competition for government-granted rents would result in an additional waste of resources beyond the losses conventionally associated with a monopoly's restriction of quantity. Tullock was not the first to analyze the use of government power by various economic agents. Commons (1961) has earlier indicated this incentive and the effect that the ability to obtain these government-granted rents determined the value of the firm, which he labeled

as “political value” and long ignored by neoclassical economists. Tullock was the first to identify that costs incurred to capture a transfer are a form of social cost that arises from the use of resources. In his model, while a thief sustains efforts for theft, the property owners also make some expenditures to avoid the theft. In total, with the rise of rent-seeking (thieving), social welfare is wasted by thieves and property owners. He likened this behavior in the political field where the agents strive to gain a position for their interest but to the detriment of the general welfare.

A decade after Tullock’s novel contribution to the field, Krueger (1974) developed the “Political Economy of Rent-Seeking” in which she applied theory in the development context. She developed a simple model of competitive rent-seeking where rents arise out of quantitative restrictions on international trade. While Tullock was arguing that any sorts of rents, such as tariffs or regulation would decrease the welfare, Krueger proved in her model that the competitive rent-seeking in the case of import quotas is even worse than tariffs. Accordingly, an import prohibition is preferable to a non-prohibitive quota in case of competition for licenses under the quota. She insisted that the model has greater application in developing countries where state intervention is more common. As a World Bank Economist, her model was heavily used as a claim against import-substitution models in developing countries. Her approach implies that government discretion (rent creation power) is a barrier to development. Actually, one of the research subjects of Krueger was Turkey where she claimed that 15% of Turkish GNP was lost due to rent-seeking activities. Krueger’s claims led to many controversies in Turkey’s transformation to a liberal economy in the 1980s and also have implications in Turkish gas market reform, thus her claims will be detailed in the next section.

Apart from the application of rent-seeking theories in the development context by Krueger, we should also indicate that they cross over the theories of regulation and

in particular those of “regulatory capture”. Both the theory of rent-seeking and theory of regulation address the creation and distribution of monopoly or government-created profits. The economic theory of regulation was first posited by Stigler (1971) with similar tones of Tullock. Stigler develops a harsh criticism of regulation by arguing that the state is a threat to industries in society. It has the power to prohibit and compel, to take and redistribute money, which allows selectively helping or hurting various agents of the economy. The state’s unique power to coerce provides the possibilities for the utilization of the state by the industry to increase its profits. Stigler defies the conventional wisdom that governments regulate industries to reduce the harmful effects of monopolistic industrial behavior. Rather, he argued that governments create monopolies and cartels at the demand of producers who “capture” the regulatory agency thereby prevent competition.

Stigler’s challenges inspired many other rational choice scholars of that era. Peltzman (1976), for instance, extended and generalized Stigler’s theory by depicting regulatory behavior as a political market phenomenon where the regulator's objective function is the maximization of personal wealth. In this framework, the utility tariffs are determined by the regulator equating the marginal political costs and marginal political benefits of a rate change. The theory of regulation as developed by Peltzman is a rent-seeking game where resource owners endeavors to extract the greatest wealth transfer while consumers try to limit such transfer. Finally, Posner (1975) developed one of the first models of rent-seeking in the form of lobbying for a fixed price. Gaining a monopoly right is itself a competitive activity and the cost of getting this right is the same as a monopoly’s expected profit. He concluded that public regulation is a larger source of social costs than private monopoly.

5.2.2 Rent-seeking is the underbelly of neoliberal institutional reforms

I have so far summarized the right-wing explanations of the rent-seeking theories which will be dealt with in the Turkish gas market reform. However, we have to note that these challenges from the liberal camp, which uses cannons of institutional theories, are criticized by leftist accounts. These arguments are also worth mentioning to a degree to frame the issue in Turkey's context.

The rent-seeking approach, as well as critical regulation theories mentioned above, develops a skeptical view on government agencies, not the market actors. In this respect, as Buchanan (1980) emphasizes, rent-seeking should be diverged from profit-seeking. While the first decreases social welfare, the latter increases it, which is the typical liberal perspective. In a government-free environment, there is no place for rent-seeking as the market efficiency emerges automatically. It is also worth mention that rent-seeking is not an illegal form of action like bribery or other sorts of corruption. Rather, rent-seeking is a legal form of wealth transfer. Rent-seeking represents an area between legal profit-seeking and illegal corruption/bribery (Figure 17).

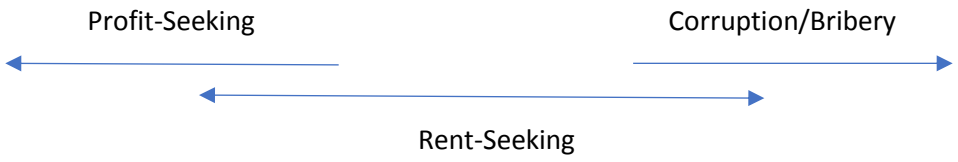

Figure 17 Divergence of Rent-Seeking from Profit-Seeking and Corruption

Source: Author's own illustration

Classical liberals were relying on a self-reliant progressive nature of society (Robinson, 2006), whereas the neo-liberal political economists of public choice

pointed out that self-interested agents would utilize the opportunity to secure advantages in rents. Only the state can supply the institutions (North, 1981), but it is not immune to the self-seeking and predatory behaviors of individuals. This approach replaces the benign state of liberal pluralism with a state of self-interested individuals providing rents in return for support. The implication of this approach is clear: the withdrawal of government involvement in the functioning of the economy. Limiting the predatory capacity of the state requires fiscal austerity, privatization as well as deregulation that would eliminate the very basis of rents (Robinson, 2006). Through the 1970s, these perspectives highly emboldened the rising "new right" which in many ways supported smaller governments. As it is summarized concerning the regulatory developments in the US, these ideas have largely affected the political scape by the end of the 1980s and led to the deregulation of the natural gas industry.

However, there are at least two dilemmas that these theories face. One of them is that neoliberals still need the state to enforce the reform. Even the application of deregulation needs some other forms of supervision as we have seen a gradual strengthening of the US energy regulator, FERC, over time. This is also valid in the Turkish case where the regulatory authority was founded as a small technical body but got bigger over time and resembled the Ministry of Energy. This paradox is left for now and dealt with in the coming chapters.

A second and more relevant paradox/dilemma to be dwelled on in this section is the impossibility of avoiding rent-seeking through institutional reforms with the neoliberal agenda. The intuition before these market reforms is that while self-interest is the overriding factor in the behaviors of both private and public actors, private actors are subject to the competition which ensures efficiency while the public actors are not subject to an equivalent check. The paradox, as Gamble claims (2006), is that the neoliberals need a group of individuals who are not governed by self-interest but act for the public good by applying rules of a functioning market

order. Even if there is some group with such qualification, they would corrupt in the end according to the neoliberal approach as all power corrupts. This is an essential dilemma of neoliberal institutional reforms and cannot be avoided as long as the complete dismantling of the state is not achieved. In this regard, only Rothbard (1978) from the libertarian perspective does not contradict himself who defended so.

The next chapter will deal with these debates in Turkey's context before proceeding to the actual implementations in the Turkish gas market reform.

5.2.3 Rent-seeking and Turkey's economic liberalization

The issue of rent-seeking was an essential argument in Turkey's transformation from statist and import-substitution roots to a liberal economy. As mentioned above, Krueger's seminal paper on rent-seeking was even focused on Turkey to show how the import substitution policies were vulnerable to rent-seeking and a heavy burden on the general economy. We have already discussed the controversy around the issue in theoretical terms. But when it comes to Turkey's practical experience, it soon appeared that rent-seeking did not disappear even after the liberalization of the economy through the 1980s.

One of the earlier cases of rent-seeking, which often went towards explicit corruption (see Figure 17) was the incentivizing policies of exports through tax rebates, preferential loans, and credits. The position of the government after 1980 was the mirror image of previous governments in the 1970s. The rent-seeking transformed the protection of domestic industries from global competition towards strengthening the pro-export industry so that they can well compete at a global level. Both were redistribution of rents. Worse, as Boratav et. al. (1994) warns, the rent-seeking after the 1980s has been more pervasive as the bureaucratic institutional resistance against rent-seeking was dismantled over time. Since the bureaucratic brake mechanisms were eroded and the governments started to

create new institutions and mediation mechanisms, the managerial team of the government emerged as the center of rent-seeking and distribution. New administrations, such as the Under secretariat of Foreign Trade and Treasury and Privatization Authority became the center of this rent creation and distribution process in the 1990s. Such a major transformation of Turkish bureaucracy became instrumental in rent allocation. The political layer, unfettered by the decline of bureaucratic barriers started to ignore the detailed bureaucratic regulations on matters like tenders, import licenses, and urban land use (Aydın, 2005; Boratav et.al., 1994). Active involvement of government in the creation of rents included management of State Economic Enterprises so that the private sector is benefitted much, baling out bankrupt banks as well as industrial firms, pardoning illegal constructions, privatization in obscure terms where the winner is subject to government discretion, excessively discretional tax rebates and pardons (Aydın, 2005).

Natural gas market reform was enacted in 2001 in such an atmosphere. But it was also a period when the neoliberal transformation of the Turkish economy firmly crashed to the wall with the 2001 economic crisis. It emerged that policy oscillations, short-termism, patronage, and rent-seeking persisted even after two decades of the transformation process. Despite the accumulated criticism of the transformation process, the dominant view of the era blamed the statist roots of the country by claiming that Turkey had introduced reforms within an institutional setting engulfed by pervasive rent-seeking and extensive government discretion (Bedirhanoğlu & Yalman, 2010). In this respect, liberalization of the gas market applied the rules of liberal prescriptions often suggested by IMF and World Bank. But, rent-seeking was not the prime item on the agenda of reform-makers no matter what the rhetoric was.

So far, the issue of rent-seeking in Turkey's neoliberal transformation is explained before the enactment of the gas market reform law in 2001. This was a period of

single-party government of the center-right party, the Motherland Party, in the 1980s, and the coalition governments where center-right and center-left formed the coalition. The Justice and Development party, which has an Islamic discourse but still at the center-right, came to rule in 2002. So, the natural gas market reform process has been completely realized completely under the JDP rule. This allows me to review the issue of rent-seeking in gas market reform together with the evolution of JDP policies over almost two decades. The next section will provide traces of rent-seeking in Turkey's gas market reform process.

5.2.4 Practices of Rent-Seeking in Turkish gas market reform

We can examine the rent-seeking issue mainly under two headings: Licenses and tariffs. Licenses are instruments that the government defines who can access the market, so they could be essential instruments of rent-seeking. Tariffs, on the other hand, are direct tools of wealth distribution, therefore set the central issue in the political economy of the natural gas market in Turkey. Licenses are given to every actor in the field which is summarized in the previous chapter. But tariffs are imposed on network operators as EMRA previously decided not to set tariffs for the wholesale segment (decision no.27802 dated 31.12.2010).

The analyses cover pipeline import, distribution, and storage licenses while the last two are analyzed together with the tariff-setting. There will be no examination on the wholesale and spot LNG licenses as there is no practical limit to them and hence no risk of competitive rent-seeking.

5.2.4.1 Licenses for Trading Gas

One of the main goals of the gas market liberalization was to enhance competition through an increased number of players having equal competitive strength. As in all markets where liberalization amounts to fragmentation of state-owned incumbent company, Turkey needed fair, transparent, and competitive market entry mechanisms. Otherwise, market entry would create rents and companies invest

effort in rent-seeking activities. Figure 18introduces the channels of market entry and the corresponding rent-seeking activities.. But before, there will be a summary of the relevant provision of the Law. While the import licenses conditions are introduced in Article 4 of the Law, which has a generic condition, the Provisional Article No. 2 is more important because it develops a framework that reduces the BOTAŞ's share but also protects it from a strong competition:

Provisional Article 2 reads as follows:

> BOTAS … cannot execute a new natural gas purchase contract other than LNG import until its imports fall to the twenty percent of the national consumption. … BOTAS shall make a tender to transfer all rights and responsibilities of its existing contracts, partially or entirely, to which companies who are eligible to get import license **and who get pre-approval from the seller company.** Starting from the first company winning the tender, BOTAS gives consent to the companies to negotiate with the seller company and get its consent to sign a new contract. In case such a legal entity cannot execute a contract with the seller party, transfer through sale may be realized provided that the import company shall agree to perform all cross border liabilities of BOTAS and the natural gas price shall not be less than the natural gas price determined by bilateral agreements.
>
> … Moreover, the Board may permit for import from the countries other than those within which contracts have already been executed by BOTAS by evaluating the applications within the framework of the procedures and principles to be determined by taking into consideration the formation of a competitive environment in the market, the obligations arising from existing contracts and export connections. However, no new gas purchase contracts can be executed by any import company with the countries which has already signed contracts with BOTAS, until the expiration of the term of these contracts. New import contracts can be executed for the same amounts following the expiration dates of such existing contracts.
>
> … However, these conditions shall not apply to the LNG, spot pipeline gas, and CNG imports.

The conditions outlined in the provisional article define the rules of entry in the gas market. Figure 18 shows 6 alternatives to market entry.

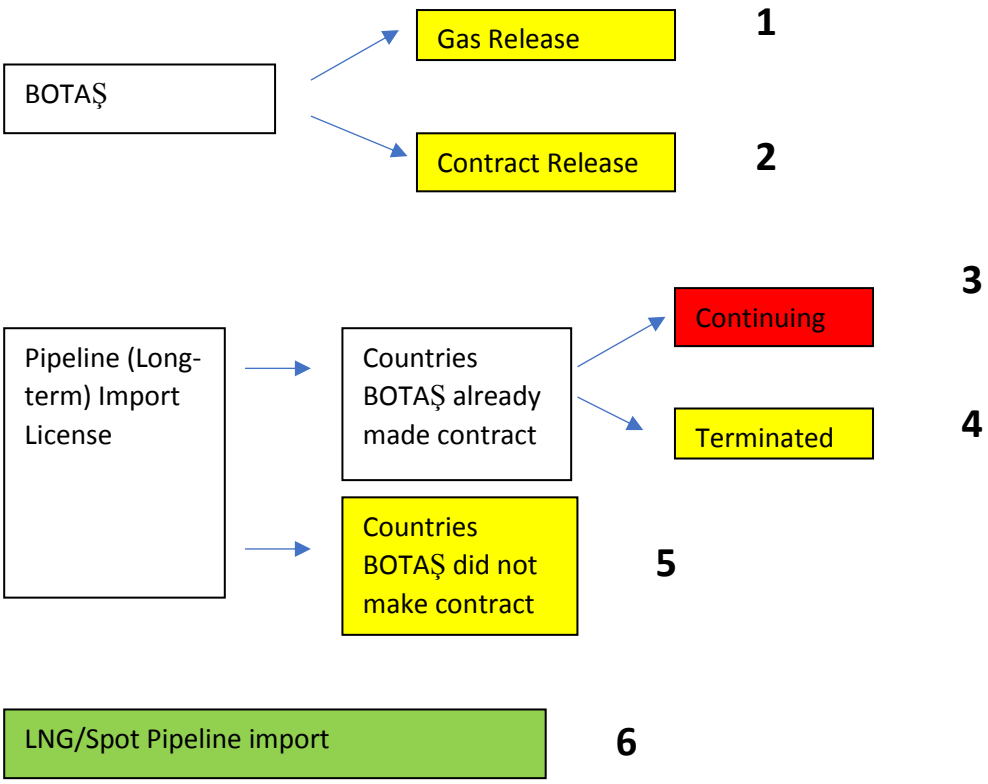

Figure 18 Market Entry in Natural Gas Trade

Source: Author's own illustration of natural gas import regime in Turkey

To show the opportunities of rent-seeking, Figure 18 indicated these alternatives with a color code, where yellow represents the area of rent-seeking. The market entry alternatives which are not subject to rent-seeking are numbers 3 and 6 as number 3 (red) shows an explicit ban by the law while number 6 (green) allows easy access. This makes these two alternatives free from rent-seeking as policymakers or traders have little room to manipulate rules in these options.

For number 3, as quoted above, the law forbids imports from the countries in which BOTAŞ has valid contracts. But the idea here is to protect BOTAŞ from rival companies. This is a sensible condition because theoretically a firm affiliated with

the foreign supplier, say Russia, can replace BOTAŞ in the Turkish market by making a contract with its parent supplier so that BOTAŞ cannot compete and have problems in meeting the take-or-pay obligations. Thus, there is a risk of rent-seeking in the complete-ban option.

There is also little risk of rent-seeking in the case of number 6, which is the spot LNG and pipeline import licenses. The risk is low because there are no practical or legal limits in these licenses. Their license conditions are also flexible[32]. However, there is still a risk of rent-seeking as three out of four LNG terminals as well as all pipeline interconnection points are operated by state-owned BOTAŞ. Arguably, all these facilities have service capacities and BOTAŞ can favor the conditions of access among different actors. We have to note that this is different from BOTAŞ's unfair application of third-party access to the transmission network in favor of its affiliate company, which we examined in the previous section. This unfairness would be among different private companies that have stronger rent-seeking capabilities. However, no third parties have used the BOTAŞ's LNG terminals yet and the spot pipeline application is quite new[33] and not much tested up to now.

We can move to the alternatives of market entry where competitive rent-seeking would arise. As noted in the previous section, Krueger proved that rent-seeking would be higher in the case of quotas in import permits. In the case of number 1, BOTAŞ's contract transfer very well falls in this category as the company would sell a certain amount of contracted gas to the new importers. Actually, the initial entry of importers to the gas market was realized in this method. Before elaborating on the tender, we need to recall the case of TURUSGAZ. Section 4.1 mentioned this experienced while explaining the pre-reform structure of gas supply in Turkey,

[32] Flexibilities and exceptions are provided in the law as well as in the relevant regulation.

[33] Amendment in the license regulation on spot pipelines was published in the Official Gazette on 6/4/2019.

which ended up in the Supreme Criminal Board in the early 2000s. After the reforms, private actors' participation in the gas market has followed the path of TURUSGAZ from the reverse perspective. BOTAŞ was importing gas from TURUSGAZ whose shareholders were covering non-state actors from both Russia and Turkey. Even if it had intentions to sell gas in the Turkish gas market, the Decree Laws, summarized in section 4.1 (see Table 1 and Table 2), were putting barriers against the non-BOTAŞ actors. The reform Law has removed such barriers by allowing the formation of TURUSGAZ-like companies in the Turkish market.

The underlying problem and the main source of rent-seeking are that the gas import contracts are made by a foreign country usually under the setting of an intergovernmental agreement. BOTAŞ started the contract transfer procedure a few years after the law with an intention to transfer 4 billion cubic meters (bcm) to private companies. When BOTAŞ made a public call for contract transfer, many companies had queued to involve in the gas trading market.[34] At this stage, a critical amendment was made to the Law. In the original wording of the Law, the companies were required to first apply to BOTAŞ; and the shortlisted companies then go to the foreign supplier company to make the contract. But the amendment changed the order: Companies who wish to import gas should first get approval from the foreign supplier, and then apply the BOTAŞ (the bold and underlined phrase in the above quotation). Arguably, this not only gives the power to the foreign supplier to determine who can import gas to Turkey but also obscures the conditions of entry into the market. A foreign company is not accountable in Turkey, and its trade partners are under its sole choice. This ambiguity was observed in practice as well. Gazprom has made subtle choices and first, it has chosen a reputable multinational company with a small amount of 0,250 bcm. The company functioned as the key to open the Turkish market to the private capital in 2007, and also strengthen the position of the subsequent private companies.

[34] Please check: https://www.hurriyet.com.tr/devler-turkiye-nin-dogalgaz-kontrati-icin-kuyruga-girdi-38666025 , accessed on 03.01.2021

Gazprom then approved to sell gas to three other companies two of which were set up by its own subsidiaries in Europe while the last one, indeed with the greatest share (2 bcm), was owned by Turkish shareholders. As we review the Turkish Grand National Assembly (TGNA) minutes[35], the opposition parliamentarians warned about the role of rent-seeking in the market entry of gas traders through contract transfers as they claimed that the seller company gave consent to companies having political affiliation, not those having an experience in the industry. In this respect, we can argue that the limit on the import quotas played a role in the rent-seeking practices, which confirms Krueger's model that even monopoly would be a better choice than competitive rent-seeking.

As regards number 4, this ambiguous process of getting initial approval from the foreign supplier repeated during the renewal of BOTAŞ's terminated contract by the private companies in 2012. In this case, companies have queued to Gazprom to make the contract. Indeed, the so-called "creation of a competitive gas market" has worked for Gazprom as it "granted" the contract to the most favorable offer. The same companies who were granted access to the gas market in the contract release process replaced BOTAŞ's terminated contract. Interestingly, BOTAŞ's second contract transfer effort from Blue Stream was rejected by Gazprom.[36] (Although the reason why the transfer was not realized is not clear, the only difference between BOTAŞ's earlier transfer from the one delivered in the Bulgarian border with the Blue Stream is that the latter is operated by a joint venture between Russia and Italy (http://www.gazprom.com/about/production/projects/pipelines/active/blue-stream/). One can argue that a third partner in a possible "tacit negotiation" would not allow the parties to make a contract in a non-transparent manner.

[35] The minutes are available at internet: https://www.tbmm.gov.tr/develop/owa/tutanak_sd.sorgu_yonlendirme?donemkod=22&Yasama_yili=&Baslangic_Tarihi=&Bitis_Tarihi=&sorgu_kelime=kontrat+devri , accessed on 03.01.2021

[36] Please see: http://aa.com.tr/tr/ekonomi/botasin-kontrat-devri-iptal/413736?amp=1

Another market-entry option is importing pipeline gas from the countries in which BOTAŞ does not have a contract, indicated as number 5 in Figure 12. As we have explained in the previous chapter, the main impediment is 2006-dated decision[37] (No.750) of EMRA which stipulates the potential importers to get initial approval from BOTAŞ and the Ministry of Energy. In other words, EMRA diverted the motivations of rent-seeking to the government itself. Transferring the discretion to BOTAŞ and Ministry of Energy is indeed adding a subjective character to the approval as there are no objective criteria. As in the case of Kazakhstan mentioned above, BOTAŞ has initially declined an application to EMRA. However, the company whose application to import gas from Kazakhstan was rejected was accepted[38] two years later as both BOTAŞ and the Ministry of Energy removed their unfavorable opinions, although nothing has changed in such a short period. The second case is imports from Iraq. A company got a license to import gas[39], but this was heavily criticized that the conditions of the license are not transparent and rent-seeking played role in the process[40].

As the ministry does not have an objective criterion to allow EMRA to give the license, it would a justifiable concern that rent-seeking played role in the granting of import licenses from countries where BOTAŞ does not have a contract. But, to avoid such doubt, EMRA makes a public announcement that if any other company is aspiring to import gas in the same conditions as the initial applicant, it can make the

[37] Published in the Official Gazette dated 29 April 2006 and numbered 26153

[38] The decision is available in the Official Gazette dated 15 March 2014 and numbered 28942

[39] Details of the license is available in: http://lisans.epdk.org.tr/epvys-web/faces/pages/lisans/dogalgazIthalat/dogalgazIthalatOzetSorgula.xhtml

[40] See TGNA minutes: https://www.tbmm.gov.tr/develop/owa/tutanak_sd.birlesim_baslangic?P4=21918&P5=B&PAGE1=63&PAGE2=&web_user_id=18754075

application in 15 days. However, such an announcement is cosmetic as making a master agreement with the supplier companies needs a much longer time. Such an announcement gives the impression that EMRA openly invited possible other applicants and subjected them to competitive bidding before granting the license.

Finally, we can check the gas release option referred to as number 1 in Figure 12. The European models of allowing market entry to new participants often included gas releases instead of contract transfers (Bartok et. al. 2006). In the gas release, the incumbent company offers a certain amount of gas for sale to new actors in the market. Purchasers functions as wholesaler or retailer as they make contact with the gas incumbent for these quantities. This is different from the contract release program in which the gas incumbent transfers part of its gas supply contracts with gas producers together with all rights and responsibilities. As can be seen from the relevant provision quoted above, the Turkish gas market model prioritizes the contract transfer over gas release. And, in violation of the article, BOTAŞ did not even apply for the gas release program when the contract transfer was failed in the case of Blue Stream. Indeed, the gas release could be realized when the contract release was received by resistance from the seller company in 2005. Rather, the government preferred to amend the law, as mentioned above, and insisted on realizing the contract release. Despite the government did not initiate gas release over Russian pipelines, it realized the release from the Azerbaijan gas exporters affiliate in the Turkish market after an international agreement in 2010[41]. The agreement was violating the law in the sense that gas releases should be made in auctions. However, BOTAŞ made a bilateral contract with the relevant company and transferred 1.2 BCM of gas to it. Due to the arbitrariness and ambiguity of the conditions of the releases, we can say that rent-seeking could be practiced in the transaction as there was no competition for the private company to get BOTAŞ's amounts. One counter-argument in this regard is that BOTAŞ might have negotiated

[41] https://www.resmigazete.gov.tr/eskiler/2010/10/20101006-4.htm

other issues, such as the realization of TANAP, with Azerbaijan's gas company. However, this (non-market responsibilities of BOTAŞ) is another topic that we deal with in the next chapter and it does not change the rent-seeking character of the issue.

Overall, from the provisions above we can see that entry into the Turkish gas market is not based on transparent, fair, and foreseeable mechanisms as defined and aimed in the law in general. From an institutional perspective, the conduits of rent-seeking persist, and heavily distort entry into the gas trade market. The next section will analyze the same issue for network companies.

5.2.4.2 Licensing and tariff setting in distribution companies

The situation of network companies is different from the gas supply companies. The network companies are either natural monopolies or heavily protected from competition because of technical constraints. An example of the first case is natural gas distribution companies that are franchised to provide gas transport services over low-pressure pipelines in a specific region. These regions are typically towns/cities where laying pipeline allows efficiency due to the integral urban characteristics.

The second case is the storage facilities consisting of LNG terminals and underground reservoirs. These facility ownerships are not a monopoly activity as long as geographical formations allow competition among different actors. However, if there are technical limits to open up new reservoirs or construct LNG facilities, the storage service activity approximates to monopolies. The monopoly or increased market power would arise if the underground geological reservoir formations or the littoral availability for the LNG terminals are limited considering the market size. The point is that, when a service is provided by a monopoly, then the regulator would involve in this segment of the market with the goal of removing the market failure.

The licensing of the firms in this segment as well as setting tariffs for their services are critical in this respect as rent-seeking would pose heavy costs to the society in case of regulatory failure. I will analyze the issue for the making of the Turkish gas distribution market below as well as gas storage activities in the next section.

5.2.4.2.1 Franchise and privatization of Natural Gas Distribution Companies: Theoretical Background

Regulation of monopolies is one of the most controversial public policy issues. As typical microeconomics textbooks teach, monopolies maximize profit by decreasing the output and increasing the price, which is to the detriment of social welfare. The choices to curb the natural monopoly power can be put into the scheme in Figure 19.

From the pure neoliberal perspective, which Friedman (2020, p.36) also reiterates, among these options the most tolerable 'evil' is a private monopoly. As he claims, which is also a central tenet of neoliberal discourse, there is no "*natural monopoly*". The so-called "*natural monopolies*" are not necessarily naturally arising, but they are actually "*legal monopolies*" by rising legal barriers against rivals. To Friedman, a good supplied by a monopoly has substitutes provided by other firms in other companies. Making a virtual monopoly as a legal monopoly would prevent rival technologies as the legal monopolies try to protect their position through rent-seeking. Friedman gives the example of railroad regulation in the 19th century US, where the Interstate Commerce Commission tried to regulate the activities of railroad companies which has monopolistic behaviors, but soon the Commission itself tried to protect these companies against growing rivalry from the truck freights. So, even a company has a monopolistic behavior, this is untenable and under the challenge of rivalries from suppliers of substitute service or goods. The application of this approach in the gas distribution service is that the government should not set a tariff even for these companies because they have to compete

against firms that provide substitute goods (such as gas in LNG form, coal, oil, etc.) and the deadweight loss associated with the monopolies would not hold.

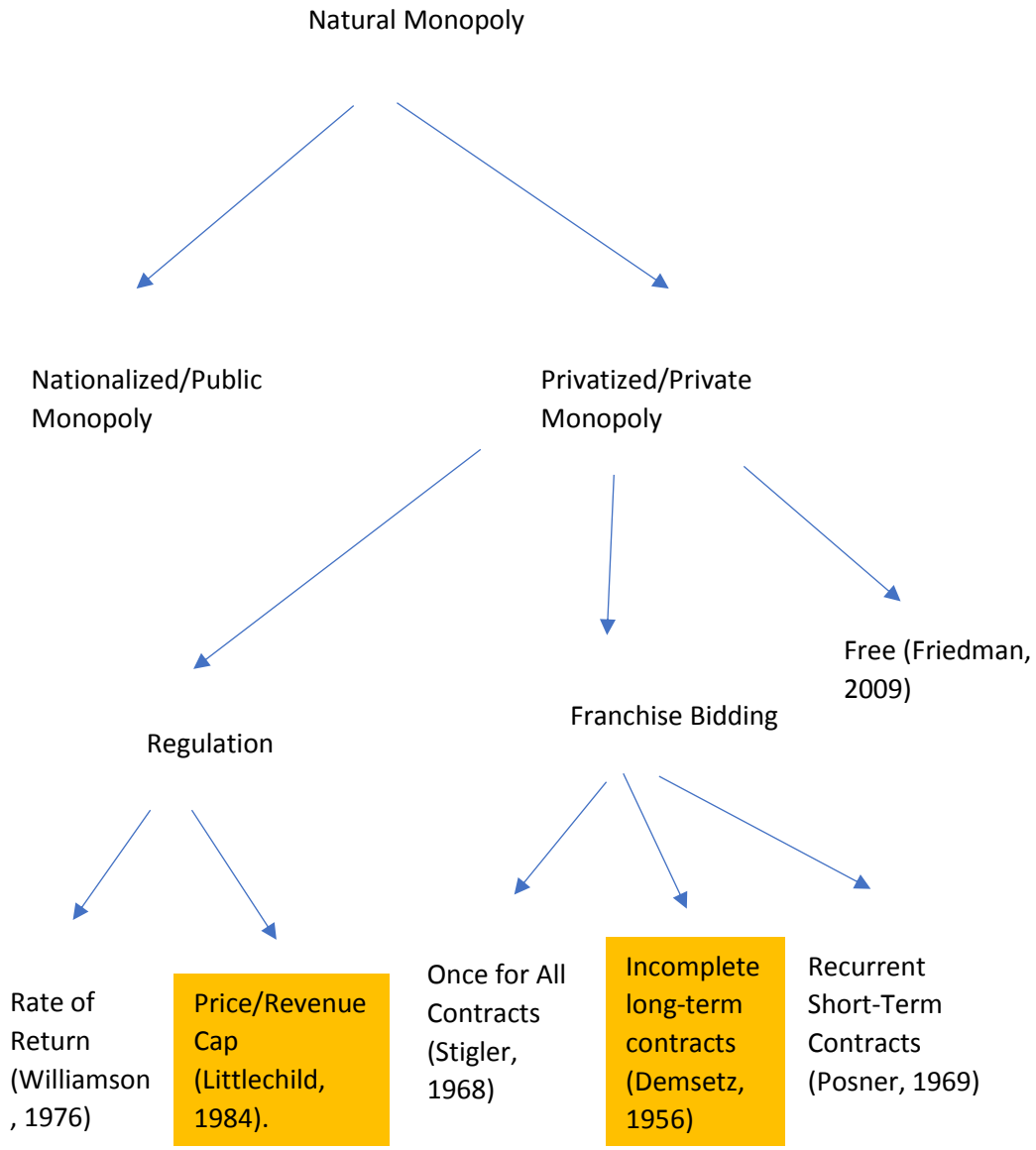

Figure 19 Policy Options against Natural Monopolies

Source: Author's own illustration

However, this neoliberal and anti-regulation perspective has been highly discredited over time as it relies on the elasticity of demand on the goods concerned. As in the case of natural gas, this is hardly true while the alternatives are either much more expensive or emitting environmental externalities. So, we can say that the essential debate starting from the second half of the century is to decide whether a public monopoly or regulation of a private monopoly would best serve society.

This research have earlier emphasized that the liberalization of the natural gas market evolved from opposite tendencies in the US and Europe. The private monopolies had arisen in the US in the early 20th century which was soon put under firm regulation. But after the neoliberal reforms, they were deregulated or loosely regulated. The situation is opposite in European countries as well as in Turkey where natural gas was introduced by public monopolies and the liberalization amounted to the privatization of these services.

The intuition behind public monopoly is clear: A public monopoly would not behave like a private monopoly. While the first tries to maximize social welfare, the latter seeks to maximize profit to the detriment of the entire society. If so, why there has been a sweeping reform process all over the world, especially in the economies of transition like Turkey, to privatize the natural monopolies. The argument has been that private monopolies can operate and function more efficiently (Shirley, 1999) than their public counterparts. While the question as to whether public or private management is better has not been settled in theoretically, the practical result is the inauguration of private monopolies in a vast part of the world.

On the other hand, the private monopoly issue is not a settled one and even more intense debates have been revolving around it. The debates on the regulation of private monopolies especially started in the 1960s with the rise of anti-regulation views pioneered by public choice scholars. We have provided some of their accounts previously. Their main argument was that US public utility regulation was inadequate as the government cannot have the necessary skills to regulate utilities.

A regulator could not have the full knowledge to fine-tune a tariff that would allow the company to get a reasonable profit. At that time, the regulation was based on allowing a rate of return for utilities by the regulators. But this was criticized for providing inadequate incentive to reduce operating costs and encourage over-investment in capacity (Averch & Johnson, 1962).

In this atmosphere, Demsetz (1968) suggested that utility regulation could be replaced by a tendering process in which the lowest price bidder is granted the exclusive right to supply service. Demsetz's argument was based on the 19th-century British policymaker Chadwick's formulation of "competition for the market" where "competition within the market" is not possible. This proposal implies that formal regulation of utilities is useless as the price offered by the bidder eliminates the risk of monopoly price/quantity choice.

However, institutional economists (notably Williamson, 1976 and Goldberg, 1976) challenged this view by using the typical institutional arguments. They argued that franchising contracts might be more problematic than the regulation as these contracts are by nature made for a long-time where uncertainty persists. Franchising a public service leads to the problem as to which party would be exposed to risk arising out of changing circumstances throughout the contract. This concern is highly valid in the Turkish case, which we will analyze below, as the licenses of distribution regions were given for 30 years period. In fact, while the views of Williamson (1976) and Goldberg (1976) dominated the economics literature for the following period, both the competitive bidding and utility regulation have been adopted during the shift from the public to the private sector with various institutional innovations and adaptations all over the world. One of them was the RPI-X or price cap regulation which intended to provide better incentives for efficiency and innovation than the rate-of-return regulation traditionally applied in the US (Littlechild, 1984).

The matter is highly relevant to the concerns shared by institutional economists, as first challenged by Williamson and Goldberg, mentioned above. And these matters have explanatory power in the rise of rent-seeking in the interplay among regulated entities and policymakers.

From an institutional perspective, the privatization of public service is essentially a matter of transaction cost economics. As detailed above, transaction cost economics is preoccupied with the formation of the firm. The theory seeks an answer to the question under what conditions firms merge or disintegrate to gain efficiency. This approach runs parallel with the privatization theory in the sense that privatization is nothing but letting the formation of a private company to give a specific service. The government is also in the position to decide whether to provide this service itself or to make another company do it. A state-owned company can be formed to eliminate the transaction costs which may otherwise arise between the government and the private company. Letting a private company do business would breed the same consequences of the vertical separation of two companies. Thus, in the case of privatization, the rules of privatization should be well designed to decrease the transaction costs that emerge after the contract.

One of the possible problems is “incomplete contracts”. As we detailed in the previous chapter, an incomplete contract gives the sides of the contract ex-post opportunistic behavior and shirking as well as many other disputes that create friction in sustaining the transaction among the sides. This would also apply to privatization as the license is nothing but a formal contract between the government and the company. The main argument of the incomplete contracts approach is the assumption that completely contingent contracts cannot be written for long-term deals (Coase R., 1960; Williamson O., 1985; Grossman & Hart, 1986). If there is a future surplus arising out of some non-contractible investments, the division of quasi-rents cannot be controlled ex-ante through the contract but determined by the bargaining power of parties (Schmit, 1996). This issue brings us

to the issue of “asset specificity”. As the privatized facility bears huge investment costs, the bargaining power of the government ex-post increases due to asset specificity on the side of the firm. In other words, the firm is heavily bound to the government’s future policies and regulations as it cannot reuse the assets in case the contract is terminated. Finally, “principle-agent” theories can be applied together with the information asymmetry issue. The information asymmetry is two-sided. First, the government has superior information as regards the regulations; and second, on the contrary, the firm may have better information as regards the costs it would incur.

These problems bring about the conditions of what Sappington and Stiglitz (1987, p.6) called “imperfect rent acquisition”. Accordingly, even if the government selects the firm that is supposed to operate at the minimum cost, the firm will still benefit from rents. Such rents occur when the firm is risk-averse, competition for the area is limited and the government has pertinent information not shared by potential investors. If the government enforces the private firms to absorb the risks, not the most efficient firm enters into business but the one most risk lover is franchised. Another source of rent accretion is the absence of limited competition at the bidding stage. The winning bidder gets rent in the case of few competitors. As technology advances or high capital is needed in a specific area, such as oil and gas extraction, the number of potential bidders becomes smaller. Finally, if the government retains some information before bidding, this will create another area of rent-seeking as the information itself may not be equally distributed among potential firms.

5.2.4.2.2 Franchise and privatization of Gas Distribution Companies: Turkish Experience

As we have briefly wrapped the theoretical framework, we can now analyze the Turkish experience of franchising gas distribution business starting from the early years of market restructuring. Before proceeding, we must note that the

privatization of the distribution business in Turkey amounts to both privatizations of existing networks and franchising new firms to build distribution networks in new regions. Before the start of the reform, there had been 7 distribution companies in Turkey consisting of 4 municipality companies, 2 BOTAŞ affiliates, and 1 privately owned company as detailed in Table 5.

Table 5 Status of Pre-Reform Distribution Companies

Year of Operation	Company	Region	Pre-reform Owner	Current Owner
1998	Başkentgaz	Ankara	Municipality	Private
1992	İGDAŞ	İstanbul	Municipality	Municipality
1992	Bursagaz	Bursa	BOTAŞ Affiliate	Private
1994	Bahçeşehir Gaz	Bahçeşehir İstanbul	Private	Private
1996	Esgaz	Eskişehir	BOTAŞ Affiliate	Private
1996	İZGAZ	İZMİT	Municipality	Private
2002	AGDAŞ	Adapazarı	Municipality	Private

Source: (Ceran, 2017, p.47)

For the new regions where the gas would be distributed, EMRA is required to arrange tenders as specified in the law (article 4-g):

> … The city natural gas distribution service shall be granted to the company which wins the tender announced by the Authority within a license term to be determined by the Authority including the possession of the local natural gas distribution network taking into consideration some issues such as the development level of the city the consumption capacity and the number of users. …The bids of the companies for the tender shall be evaluated under the procedures and principles determined in the regulations to be issued and then the distribution license shall be granted to the winner company and such company shall be authorized as the distribution company to engage in distribution activities of that city.

As it is seen from the above provision, the law delegates the power to determine the terms of the bidding as well as the duration of the license to EMRA. However, it also specifies the basic elements of distribution tariffs (Article 11-4):

> The retail sale prices and tariff principles consisting of the unit purchase price of the natural gas, unit service cost, depreciation costs of the distribution company, and other factors, shall be determined by EMRA. No other fees would the customers be charged other than this retail price.

But we can say that law envisages a hybrid method of franchising gas business: Entry is made on the Demsetz tendering process but EMRA should also determine the tariff of the company after it is awarded a distribution license. The Regulation on Distribution and Customer Services provides little detail on the tendering process:

> Article 12: The bids are evaluated over the unit service sand depreciation costs offered as the single price for the distribution of unit kWh natural gas…The unit service and depreciation costs determined in the tender shall be applied for the term defined in the specifications. Following the end of his term, the unit service and depreciation costs are applied in line with the price cap determined by EMRA.

What the secondary legislation says is that the Demsetz bidding shall be applied for a specific period. When the period terminates, EMRA sets the tariffs based on price cap regulations. In Figure 19 above, the hybrid model of gas distribution franchising and regulation process is indicated in the orange spaces. So, the hybrid model starts with the Demsetz bidding and then continues with the price cap regulation initially developed in British utility reforms.

Starting from just 2 years after the reform, EMRA announced tenders to franchise new distribution regions for 30 years. The tenders were based on three levels:

1. Underbidding for the unit service and depreciation charges (USDC) for cent/kWh for the first 8 years of service,

2. Underbidding for the connection fees starting from 180 USD

3. Bidding for the license fee.

In this framework, the tendering processes resulted as listed in Table 6:

Table 6 Tender Results of New Distribution Regions

Region	UCSD (cent/kWh)	Connection Fee (USD)	License Fee (TL)	Status
(Trakya) Edirne-Kırklareli-Tekirdağ	0	0	2.500.000	Tendered
Antalya	0	5	0	Tendered
Elazığ	0	5	0	Tendered
Gaziantep-Kilis	0	30	0	Tendered
Denizli	0	149	0	Tendered
Amasya-Tokat	0	163	0	Tendered
Aydın	0	165	0	Tendered
Çukurova İhaleli	0	167	0	Tendered
Ordu-Giresun	0	169	0	Tendered
Afyonkarahisar	0	174	0	Tendered
Çanakkale	0,001	180	0	Tendered
Trabzon-Rize	0,008	180	0	Tendered
Kahramanmaraş	0,009	180	0	Tendered
Adıyaman	0,01	180	0	Tendered
İzmir	0,012	180	0	Tendered
Isparta-Burdur	0,015	180	0	Tendered
Manisa	0,016	180	0	Tendered
Bilecik-Bolu	0,016	180	0	Tendered
Yalova	0,031	180	0	Tendered
Kr. Ereğli- Düzce	0,034	180	0	Tendered
Çorlu	0,036	180	0	Tendered
Malatya	0,037	180	0	Tendered
Çatalca	0,044	180	0	Tendered
Muğla	0,045	180	0	Tendered
Erzurum	0,046	180	0	Tendered
Zonguldak-Bartın	0,05	180	0	Tendered
Gebze	0,052	180	0	Tendered
Samsun	0,055	180	0	Tendered
Uşak	0,055	180	0	Tendered
İnegöl	0,061	180	0	Tendered
Seydişehir-Çumra	0,063	180	0	Tendered

Table 6 Tender Results of New Distribution Regions (Continued)

Konya	0,064	180	0	Tendered
K.bük-K.monu-Ç.kırı	0,069	180	0	Tendered
Kayseri	0,076	180	0	Tendered
Çorum	0,079	180	0	Tendered
K.bey- M.K.P- S.luk	0,081	180	0	Tendered
Erzincan	0,089	180	0	Tendered
Şanlıurfa	0,095	180	0	Tendered
Niğde-Nevşehir	0,098	180	0	Tendered
Balıkesir	0,112	180	0	Tendered
Kütahya	0,124	180	0	Tendered
Havza-V.köprü-Bafra	0,139	180	0	Tendered
Karaman	0,144	180	0	Tendered
Kırıkkale-Kırşehir	0,158	180	0	Tendered
Sivas	0,164	180	0	Tendered
Konya-Ereğli	0,172	180	0	Tendered
Bandırma	0,174	180	0	Tendered
Yozgat	0,176	180	0	Tendered
Polatlı	0,23	180	0	Tendered
Siirt-Batman	0,235	180	0	Tendered
Eskişehir	0,235	190	NA	BOTAŞ
Bursa	0,235	190	NA	BOTAŞ
Aksaray	0,236	180	0	Tendered
Iğdır	0,237	180	0	Tendered
Gemlik	0,239	180	0	Tendered
G.hane- Bayburt	0,25	180	0	Tendered
Kars-Ardahan	0,279	180	0	Tendered
Geyve-AFP-P.ova	0,28	180	0	Tendered
Diyarbakır	0,29	180	0	Tendered
Van	0,297	180	0	Tendered
Mardin	0,409	180	0	Tendered
Sinop	0,445	180	0	Tendered
Bitlis-Bingöl-Muş	0,485	180	0	Tendered
Kızılcahamam	0,521	180	0	Tendered
Ankara	0,522	190	NA	Municipality
İzmit	0,602	190	NA	Municipality
Bahçeşehir	0,611	190	NA	Private
İstanbul	0,635	190	NA	Municipality
Adapazarı	0,673	290	NA	Municipality

Source: (Erdoğdu, 2010, p.808)

To illustrate the mechanism, the distribution company that won the tender applied the following charge to the customers (Figure 20):

Invoiced Natural Gas Price =

(USDC x Cons. Gas Amount) + (Purchase Pr. of Gas x Cons. Gas Amount) + (Tax)

0 % ~10% 70 % ~80 % ~18 %

Figure 20 Elements of Invoiced Natural Gas Price

Source: Derived from Erdoğdu, 2010, p.811

Accordingly, the price of gas that the distribution company buys from the wholesaler (in practice, BOTAŞ) is directly reflected in the end-user prices. The only condition that the distribution company should prove is that it purchased the gas from the cheapest source, which we discussed above. What is critical in the frame of the tariffs is that the winner company is entitled to charge the USDC to the customers as it bid in the tender. In other words, USCD is the (aside from the connection fee which is collected once) single price that the distribution company gets from its service. It is the only instrument that the distribution company recovers its investments and makes a profit. The share of this amount varies between 0% to %9.7 in the invoices of final customers, that is, the customer may pay the same amount of gas 10 percent up to %10 cheaper depending on the region it resides.

As Table 6 shows the UCSD of non-tendered companies is much higher than tendered distribution companies. An initial look at the figures shows the merit of tenders or the Demsetz method of franchising utility services. On average, the UCSD of tendered companies is 0,115 while the non-tendered companies are 0,501, signifying one-fifth of discount to paid to the distribution companies and up to one-tenth of reduction in the final prices. But, this is not the entire story. To see how rent-seeking affected the final outcome, we need to check the application of actual investments and tariffs set out by EMRA in the eighth year of their licenses.

5.2.4.2.3 Traces of rent-seeking in the Turkish gas distribution business

As we have examined the tendering process and results of the gas distribution companies, a reasonable question is why companies offered quite low amounts for the service they would provide? In 10 distribution regions, the companies offered to provide free service to their customers in the first 8 years period. And in the case of tender for the Trakya region, the company did not even ask for a connection fee and agreed to pay an additional amount as a license fee. Considering that all these companies are doing business for profits (they are not charities or public enterprises that socialize the costs), what would be the expectation of these companies to offer such small bids? This question rightfully brings us to the matter of rent-seeking. An institutional perspective gives us the clues where rent-seeking would play role in the franchising of gas distribution regions to private companies in Turkey. In other words, we can see how the customers may not utilize the so-called Demsetz bidding.

One of the main points we should note is that the tariff methodology to be applied after 8 years was not defined before the tendering process. As we mentioned above, the institutional perspective highlights the matter of “incomplete contracts” where both sides of the contract benefit from ex-post opportunism. In the case of two private companies, such risk makes the company tend to merge to avoid such

risks which they referred to be arising out of transaction costs. But in the case of a contract between the government and private company the possibilities are already given and discussed in Figure 19. If the government does not nationalize (equal to a merger in the case of two private companies), it has to fine-tune the franchise tendering and tariff-setting in such a way that the ex-post transaction costs get to zero and the social welfare maximizes. But when there are ambiguous areas before the contract, the contract becomes "incomplete". Thus, there emerges a vast area of rent-seeking for parties of the contract.

The method of franchising in the Turkish gas market very much fits into this frame mainly due to the absence of a tariff formula to be applied 8 years after the tenders. What the law envisaged for the retail tariffs was that it shall include *"unit service cost, depreciation costs of the distribution company and other factors".* Arguably, the other factors give EMRA great room for maneuver. Indeed, EMRA solely mentioned in the Regulation on Distribution and Customer Services that the tariff methodology shall be based on "price cap", which we referred to above.

Considering that the companies entered into the tendering and bid fairly low amounts, we can safely argue that they expected a favorable return from EMRA both during the investment stage in the first 8 years and afterward when EMRA set the tariffs after this period. To compare the situation with a trade between two private companies, a contractor agrees to make a huge amount of investment by agreeing that the principal would pay an indefinite amount 8 years later, which is not reasonable. In this case, however, the winner of the tender would have some tacit knowledge as regards the future policies of the government. As we referred above from the earlier claims of Sappington and Stiglitz (1987), there existed perfect conditions of rents in the franchising of gas distribution region in Turkey, where the contract (license) is complete, the government has superior information for future regulations not shared by all bidders, and the companies are risk lover. This situation enforces the companies to seek rents for favorable tariff conditions as

the term for the tariff setting is getting closer. Besides, the company which has greater political clout may bid lower because it knows its capability to manipulate the regulatory decisions. If the tariff methodology were determined before the bidding, the transparency would be higher and the room for rent-seeking gets narrower.

In this setting, when the date of the tariff-setting approached, EMRA issued two decisions regarding the tariff methodology: Determination of the asset base of distribution companies who got licenses with tenders, and second, the methodology for tariffs of natural gas distribution companies. Article 3 of the Methodology on Determination of Asset Base of Natural Gas Companies whose tenders were made by the Energy Market Regulatory Authority sets forth that "*The calculation of asset base of distribution companies after the eight years covers the investments, connection revenues, and depreciation allocated for the first eight years".*

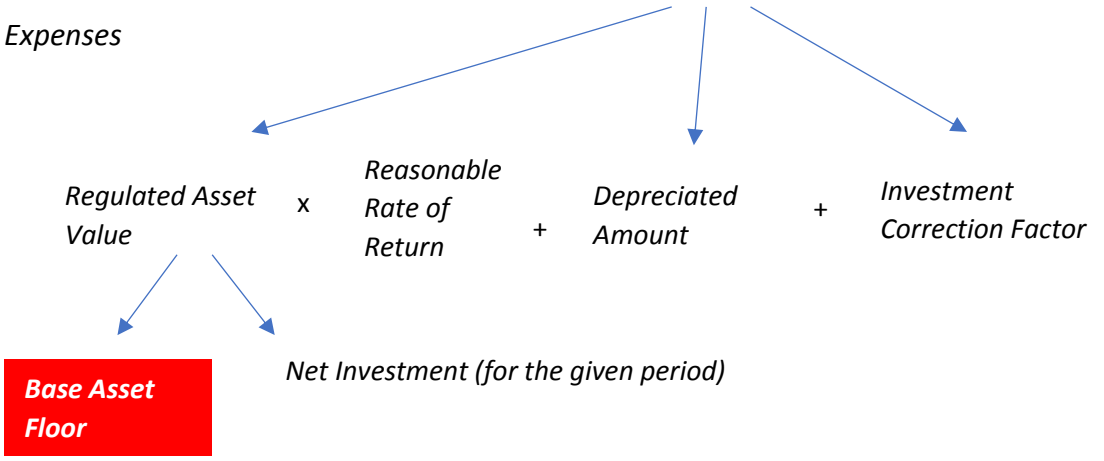

Figure 21 Natural Gas Distribution Tariffs and Revenue Requirement (Article 6 and 7 of the Methodology)

The provision means that the cost of investments which the companies tendered would be recovered during the following period. In the Methodology of Tariff Setting for Gas Distribution Companies we can show it in the formula without going into too many details as in Figure 21.

The Base Asset Floor is defined in the regulation as the total net investment amount made before a certain date defined for the distribution companies whose system use costs were not defined. That is, the tendered companies are entitled to get back the amount that they previously renounced during the tender. To elaborate, we can think about two companies who race to get franchising by underbidding for the service fee they would charge. Assume that if there was no bidding, EMRA would set the amount "z" for this amount. If the companies had known that whatever they bid, they would recover their costs starting from 8 years later, their dominant strategy is to bid as low as "0". But the critical term here is "*had known*". If they had not known, they would of course bid the amount that would enforce them to offer the most efficient amount, definitely a reasonable amount over "0".

This situation explains the "0" bids during the tenders, signifying that the companies had known that the amount they bid has no value and the tender is almost a barrier for the companies who could not get information for regulator's future policies, or who were weaker to ensure the future rents. To say it in opposite terms, only the companies who have the tacit information or who have the capability to seek the rents won the tender.

The second instrument of ex-post shirking of the distribution companies is delaying the investments at the first eight-year period. According to the tender license terms of the distribution companies (Ceran, 2017, p.48), they must start construction in 6 months after getting the license and complete it no later than a 5-year period. But, as they expect to recover their investments after 8 years, their strategy is to delay the investments as much as possible. Since the terms are clearly defined in the license terms, they evade this responsibility based on "force majeure" clauses

specified in the License Regulation[42]. In this respect EMRA didn't enforce the distribution company to complete the investments if any of the following cases occur:

- The roads in conformity with the city construction plan are not opened
- The road's *"red code" is not properly ensured in the plan as well as in the site*
- Necessary permits are not yet taken in line with the legislation for the production of distribution network

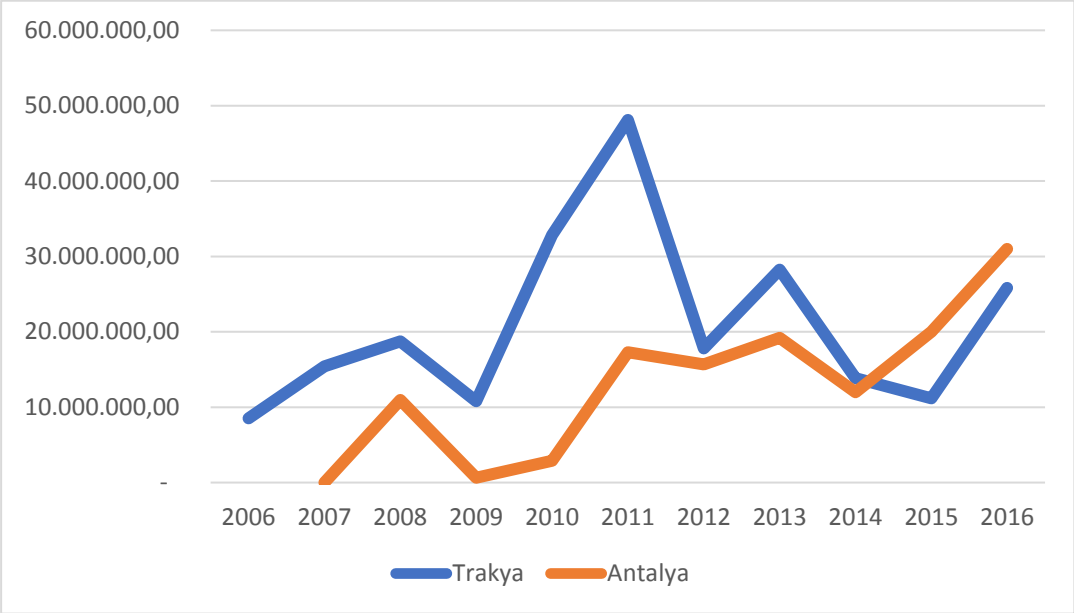

Figure 22 Investments (TL) of Trakya and Antalya Distribution Companies

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

These exceptions provide an important instrument for the distribution companies to delay the investments so that they don't bear the cost of operation during the

[42] See the EMRA comment on why all customers are not connected to the system from Frequently Asked Questions: https://www.epdk.gov.tr/Detay/Icerik/12-1007/dogal-gaz-piyasasi

first year period. We can bring proof of this tendency from the investments of distribution companies that won the tender for the Trakya and Antalya regions. As shown in Table 5, the companies offered “0” for the unit service and depreciation fee as well as for the connection fee for the first 8 years period. Normally, this company should have completed the investments (connect each customer in the region) within five years after taking the license. However, as the company would get no remuneration for the investments in this period, the best strategy is to delay the investment by resting on various exceptions allowed by EMRA. Figure 22 shows that these companies started with meager investments in the earlier period of their license terms and increased the investments after five years.

One of the other points open to the manipulation of distribution companies is the application of price cap tariff methodology starting from 8 years after the license term. As discussed above, the rise of Demsetz tenders, as well as British price-cap regulation, was to eliminate the issues associated with rate-or-return regulation which had long been applied in the US. Price cap regulation is a form of incentive regulation. It develops rewards and penalties to encourage the monopoly company to achieve pre-set goals. The price cap regulation restricts the company’s average price increase by a price index (Retail Price Index as often called RPI) and an offset (called X) reflecting the expected changes in the company productivity. The basic idea of price cap regulation is that the regulator would not have sufficient knowledge compared to utilities in terms of to what extent they can operate efficiently the utilities could operate. Theoretically, the price cap regulation incentivizes the firm to reduce costs and improve efficiency and eliminate the incentives to ‘gold-plate’ and inflate costs that emerge in the case of the rate of return regulation.

Despite such mentioned superiorities of price cap regulation which is referred to in the legislation as well, Turkey’s application of the price cap regulation approximates

the rate-of-return regulation and runs the risk of “Averch Johnson Effect”, or gold-plating.

In the application of the natural gas distribution tariff mechanism (see Figure 15), the more capital that the company builds, the more profit that it earns. As long as the distribution company convinces EMRA that capital investment is needed, then consumers must fund the cost of that capital investment. Just like in the case of the rate of return regulation, EMRA determines a revenue requirement for the company. The allowed return is a “reasonable” rate multiplied by a rate base valued on a historical and projected basis. We can see the traces of gold-plating from the data derived from company tariffs published on the EMRA website.

The system use fees, asset bases, and investment ceilings of 4 distribution regions (Kayseri, Erzurum, Trakya, and Samsun) in Annex 1. These regions are randomly chosen but they represent the cases with varying consumer groups and ranges. What we observe from these regions is that their asset base is highly increasing as EMRA approves a growing level of investments for the companies.

Among others, an important instrument the distribution companies gained after they were licensed was an amendment in the law dated 2016, which is as follows (Article 4-g-5): *“The coverage of the distribution region can be redefined or expanded by EMRA without making new tender by taking into account the technical and economic reasons and without exceeding the provincial borders”*

Such provision granted windfall profits for the companies as the coverage of the license was highly enlarged by the law and they gained extra profit area without new tenders. While EMRA should rely on technical and economic grounds for such an expansion, this was not realized considering the increase in system-use fees.

To explain the increases in the system use fees, we can say that the increase in the revenue requirement of the company ends up greater system-use fees (SUF)[43]. For a given quality of service, the efficiency gains are directly reflected in the system use fees as they form the share of distribution service in a customer's invoice. The formula of the system use fee for a customer group is defined as following in the Methodology of Natural Gas Distribution Tariff Regulation (Figure 23):

System Use Fee$_c$= Revenue Requirement / Consumption$_c$

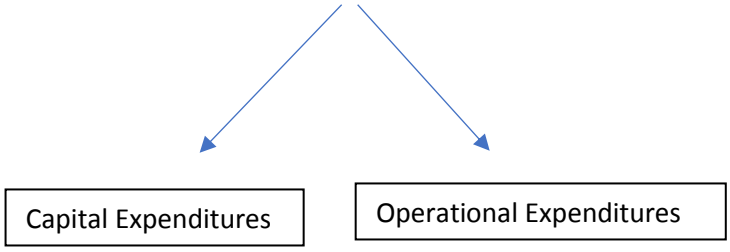

Figure 23 System Use Fee

Source: Author's own illustration based on the Tariff Regulation

According to this formula, the system use fee increases if the revenue requirement increases. As long as the company gets approval from EMRA for new investments, it will make investments that are multiplied by a reasonable rate of return[44]. The best strategy for the distribution company is to increase capital expenditures. But this amounts to a higher amount of fee for the customer. We can see the result of increases in system use fees in Figures 24 to 27.[45]

[43] System use fee is the amount that the distribution company gets from the customers. It is the main source of revenue for distribution company.

[44] Most recently EMRA determined it a 12,85%: see https://www.enerjigunlugu.net/dogalgaz-makul-getiri-orani-1285-33797h.htm , accessed on 19.03.2021

[45] The investment requirements and consumptions figures of these regions are available in Annex 1.

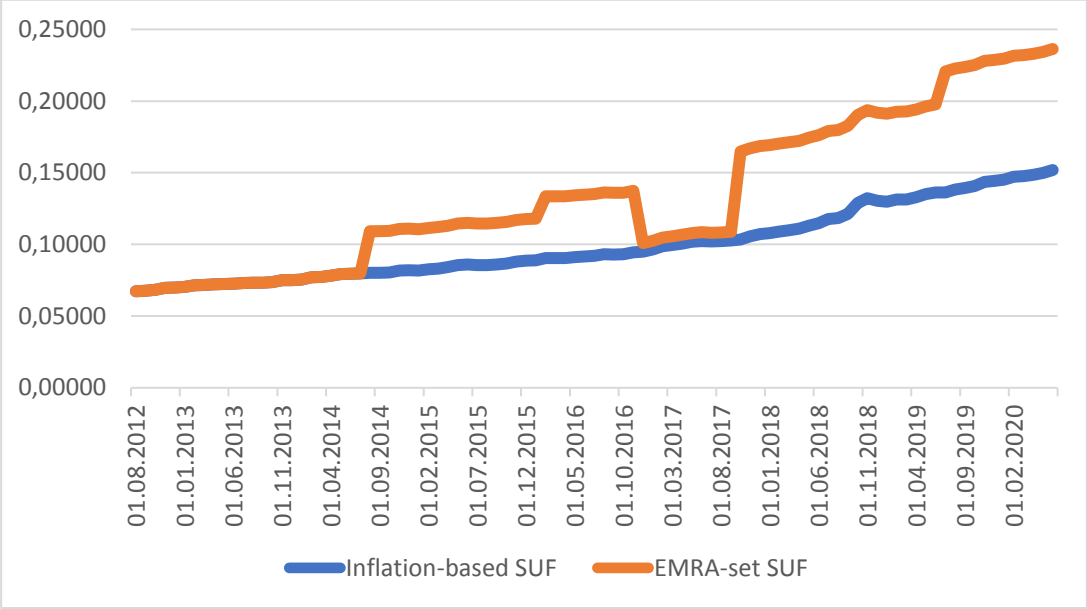

Figure 24 Kayseri Distribution Region Natural Gas System Use Fee (TL/m3)

Source: Derived from EMRA Board Decisions available from: http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

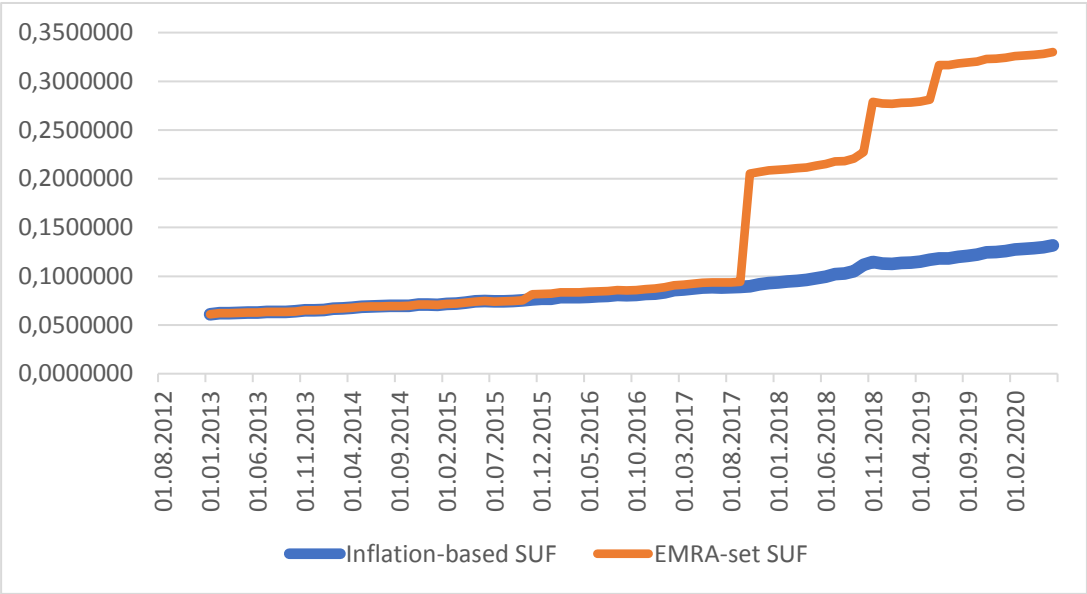

Figure 25 Erzurum Distribution Region Natural Gas System Use Fee (TL/m3)

Source: Derived from EMRA Board Decisions available from: http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

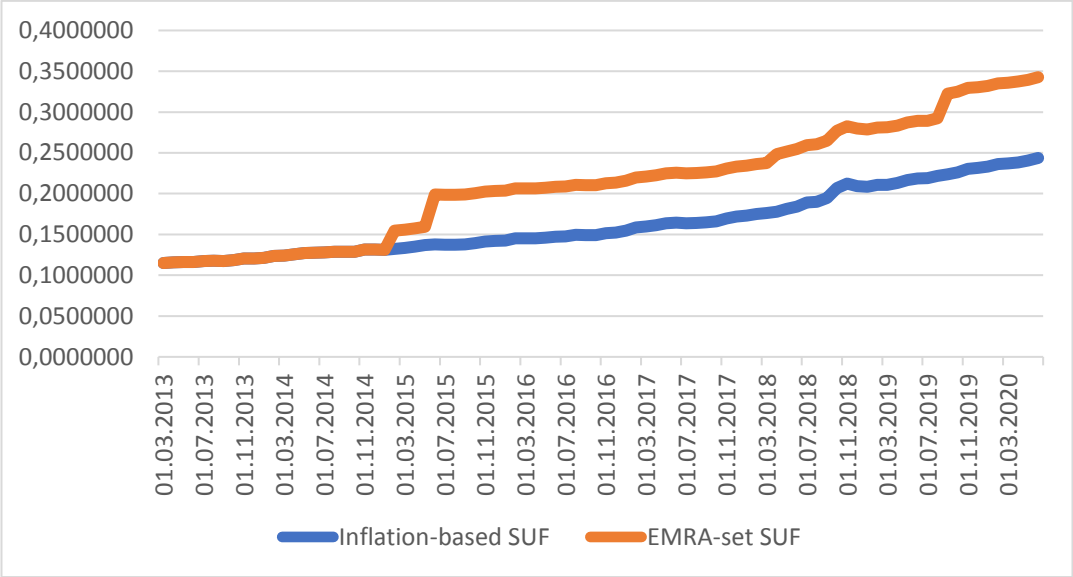

Figure 26 Trakya Distribution Region Natural Gas System Use Fee (TL/m3)

Source: Derived from EMRA Board Decisions available from: http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

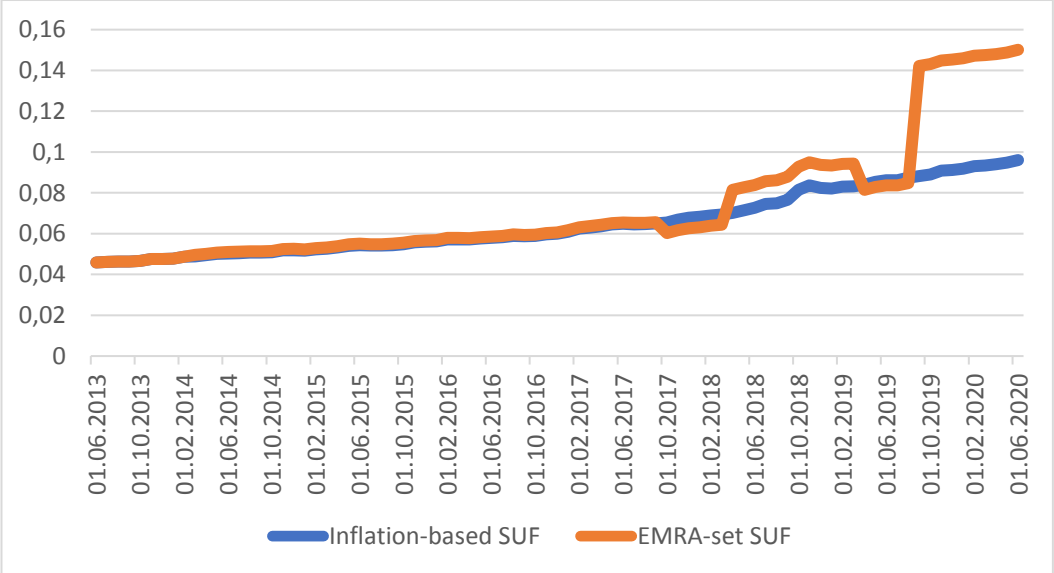

Figure 27 Samsun Distribution Region Natural Gas System Use Fee (TL/m3)

Source: Derived from EMRA Board Decisions available from: http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

Figures 24 to 27 show the gradual increase in system use fees in these four regions. The fee is updated according to the inflation rate. However, EMRA updated the system use fees from time to time which resulted in a steady increase of these fees over the inflation rate. Arguably, it would be unfair to expect that changes in system use fees should just reflect the inflation rates. The variation around the inflation rate is reasonable as both the company and EMRA refresh the conditions of new investment. However, what is dramatic here is that leaving aside a few exceptions, EMRA often approves ever-increasing system use fees for the companies. Over time, the gap between expected SUF and EMRA-set SUF widens. This can be explainable by the fact that company investments become more inefficient in their service period while the idea of price cap regulation was doing the reverse. The companies are not more efficient, to say the least. The expansions of new investments tend to be more inefficient and the customers needed to bear such inefficiency with increasing debts in their invoices. Or in other terms, EMRA approves new investments for the company which boosts the company's asset base, which in turn increases the capital expenses and revenue requirements of the company. This is actually the textbook definition of the Averch Johnson Effect, a critique of rate-of-return regulation implying that the information disadvantage of the regulator may be abused by the company to increase inefficient investments.

There may be some counter-arguments against such a claim. One of the arguments is that the system-use fee is calculated by dividing consumption by the revenue requirement. That is, if the consumption declines over time, the system use fee grows. However, as we check Table 7 and Figure 28, even consumption has grown in the period we examined.

Table 7 Natural Gas Consumption Figures in Kayseri, Erzurum, Trakya and Samsun

Consumption of Non-Eligible Customers

	2014	2015	2016	2017	2018	2019
Kayseri	289,77	318,83	423,79	467,38	453,62	509,83
Erzurum	139,95	133,27	176,11	197,3	200,85	245,45
Trakya	417,62	760,92	778,37	760,47	689,96	709,5
Samsun	220,23	215,93	200,08	245,93	222,41	250,48

Consumption of Eligible Customers

	2014	2015	2016	2017	2018	2019
Kayseri	216,32	184,61	160,51	163,26	163,54	173,54
Erzurum	9,58	12,53	18,97	23,73	15,91	3,71
Trakya	938,22	542,94	515,15	579,96	511	457,17
Samsun	485,32	670,78	821,96	981,65	669,71	595,8

Total Consumption

	2014	2015	2016	2017	2018	2019
Kayseri	506,09	503,44	584,3	630,64	617,16	683,37
Erzurum	149,53	145,8	195,08	221,03	216,76	249,16
Trakya	1355,84	1303,86	1293,52	1340,43	1200,96	1166,67
Samsun	705,55	886,71	1022,04	1227,58	892,12	846,28

Source: Derived from EMRA Natural Gas Market Reports, 2015, 2016, 2017, 2018, 2019, and 2020

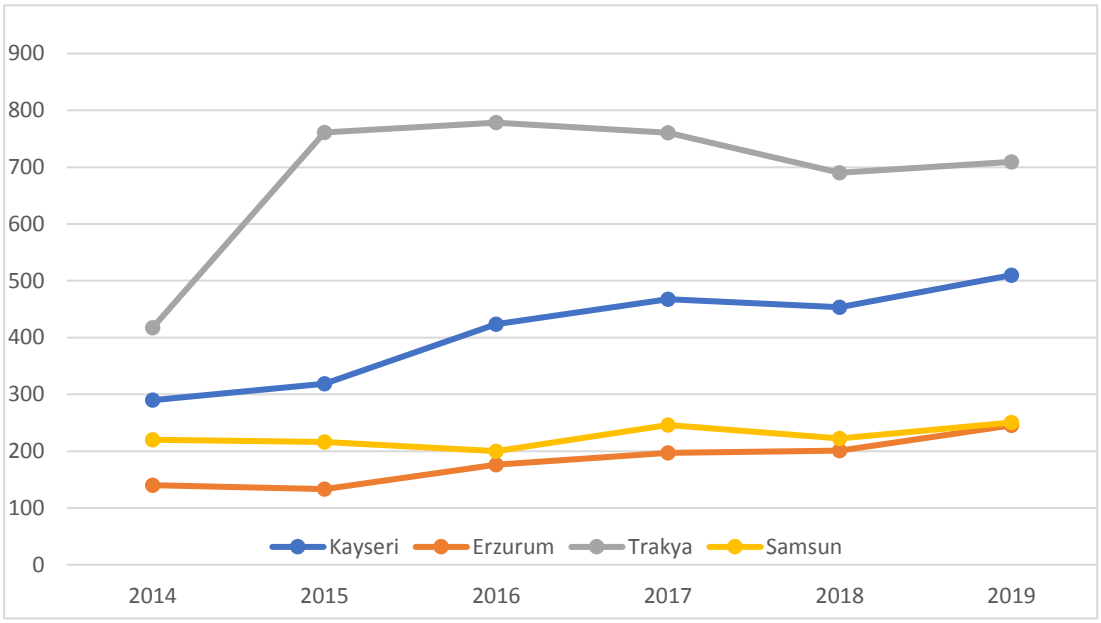

Figure 28 Household Natural Gas Consumption Trend of Kayseri, Erzurum, Trakya and Samsun (million m3)

Source: Derived from EMRA Natural Gas Market Reports, 2015, 2016, 2017, 2018, 2019, and 2020

The increase in consumption solidifies our claim that the revenue requirement of the companies has increased inefficiently.

Another counter-argument would be the separation of new customer groups with different consumption amounts might have led to a relatively greater amount of increase in certain groups, primarily those with less consumption like household customers. For instance, the dramatic increase in Erzurum may be interpreted that after 01.08.2017 EMRA started to set different and smaller tariffs for bigger consumers. This is observable in the reduction of system use fees in bigger customers in Erzurum in Annex 1. However, this argument can be refutable by, first, the fact that the share of industrial customers is minuscule in Erzurum and cannot lead to such a high increase in household customers. Second, the argument does

not hold in relatively bigger regions with industrial customers as in Kayseri and Trakya. More importantly, the consumption in the formula is calculated by different consumer groups (c) separately from each other.

In sum, we can see that the price regulation is applied in a way to transfer rents to the distribution companies. To show the size of such rent, such as in Kayseri, we can see in the year 2020 that, the EMRA-set tariff is 0,08 TL/m3 higher than the amount if it had been updated by the inflation rate, that if the revenue requirement of the company had not increased for constant consumption. If the consumption figure repeats that of 2019, i.e. become over 500 million m3 per year, this 8 kurus from each cubic meter amounts be a transfer of almost 50 million Tl to the distribution company.

The fourth source of concern for the abuse of distribution companies is that these companies are often affiliates of construction companies who produce materials for gas distribution networks[46]. This may both lead to efficiency and inefficiency in the market. From a favorable perspective, we can see that distribution companies having construction affiliates would gain efficiency in the procurement of materials by avoiding double marginalization. However, there is also a risk that these companies may inflate and overcharge the costs of these materials as long as EMRA keeps approving these costs in realizing the investments. EMRA can still check the costs of the main investment materials. However, it is a burden for a bureaucrat who has, by nature, little knowledge of the costs in the field, bringing us back to the discussions on regulation in the mid-20th century US. Accordingly, the information asymmetry between the principal and agent would prevent the former to well regulate the latter. A cure to this problem is “benchmarking” the utility costs among each other and developing “yardstick competition” (Shleifer, 1985) among them. As we discussed just above, the end-user prices track the costs, and the distribution

[46] See for instance the group companies of one of the biggest actor in the distribution business: https://www.stfa.com/en/group-companies/

company has no incentive to minimize the costs. Since EMRA cannot know the appropriate cost level, it can hardly define the efficiency in the distribution business. What is more, in the methodology document, the efficiency parameter is defined only for the operational expenses. In this respect, cost comparison or yardstick competition emerges as an alternative for EMRA.

But, in the case of the Turkish natural gas distribution business, this leads us to another issue: the dominance of certain holding companies in the gas business. As we discussed above, the company merger rules in the law were not respected in the market due to EMRA's excessive interpretation of the relevant provisions. This situation is not only a problem in the competitive segments of the market but also an issue in the natural gas distribution where EMRA's single way to watch the capital costs of the distribution companies is benchmarking them. There are currently 72 distribution regions in Turkey, but a single company has franchises in 20 different regions while two others have 10 franchises (GAZBİR, 2020). Thus, more than half of the distribution regions belong to three companies which makes it difficult for EMRA to develop yardstick competition.

5.2.4.3 Licensing and Regulation of Natural Gas Storage Companies

As we mentioned above, the natural gas storage business does not show the essential characteristics of a natural monopoly as long as two conditions are met. The market is large enough where just one storage facility cannot meet the demand of the market so that eliminate rivals, and that there are sufficient geological formations allowing potential entrepreneurs to build new facilities. This geological formation amounts to underground reservoir capacity for underground storage and littoral availability for LNG terminals. In the case of Turkey, we can say that there is no restriction for LNG terminals, but the underground storage opportunity is limited. We can now check how rent-seeking possibilities appear in the licensing and regulation of natural gas storage companies.

To begin with the licensing, we can say that the most important figure is BOTAŞ itself as it needs to approve the connection to the newly built gas storage facilities. The formal license of EMRA is secondary in this respect, because only when BOTAŞ approves then the company start the application process to EMRA. This is less problematic for underground facilities as BOTAŞ already operates two major facilities and some minor reservoirs converted from old mining fields are not a big source of concern. The problem appears, especially in the LNG storage facilities.

When a company wishes to LNG storage license, there is no transparent way of dealing with such an application. An amendment was made in the law in 2011 for this issue as follows (Article 9):

> For the storage license applications, **made or to be made**, the information including the province, district, borough, … is announced at EMRA website. In case of any other application for storage license for the same place at the period specified at the announcement, …, the license applications are evaluated by the criteria determined by EMRA Board. If more than one applicant passes this evaluation, a tender is organized based on the bidding on the license fee. …

The most critical statement of this article is that it covers the applications "made or to be made", which is highlighted in the text. The article implies two possibilities: Either a company makes an application to EMRA and then EMRA announces to third parties that there is an application for a specific region to build storage facilities, or EMRA makes an announcement without getting a prior application. In practice[47], EMRA makes the announcement after getting an application from a company. This opens the gates to rent-seeking practices because the company needs to get previous arrangements with BOTAŞ before applying EMRA. When EMRA was making the public announcement, it gives 15 days (according to Article 4 of the Regulation on Choice of Legal Person who Make Application for Natural Gas Storage for the Same Place) to other possible applicants to submit their interest for a

[47] For the recent one see: https://www.epdk.gov.tr/Detay/Icerik/2-8164/4646-sayili-dogal-gaz-piyasasi-kanunu--dogal-gaz

storage facility, if any. Arguably, a 15-day period is too small for huge investments like natural gas storage facilities. The company that make previous arrangements before applying to EMRA, actually, only realizes the formalities after this process.

Another and more controversial issue is setting tariffs of natural gas storage companies. According to the Law (Article 11): *"The Storage tariffs are determined freely between the storage companies and the legal persons who are taking storage service."*

This provision allows the companies to determine the tariff as they wish. However, EMRA, resting on a specific provision in the Electricity Market Law no 4628 below, had determined the storage tariffs:

> Article 5/A: The EMRA Board fulfills the following missions for the Natural Gas Market:
>
> …
>
> To regulate the procedures and principles regarding price and tariff formation in areas where competition in the natural gas market does not occur at all or sufficiently.

Arguing that the competition did not exist in the storage business, EMRA had long set the storage tariffs. Arguably, this would be a matter only for two LNG facilities and one underground facility for a long time. Because EMRA set their tariffs, they could not charge high prices to their potential customers which are their rivals in the wholesale market. As a consequence, they used other measures to discriminate the access to the facility which we analyzed above. Even in such cases, these companies (BOTAŞ and a private company) are not in a strong position to use their own terminal for the commercial objectives of their wholesaler affiliate.

Against this background, EMRA started to change its policy in late 2016. At a Board meeting held on 01/12/2016[48], the Board Decision dated 01/12/2016 amended the

[48] Available at EMR website: https://www.epdk.gov.tr/Detay/Icerik/23-2-1007/mevzuat

LNG storage tariff methodology regulation and make some adjustments for FSRU LNG terminal owners. For instance, it allowed remuneration of rental of FSRU ships in case they are leased, as well as some other operational expenses which were not included in the previous regulation (see Article 14 of the methodology). Arguably, these amendments were related to the newly built LNG terminal (Etki Limanı) who was opened in the same month. As a matter of fact, Etki Limanı's first FSRU ship was leased from a Norwegian company[49].

EMRA Board has further ameliorated the conditions of LNG terminals in 2017. The Board decided in its meeting (dated 28.11.2017 with no. 2611) that the conditions of the competition are achieved in the LNG gas storage market and the parties could negotiate the prices freely among themselves. This allowed the LNG companies to set the tariffs as they wish. The point in there is that EMRA did not provide a technical ground for such a decision especially considering that there was no capacity change during this interval.

Referring to the already existing LNG terminal (Egegaz), one may counter the view that rent-seeking did not play a role in the over-mentioned amendments in LNG storage tariff methodologies. However, we should bear in mind that this company was allowed to operate before the reform law, i.e. the political scenery was quite different from what it is now. In other words, this company might not have the necessary political influence to make regulations in its favor. Only when a new private company gets a license from the company then EMRA allowed LNG companies to set their tariffs by themselves.

Admittedly, allowing the LNG terminal owners to set their own tariffs is not necessarily a result of the welfare-decreasing rent-seeking activity. There are exception clauses in the EU regulations for the newly built LNG terminals to

[49] See https://www.offshore-energy.biz/turkeys-first-fsru-to-start-operating-soon/

incentivize new investments. The conditions set out in the Natural Gas Directive of the EU are as follows:

> Article 35 New infrastructure
>
> 1. Major new gas infrastructure, i.e. interconnectors, LNG, and storage facilities, may, upon request, be exempted, for a defined period of time, from the provisions of Articles 9, 32, 33 and 34 and Article 41(6), (8) and (10) under the following conditions:
>
> (a) the investment must enhance competition in gas supply and enhance security of supply;
>
> (b) the level of risk attached to the investment must be such that the investment would not take place unless an exemption was granted;
>
> …
>
> (e) the exemption must not be detrimental to competition or the effective functioning of the internal market in natural gas, or the efficient functioning of the regulated system to which the infrastructure is connected.

Accordingly, LNG terminal owners are allowed to set their tariffs for a certain period to cover their investment costs. The main point here is that the exemption would be valid for the terminals which are constructed after the directive. In the case of Turkey, such condition would be valid only to terminals that are constructed after EMRA stops regulating the tariffs of LNG terminals. However, EMRA made the opposite: The company got a license from EMRA to operate an LNG terminal, then EMRA stopped regulating the tariffs of LNG facilities.

We should also emphasize that Turkey's relevant amendments to allow negotiated TPA in the LNG terminals overlapped with the operation of a specific private company. This leads us to argue that the identity of the company played role in this process.

At this point, we should indicate another issue. Normally, the LNG storage companies desire to set their own tariffs to exclude their rivals in the downstream

competition. We have already discussed Egegaz terminal's effort to compete with its rivals in the wholesale market by using its own LNG terminal capacity. A company that gets concession to set its own tariffs then allows its wholesaler affiliate to compete in advantageous terms in the downstream. That is why there are supplier companies that own and operate the LNG facilities.

Again, the Turkish case is the opposite. The new FSRU terminal has made a contract with BOTAŞ to gasify BOTAŞ's LNG spot cargos. The company can get risk-free gains from this contract as long as BOTAŞ uses this terminal for its LNG deliveries. While the contract's term is not public, what we know that the terminal is just serving BOTAŞ[50] since it was built. We can get to the conclusion that the company initially leased the FSRU unit whose costs would be invoiced to BOTAŞ that uses the terminal.

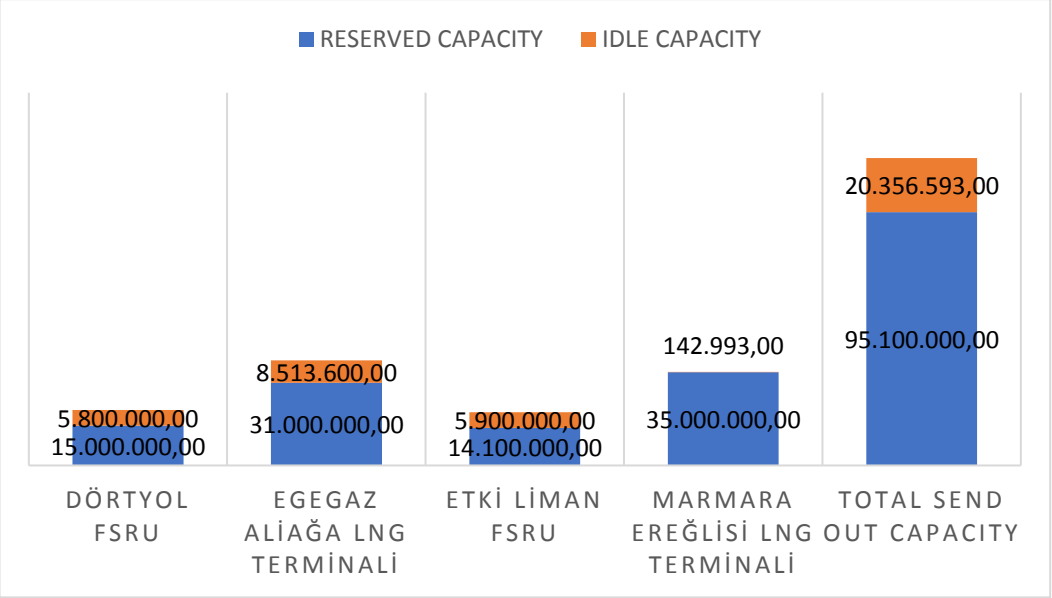

Figure 29 Reserved and Idle Capacities (bcm) of LNG terminals in January 2020

Source: BOTAŞ Electronical Bulletin Board, available at https://ebt.botas.gov.tr/Public/ATILKAPASITEDUYURU.aspx?pg=lp

[50] See https://kalyongrup.com/enerji/etki-liman-gazlastirma-tesisi

A final point that we need to mention is the use ratio of the facility. When the 2020 January figures considered, during which the highest consumption occurs, we can reach Figure 29 to see the usage ratios of the existing LNG terminals.

These figures show that BOTAŞ is not required to use the Etki Limanı FSRU terminal as the capacity reserved by BOTAŞ (14 million sm3) is less than the entire idle capacity (20 million sm3). On the other hand, when we check the actual imported LNG at this period, we see that only two-thirds of the reserved capacity was used. In this respect, we see that around 60% of the total capacity was idle during January 2019 (Table 8).

Table 8 Use of LNG Terminals (BCM) in January 2020

MONTHLY USE POTENTIAL IF USED AS RESERVED	Used In January 2020	Idle in Jan. 2020
2.948.100.000,00	2.119.000.000,00	829.100.000,00

Source: EMRA Natural Gas Markets Monthly Reports: January 2020

These calculations make BOTAŞ's need for the newly opened Etki Limanı LNG terminal questionable. One may argue that these facilities also opened for the over system balance and solve the congestion over the gas network. However, this argument can be refutable by the fact that both of the privately-owned terminals are in Aliağa/İzmir, so their contribution to the system operation is the same.

Overall, we get to the point that both entry into and regulation of the private companies in the gas storage facility is open to rent-seeking activities.

5.2.5 Evaluation of the Rent-Seeking problem in Turkish Natural Gas Market Reform

This section addressed the conduits of rent-seeking in Turkish natural gas market reform and analyzed how it puts a barrier in the achievement of reform objectives. As rents are created by rules, the institutions lie at the heart of the rent-seeking problem. When it comes to the Turkish natural gas market reform, we have seen two broad sources of rents granted to private actors. The first one is during licensing stage and the other one is tariff-making.

Licensing corresponds to the entry into the market; thus, by definition is a field of struggle among private companies to enter into this narrow space. If the rules limit these companies, the tendency to seek rent augments. This is what we have seen in many branches of the natural gas market. The rules to define gas importers, as well as LNG terminal operators, give expansive opportunities for the government to co-opt the companies who apply for importing gas to Turkey. The entry rents are more dramatic in the natural monopolies as in the case of natural gas distribution tenders. As we have analyzed from an institutional perspective, gas distribution tenders were not based on a long-term vision for the bidder, and only those who tacitly ensured future rents won the tender and got the distribution licenses.

As regards the tariff-setting, we have seen that natural gas distribution companies augment their revenue by inflating their investments. The methodology of tariffs designed by EMRA allows gold-plating, i.e. the Averch Johnson effect. We have seen from representative samples that tariffs of natural gas distribution companies steadily increased over the inflation, proving that investments increasingly become less efficient.

Overall, one of the essential motivations of the natural gas market reform was to benefit from market efficiency. However, this goal is failed because of persisting rent-seeking practices in the natural gas market.

5.3 State-led developmentalism, Centralism and Institutional Resistance to Gas Market Reform

So far, we have discussed Turkey's gas market reform and structure from an institutional and transaction cost perspective and also analyzed how rules as formal institutions bring opportunities for rent-seeking. We saw the application or misapplication of codified laws and regulations. So, a rightful question is to ask why can't Turkey just emulate "better" working institutions, or best practices in the world to increase welfare?

The answer to this question from an institutional perspective could be in two ways: First, there is no strong will to adopt these institutions, and second, even if these formal institutions are adopted, there are informal institutions that are exogenous to the formal institutional setting of a country that prevents the actual application of rules. For the first perspective, for instance, North (1990, pp.73-106) claims that the winning coalitions or the establishment would resist any institutional change if they don't see any benefit from it. This explains the inefficient institutions and high transaction costs in many underdeveloped countries. On the other hand, the second is developed (Williamson, 1990; Aoki, 2006) by realizing that even the transposition of rules from a best practice may not work in a certain institutional setting. The institutional approach often seeks an answer to this intriguing question by referring to informal institutions.

Williamson (2000) develops four levels of social analysis where the top level is the social embeddedness level, elaborated in chapter 2. He admits that this is an area where institutional economists rarely refer. Rather, it is the institutional field of economic sociology and economic historians. Examples are many but we can refer to such as Putnam (2000) from sociology and Huntington (1996). The new institutional economics, on the other hand, has been concerned principally with levels 2 and 3. They, e.g. North (1990), argue that institutions at this level change very slowly. But, they may be influential and definitive in the orientation of formal

institutions. Political or judicial decisions change the formal rules overnight, just like the Turkish Gas Market Law we analyzed above. But we can talk about an institutional "inertia" when informal constraints embodied in customs, traditions, and codes of conduct are connecting the past with the present and future while also providing us with a key to explaining the evolution of historical change. We can give the example of Acemoglu et.al. (2001) who trace historical developments to explain the current economic performances of countries. Economic sociologists (Polanyi, 1946; Granovetter 1985), for instance, often refer to the concept of "embeddedness" to explain the institutional restraint and resistance to change.

Against this background, it would be naïve to expect that Turkey's neoliberal turn in the 1980s and post-2001 crisis reforms, including the gas market reform, would lead to intended consequences. For instance, the US has largely inspired the gas market reforms all over the world but their understanding of regulation and deregulation is completely different terms when it comes to the other side of the ocean, not to mention to Turkey. While the gas market reform in the US amounted to the deregulation of utilities, it meant the regulation of privatized utilities in Europe and Turkey. Even in Europe, there is variation between countries of more liberal traditions like the UK and the Netherlands and Mediterranean Countries such as France and Italy. In France, more specifically, there is strong public service understanding heavily embedded in public law and it highly resisted the transformation of the gas industry. We have already mentioned these issues earlier in this research. The implication within the frame of this chapter is that omitting the historical path of institutions would leave a gap in our research as well.

In this case, for instance, we can refer to many European countries as "developmental states" where the state is not a spontaneous organization but having a strong purposive nature. This nature explains the resistance to change towards a fragmented market and efforts to keep strong public utilities intact.

What is Turkey's own historical path of institutions with an informal character? A thorough answer to this question merits another research equivalent to the volume of this one. But briefly, we refer to the absolutist and patrimonial nature of the Ottoman state (Weber, 1968, 2002; Inalcık, 1992), where welfare is distributed arbitrarily by the ruler. The republican era was established on this background and the state remained as the single locus of welfare creation and redistribution. For instance, Atatürk's initial move to establish a liberal economy did not flourish and after some time gave its place to *state-led developmentalism* which is more suitable to Turkey's patrimonial roots. This may resemble Ozal's neoliberal turn in the 1980s which Turkey's adjustment process is by no means complete even after four decades.

Natural gas market reform is not an exception. Although the initial liberalization efforts of energy markets started in the 1980s, they had taken little distance until the reform laws of 2001. Energy markets in general, natural gas markets in particular, had been under strong state dominance up to this date. That is, the reform laws implied a strong shift from the institutional setting firmly embedded in Turkey's socio-economic structure. BOTAŞ had been a single public company in the transmission and import of the gas while gas is distributed at the city level by again BOTAŞ or municipally owned companies. That is, natural gas might be one of the rare areas which were exclusively under government control and responsibility. An essential shift from this background overnight does not necessarily bring the purported benefits of a competitive market.

Before elaborating on the topic to show how the historical institutional path does not allow such a shift, we can briefly discuss the already mentioned issues above. As examined in section 5.1, the envisaged market structure was not realized. Primarily, BOTAŞ was not unbundled and preserved its dominant position in the market. In the section, we analyzed BOTAŞ's behavior in terms of transaction cost economics and we see the explanatory power of the theory. But we should also recall that

keeping the state-owned company as the main supplier of natural gas fits Turkey's historical institutional setting in which state is the main, if not single, locus of public service. Recalling Figure 1 in chapter 2, a complete analysis is, then, could be possible by both considering developing a transaction cost perspective and the intersection of institutional economics and sociology sited on informal institutional ground.

The same applies to section 5.3 in which we analyzed the rent-seeking behaviors of industrial actors. Rent-seeking becomes more pervasive if the arbitrariness of the state increases and the binding nature of the formal rules is looser. For instance, the private actors may not prefer to sue a case against EMRA even if their rights might be breached due to BOTAŞ's activities. This can be explainable by the fact that these companies' entry into the market as well as regulation is not fully dependent on the formal rules but, to some degree, on the arbitrariness of EMRA. If the private companies are favored in some way by the government, then they become fragile against EMRA's future arbitrary decisions and they cannot claim their rights over the courts. As we mentioned above, EMRA's superior position over the companies can be explained by the deep-rooted patrimonial character of the Turkish state where the welfare/rents are distributed under the discretion of the government. Arguably, such discretion is not absolute as it was in history. But the experience shows that the state remains as the main determinant of who gains from what and to what extent.

We can now move on to some specific cases of how the government keeps its role as the main entity in the market and assume the tasks in place of competitive forces. This will also show why the goals of market reform are not fully realized.

5.3.1 State-led developmentalist roots

This sub-section will provide the pieces of evidence that the notion of "market institutions" is inferior to bureaucratic "state institutions" in Turkey. There is an

entrenched distrust against the view that the market itself provides efficiency; rather the assumption that the state, as the patrimonial actor, best manages demand and supply dynamics, and makes investment decisions, and determines prices.

5.3.1.1 Pressure on natural gas prices

This section provides the details of gas pricing in Turkey and shows how the government keeps pressure on it, and the consequences of the gas price policy. In the current market, structure prices are set primarily by BOTAS as it has a dominant gas supply share. Figure 30 explains the supply and demand forces that would help us understand the formation of gas pricing in Turkey. Having six long-term contracts, BOTAS applies a weighted average price for its customers. This average price is the definitive price of the whole gas price in Turkey considering 90 % of the market share of the company (see chapter 4). There are 7 other long-term contract and import license holders as well as with a private LNG importer which defines their prices in line with BOTAS pricing policies. While there are numerous producers, they do not have an impact on gas prices in Turkey as their share is below 1%.

On the demand side, the largest consumption is made by the power generators with an annual amount of around 20 bcm (EMRA, 2019). The annual amounts of industrial and household customers are 13 bcm and 11 bcm respectively.

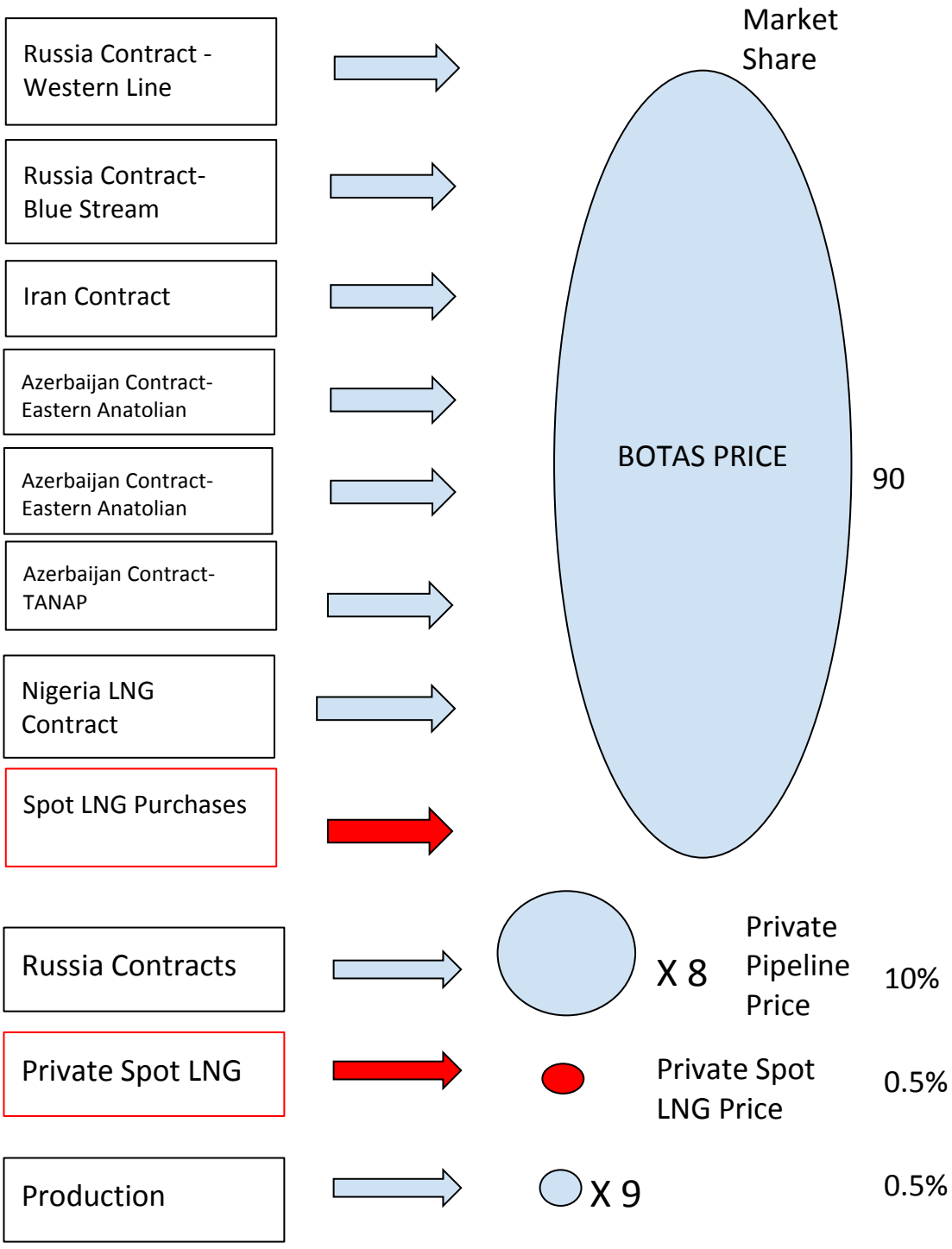

Figure 30 Natural Gas prices in the Turkish Wholesale Market and the Market Shares

Source: Derived from EMRA 2019

However, the dynamics of demand and supply rarely play a role in end-user prices. The government directly determines the gas price on political motives. This is not an implicit political involvement. Indeed, the Ministers periodically announce the prices, usually in favorable terms, in press conferences[51]. As the prices are politically motivated, there is little chance for the possible competitors to beat BOTAŞ's price and gain a market share. BOTAŞ's August 2020 prices can be seen in Table 9.

Table 9 BOTAŞ 2020 August Prices

CUSTOMER TYPE	PRICE (TL/SM3)
Household and Level 1* customers	1,251652
Industrial	1,393000
Power Generators and Level 2** customers	1,400000

* Eligible Customers with consumption of less than 300,000 m3 per year.

** Eligible Customers with consumption of over 300,000 m3 per year.

Source: https://www.botas.gov.tr/Sayfa/2020-yili-agustos-ayi-dogal-gaz-toptan-satis-fiyat-tarifesi/502

For a rational actor, the idea behind price segregation is to maximize the profits by selling the same unit of goods with different prices to customers having different demand elasticities. We cannot argue that the demand of household customers is elastic so that BOTAŞ sells the gas at a discounted price. Household demand is often less elastic as the purpose of household consumption is mainly heating and switching to other heating methods is costly and difficult. Once the heating system

[51] See for instance: https://www.ekopara.com/elektrige-3-ay-zam-yok-dogalgaza-indirim.html

is converted to gas-fired heaters, then household customers are firmly bound to gas consumption.

Another reason for price differentiation could be the quantity. Typically, if the total amount of consumption increases, the unit price offered decreases. However, Table 9 shows the reverse: more consumption leads to a higher level of the unit price.

So, we can safely argue that BOTAŞ determines the prices on a political basis. Household customers overlap with the electoral basis and the government apparently subsidies them from the sales to power generators. One may oppose this argument by referring to the fact that BOTAŞ's price is socially, not politically, motivated. However, this is not true because the government does not apply an income threshold for the subsidy of gas consumption. Rather, all the household customers are subsidized under the same condition.

In the case of the EU, the Directive dated 2009 envisages the protection of vulnerable customers as follows: *"The Member States shall take appropriate measures, such as … providing social security benefits to ensure the necessary gas supply to vulnerable customers… to address energy poverty …"* But the provision also emphasizes *"such measures shall not impede the effective opening of the market … and market functioning …".* The idea behind the EU's support scheme to vulnerable customers is that the subsidy mechanism should not prevent the smooth functioning of the market.

However, the blanket coverage of household customers harms the functioning of both the natural gas and electricity markets. The impact on the gas price is clear and already mentioned. Private companies cannot compete with a giant company whose prices are below costs for certain customers. This leads to an ever-decreasing market share of non-BOTAS actors. On the side of electricity, the problem is the reverse (Çıtanak, 2019). BOTAS sells the gas to state-owned (EUAS) or public-private-partnership (PPP) companies who have purchase guarantees.

While EUAS and PPP plants buy gas at a higher price, the private gas companies are also subject to such prices due to BOTAŞ's price policy. Such a policy discriminates against the gas-fired power plants against other plants due to their increased costs. We have already seen the decreasing amount of gas consumption in the power generation above, which can well be explainable by BOTAŞ's such subsidy.

At this point, we have to note that BOTAŞ's subsidy of household customers is to some extent just moving money from one pocket to the other. Gas consumers are supported by electricity customers, which are by and large the same. Even worse, gas consumption is highly concentrated over city dwellers while electricity consumption is more diffused over the society. It is more likely that consumers with lesser income are subsidizing those with higher income on average. In this respect, we cannot mention that subsidy of gas consumption is about eliminating energy poverty.

5.3.1.2. BOTAŞ's investment policies

Are the investment decisions of natural gas market players based on profit-seeking objectives? As we have discussed above, BOTAŞ's pricing policy is in direct contrast with such an objective. BOTAŞ sets the price under political motives and makes cross-subsidization among customers, even if it does not really serve the purported benefit. We can argue that BOTAŞ's investment policy also follows the same pattern and does not suit the behavior of a rational commercial actor. In contrast to pricing policy, the investment policies can be said to be fitting to the social objectives. These social objectives, however, have a cost.

EMRA has fulfilled the distribution tenders through the 2000s which included highly profitable regions, like metropolitan cities of Kayseri, Konya, Denizli, etc, as well as industrial zones, like the Trakya region. However, after the 2000s these regions were completed, and only small cities left. While the government was praising its policy to expand the gas network and connect many customers, a great part of the

geography with a non-intense population was still not connected to the network. These regions include several districts as well as small cities mainly in Eastern Anatolia[52].

The connection of these customers to the network requires two sorts of investments: Transmission and distribution, whose license conditions are well defined in the law. For instance, BOTAŞ has a transmission license, which prevents it to distribute gas at the city level. Only distribution companies can make the distribution investment.

To keep expanding the gas network and connect new customers, the government first published a decision no. 2013/4347 in 2013 which developed the conditions of the creation of distribution companies for districts. Accordingly, if 60 percent of electricity customers at a district which is outside the distribution company's region and has at least 10,000 population, pay connection fees and apply for a connection to the gas network, the Provincial Special Administration and the Municipality establishes a company that distributes the gas in the relevant district. In 2014, a similar amendment was made in the law which envisaged that if no legal person attends to a tender opened for a new region three times, then the relevant Provincial Special Administration and Municipality forms a company and gets a distribution license. On the other hand, BOTAŞ should make necessary investments to connect these regions to the natural gas network, which is to be financed by the Treasury if necessary.

Despite such opportunities for new investments, the scheme did not work, as the local authorities did not have the necessary skills to construct such a network and people did not make advance payments for the realization of the project. As a result, an important amendment was made to the law in 2016. Accordingly, the

[52] See https://www.dunya.com/ekonomi/dogalgaz-gitmeyen-son-iller-icin-de-calismalar-suruyor-haberi-343516 and https://www.ntv.com.tr/ekonomi/2018in-sonuna-kadar-dogalgaz-kullanmayan-il-kalmayacak,z_uPk2mIH0WRgR4vWs5NeQ

coverage of cities is expanded and the distribution companies are made responsible to make investments in the districts without opening a new tender. This amendment was supported by a Ministerial Board decision no. 2016/9382 obligating BOTAŞ to extend the transmission network and make a connection with these areas.

The government's such policy has consequences on the network prices as these regions may be away from transmission network and have sparse urban structure. We have already seen how the cost of gas distribution system use fees increased after such expansions. These new investments did not make a burden on the distribution companies as they can add it as an item in their tariffs, which is reflected all customers in the region. This is also valid for BOTAŞ whose investment expenses have increased and the unit transmission service fee (TSF) has increased accordingly.

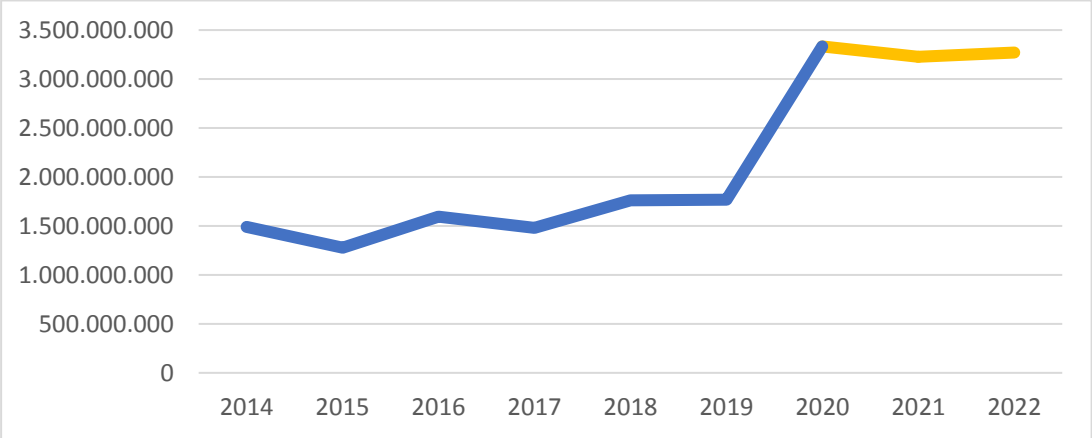

Figure 31 BOTAŞ Revenue Requirement (TL)

Source: Derived from EMRA Board Decisions on BOTAŞ Tariffs available at http://epdk.gov.tr/Detay/Icerik/23-2-1007/mevzuat Yellow line indicates non-realized amounts.

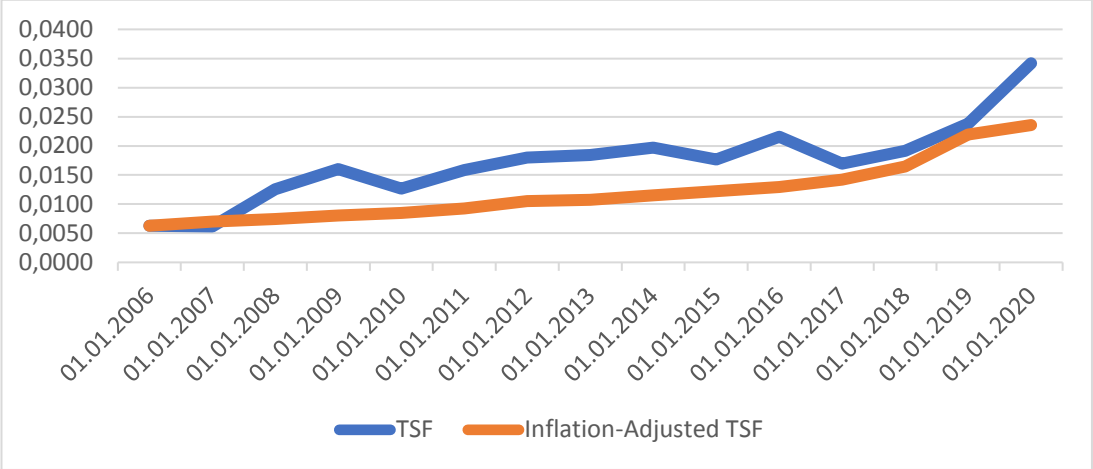

Figure 32 BOTAŞ Transmission Service Fee (TL/m3)

Source: Derived from EMRA Board Decisions on BOTAŞ Tariffs available at http://epdk.gov.tr/Detay/Icerik/23-2-1007/mevzuat

Figure 31 shows the revenue requirement of BOTAŞ, where blue is realized and yellow is projected. Figure 32 shows the transmission service fee (TL/m3) applied by BOTAŞ. As both figures prove, BOTAŞ's investments are increasing in such a way that they are becoming more costly, very much following the trend of distribution companies. Especially in recent years, the transmission service fee skyrocketed and doubled. We can give an example from Turkey's southeastern-most region where the distribution company serves only 1500 customers but both BOTAŞ and the distribution company made huge investments for providing such service[53].

Overall, we see that BOTAŞ does not consider economic fundamentals in investment decisions. BOTAŞ functions like a conventional public company that makes investments with social considerations and socializes the cost of inefficient investments.

[53] Please check: https://www.gazbir.org.tr/dagitim-sirketleri/akmercan-hakkari-sirnak/7

As in the case of price policy, the investment policy of BOTAŞ demonstrates that BOTAŞ remains a public service company. Suiting Turkey's historical background, the government assumes the role of providing direct service at subsidized prices to the citizens rather than making the market forces provide the same service at a higher price. Such a perspective indicates the failure of reform strategies.

5.3.2 Centralization of authority vs. independence of regulatory authority

In the previous sub-section, we discussed how the *state-led developmental* roots put essential barriers to the purported goals of natural gas market reform in terms of ensuring market efficiency. Now, we will analyze another part of the institutional reform that does not fit into Turkey's information institutional framework: distrust against decentralized authority and tendency towards centralization. Arguably, this research can't unveil each detail of centralization tendency in Turkish public administration. For the aim of our subject, we can at least say that Turkey's own development vacation has always been framed around the "centralization of authority", starting from the Ottoman era but continued during the Republican era (Önen & Reyhan, 2018). Thus, there is an inevitable strain between the reform's suggested administrative model and Turkey's centralized administrative apparatus.

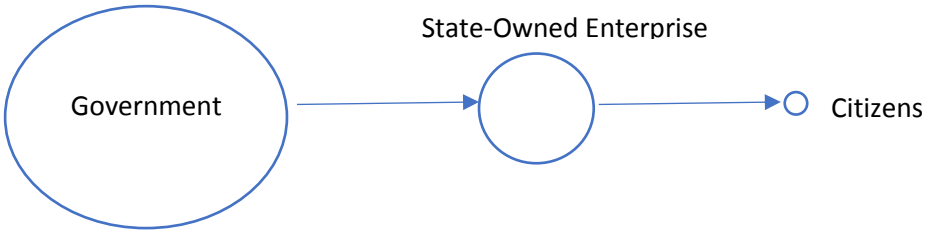

Figure 33 Pre-Reform Institutional Setting

Source: Author's own illustration

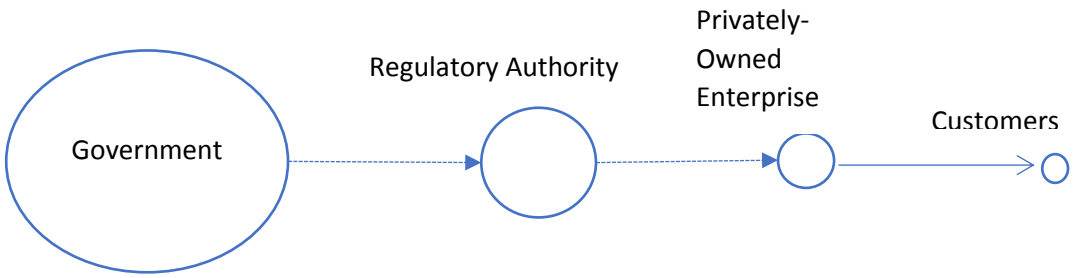

Figure 34 Post-Reform Institutional Setting

Source: Author's own illustration

Figure 33 roughly shows the pre-reform structure of the natural gas market in Turkey. In that setting, the government provides the service to the citizens through a company it forms. But the post-reform setting (Figure 34) amounts to an essential shift from the conventional mindset. Privately owned companies provide the service, which is supervised by an authority independent from the central government[54].

EMRA was established as an independent regulatory authority (Law No. 4628) as the typical institution of the "regulatory state" (Majone, 1997) Such independence has theoretical backing. The idea is to increase the regulatory commitment by protecting it from short-term political considerations (Şanlısoy and Özcan 2006). The ultimate aim is to rely on market efficiency and increase investments. In this respect, we can see the independence of the regulatory authority as a measure to keep the state away from activities decreasing the welfare, which the liberal theory expects from the market. As shown in the above section, this may be especially valid in countries in Turkey that have a tradition of strong state existence in the supply of many goods and services including natural gas. However, the independence of government authority

[54] The loose relationship is indicated with dotted lines.

is equally distant from Turkey's informal institutional setting. When it comes to the natural gas market, the tendency of the central government under its direct control is even greater because natural gas markets are commercially huge and the entire citizens largely overlap with the customer base of natural gas companies. For instance, the total number of customers is 16.000.000 and the total volume of the market is 60 billion TL if we just multiply the gas consumed with an average billed price (EMRA, 2019; and https://www.gazbir.org.tr/dogalgaz-tarifeleri/18).

The reflection of the centralization of power over the gas markets can be visible ever since natural gas was introduced in Turkey in the 1980s, The practices continued during the coalition government of the 1990s. But when the single-party government (JDP) was soon established in 2002, the market reform law was already enacted at which an independent regulatory authority was established. The issue of independence has always been tested under the rule of a single party. Before elaborating on the JDP era, which is actually the entire period of reform, we can check the formal independence of EMRA by using the Gilardi index (Gilardi, 2005).

To Gilardi (2002, 2005) formal independence is related to the status of the head of the regulator and the board, their relationship with government and parliament, financial autonomy, and the extent of regulatory powers. As far as the regulatory institution gain the "veto power", the policy becomes more stable while the political uncertainty and the credibility problems are mitigated. Accordingly, Gilardi develops a formal independence index based on the following criteria, weights, and codes:

Table 10 Independence Index of EMRA

Parameter		Coding
Status of the Board Members (Weight: 0,40)		
Term of Office	Over 8 years	1.00
	6-8 years	0,80
	5 years	0,60
	4 years	0,40
	Fixed-term under 5 years or at the discretion of the appointer	0,20
	No fixed term	0,00
Appointed By	Members of the Board	1.00
	Parliament and Government	0,75
	Parliament	0,50
	Cabinet	0,25
	One of two ministers/ President	0,00
Dismissal	Impossible	1,00
	Possible with reasons not related to policy	0,67
	No provisions for dismissal	0,33
	Possible with the discretion of appointer	0,00
May the agency head hold other offices in the government	No	1,00
	Only with the permission of the government	0,50
	Yes/ no specific provisions	0,00

Table 10 Independence Index of EMRA (Continued)

Is the appointment renewable	No	1,00
	Yes, once	0,50
	Yes/ no specific provisions	0,00
Is independence a formal requirement for the appointment	Yes	1,00
	No	0,00
Relationship with the government and parliament (Weight: 0,20)		
Is the independence of the agency formally stated?	Yes	1,00
	No	0,00
What are the formal obligations of the agency vis-à-vis the government?	There are no formal obligations	1,00
	Presentation of an annual report for information only	0,67
	Presentation of an annual report that must be approved	0,33
	The agency is fully accountable to the government	0,00
What are the formal obligations of the agency vis-à-vis the parliament?	There are no formal obligations	1,00
	Presentation of an annual report for information only	0,67
	Presentation of an annual report that must be approved	0,33
	The agency is fully accountable to the parliament	0,00

Table 10 Independence Index of EMRA (Continued)

Which body, other than a court, can overturn the decisions of the agency where the latter has exclusive competence?	Nobody	1,00
	A specialized body	0,67
	Government with qualifications	0,33
	Government, unconditionally	0,00
Financial and organizational autonomy (Weight 0,20)		
What is the source of the agency's budget?	Fees levied on the regulated industry	1,00
	both the government and fees levied on the regulated industry	0,50
	The government	0,00
How is the budget controlled?	By the agency	1,00
	By the accounting office or court	0.67
	By both the agency and the government	0,33
	By the government only	0,00
Which body decides on the agency's internal organization?	The Agency	1,00
	Both the agency and the government	0,50
	The government	0,00
Which body is in charge of the agency's personnel policy (hiring and firing staff, deciding on its allocation and composition)?	The Agency	1,00
	Both the agency and the government	0,50
	The government	0,00
Regulatory Competences (Weight 0,20)		
The agency only		1,00
The agency and another independent authority		0,75
The agency and the parliament		0,50

Table 10 Independence Index of EMRA (Continued)

The agency and the government	0,25
The agency has only consultative competencies	0,00

Source: Derived from Gilardi (2002, 2005) and EMRA institutional Law no. 4646

Gilardi (2002, 2005) develops five main parameters to measure the independence of a regulatory authority: Legal status of the chairman and board members, authority's relationship with other institutions, authority's financial and organizational independence, and share of regulatory competence with other entities. To begin with the first two, as the board members and the head of EMRA subject to the same conditions, we can merge them under one parameter.

Table 10 applies the Gilardi Index to the independence of EMRA. In the table, the green parts indicate the status of independence based on the original version of the relevant legislation, while the yellow (also underlined) parts indicate the existing version of legislation and applications. Table 10 shows an apparent decline in the independence of EMRA which inclined from a "semi-judicial"[55] position to a hierarchic part of the central administration. The index fell from 0,70 to 0,15 over two decades, which attests to our thesis that administrative power tends to centralize in Turkey even reforms are made in the reverse direction like the energy market reform.

To further elaborate, we can see a steep decline especially in the status of Board members, financial and organizational autonomy of EMRA, and regulatory competencies, while the formal relationship between the government remained almost the same over time. The board members initially have true independence

[55] The term "semi-judicial" in this study does not imply that EMRA is part of judiciary or have judicial jurisdiction. The term is used to explain that EMRA has a degree of independence from the central government and it has the authority to settle disputes among market players, which is likened to judiciary powers.

from the government. Their term of office, according to Law no. 4628, were 6 years, which is more than the term of the government. The higher the term, the more the Board members feel non-aligned with the government as they should work with at least two different parliaments and governments. Besides, as the law specifies, the Board members cannot hold another public or private office and they can't be dismissed from their post at EMRA. The non-dismissal condition is especially crucial to ensure the independence of board members. However, the status of the board members changed over time and they became more dependent on the government in many ways. First, their terms were made 4 years[56] after the introduction of the presidential system, making the members more associated with the president himself/herself. It should also be admitted that EMRA Board members are not subject to Article 4 of Presidential Decree No.3 which articulates that terms of certain personnel end with the termination of the President's term. This 4-year period is preserved no matter what the term of the President is.

One important retreat is the application of the non-dismissal condition. The condition still exists, but it was not applied in 2018 as a board member was appointed to another position in 2018[57]. Another decline is more relevant to the transition to the presidential system. While the board members were appointed by the cabinet earlier, in the current legislation the president appoints the board members directly. This does not necessarily a huge decline in practice as the prime ministers were already strong figures in the Turkish political system especially in single part governments. This could be more relevant in the case of coalition governments, but EMRA did not experience a coalition government period except for the first year after establishment in 2001. The issue of non-renewal is a more important problem in the sense that the non-renewal of the post by the government has almost the same effect as dismissal. As the members of the board

[56] Article 7 of Presidential Degree No.3 Also see: https://www.epdk.gov.tr/Detay/Icerik/1-1050/kurumsalkurumun-yapisi (accessed on 20.08.2020)
[57] See http://epdk.gov.tr/Detay/OrganizationChartDetail?id=101 (accessed on 20.08.2020)

would prefer to be appointed again, their objective function tends to follow the president's policies, which essentially determines the original purpose of the independence of board members. As a matter of fact, renewal and non-renewal of board members is a common practice in the case of EMRA[58].

Another area where the independence of the regulator has eroded over time is the financial and organizational autonomy of EMRA. When the authority was first established, the government has no formal involvement in EMRA's internal organization and budget control. EMRA was a small entity and in charge of regulating a big industry, so the fees it collects from the market participants suffice it not to ask for funds from the central budget. But, the EMRA Institutional Law no. 4628, has made three main changes in this scheme with the amendments made in 2013. First, the organizational structure of EMRA was specified in the law which ended up EMRA's flexibility to make its own organizational arrangements. Second, the law also listed the staff types and relevant cadres for these types, so that EMRA lost its discretion over the determination of staff policy as well. Third, the amendment terminated EMRA staff's separation from State Officials Law no. 652 in terms of financial rights. While EMRA was determining the wage of its personnel by itself based on this condition, the law changed this opportunity for EMRA and its personnel. Apart from the law, a further step was taken with the Decree-Law no. 703 which gives the responsibility of the internal organization of EMRA to the Presidency during the legislative adjustments to the presidential system in 2018.

A final area of decline is EMRA's share of regulatory competencies with the government which was not envisaged in the law and increased the pace of EMRA's slip from a semi-judicial structure towards an administrative entity under the central government. This area is part of our discussion on the role of EMRA in gas market restructuring and there will be some examples of how EMRA's authority started to be shared with the government over time.

[58] See https://www.epdk.gov.tr/Detay/BoardMembers (accessed on 20.08.2020)

One of the first instruments that EMRA left to the government was the licensing of gas import companies. As early as 2006, the EMRA board adopted decision no. 750 specifying that the Board gets the opinion of the Ministry of Energy and Natural Resources (MENR) for giving the import licenses by referring to the Institutional Law of MENR no. 3154. And, if the ministry provides an unfavorable decision, EMRA rejects the import application. EMRA's such decision is actually shirking from responsibility and providing a barrier to potential importers not envisaged in the law. The institutional law of MENR envisages certain missions to the Ministry as regards the development of energy policies with generic provisions (see Article 2 of Law no. 3154) But an amendment was already made in 2001, together with the enactment law No. 4628 of EMRA, that the missions are valid as long as they are not left other institutions and authorities (Article 2, paragraph 1). In other words, according to the law, the MENR cannot refer to its generic missions to involve in an area specifically left to EMRA. With EMRA's voluntary sharing of its responsibility with the MENR, the main channel to enter to gas supply business is politicized and an important gap is opened at the framework of the natural gas market reform law. On the other hand, it should also be noted that EMRA's decision to share responsibility with MENR is not absolute and EMRA is not legally bound to the MENR's decision. The point to be highlighted here is that such a decision gives a de facto authority to the MENR in EMRA's import licensing process.

The second instrument that allows the government to involve in the regulation of the natural gas markets is mainly through the BOTAŞ. The company is a public enterprise and subject to Decree-Law no. 233 which envisages that investment and price policies are in the final instance defined by the government. As we have discussed above, BOTAŞ's sales prices are not regulated by EMRA which conforms with the law. However, EMRA has the responsibility according to Article 4-4-c-8 of the law to review and approve the investment programs of BOTAŞ as the transmission company. This is the area where the government's and EMRA's areas of authority cross as the government defines the investment programs of BOTAŞ

and allocates budget to it, while EMRA's approval turns out to be a formality. Such a scheme may not be a problem as long as the BOTAŞ's investment programs conform with the market creation objective of EMRA, but in practice, as we already discussed, such decisions are heavily ripe with political considerations with various rent-seeking opportunities.

This brings us to a third instrument that makes EMRA subordinate to the government: Being incompetent to make BOTAŞ fulfill the legal requirements and provide superiority to BOTAŞ in many ways. For instance, BOTAŞ is required to transfer contracts to the private sector. BOTAŞ has not realized, under the guidance of the government, and EMRA did not finalize investigation against BOTAŞ according to its enforcement responsibilities. Similarly, BOTAŞ takes over the TPAO's underground storage terminal which was a decision of the government but does not conform with the law as BOTAŞ was already required to get smaller and it is an anti-competitive merger since it makes BOTAŞ single owner of underground storage facilities in Turkey. However, EMRA granted a License to BOTAŞ for the take-over. Finally, and more importantly, BOTAŞ's latest gas deal with Azerbaijan (TANAP agreement) does not conform with the law as it clearly stipulates that BOTAŞ cannot make a deal with countries having natural gas import agreement. But, this is not a formal violation of the law because BOTAŞ's deal with TANAP is based on an inter-governmental agreement dated 2011 and it has the same effect of the law as it was approved by the parliament with an approval law no.6553 and dated 10/09/2014. Even so, the agreement shows that the government did not mind the objective of gas market reform law and narrows EMRA's area of authority.

To connect the issue with the rent-seeking argument in the previous section, it would be naïve to think that rent-seeking is an issue about EMRA itself, but it was a greater impact on the policy-making apparatus in Turkey. That is, the government would involve in EMRA's area and often dents EMRA's independence either through

a direct orientation of the regulatory space or indirectly influencing over the making of regulations with a non-formal relationship with the Board.

As a matter of fact, the tendency of erosion can be seen in Figure 35. It shows that EMRA had strong formal independence when it was first established in 2001. In the ranking with the European counterparts, Turkey appeared above average. However, over time, the ranking fell steeply to the end of the ranking in the last two decades.

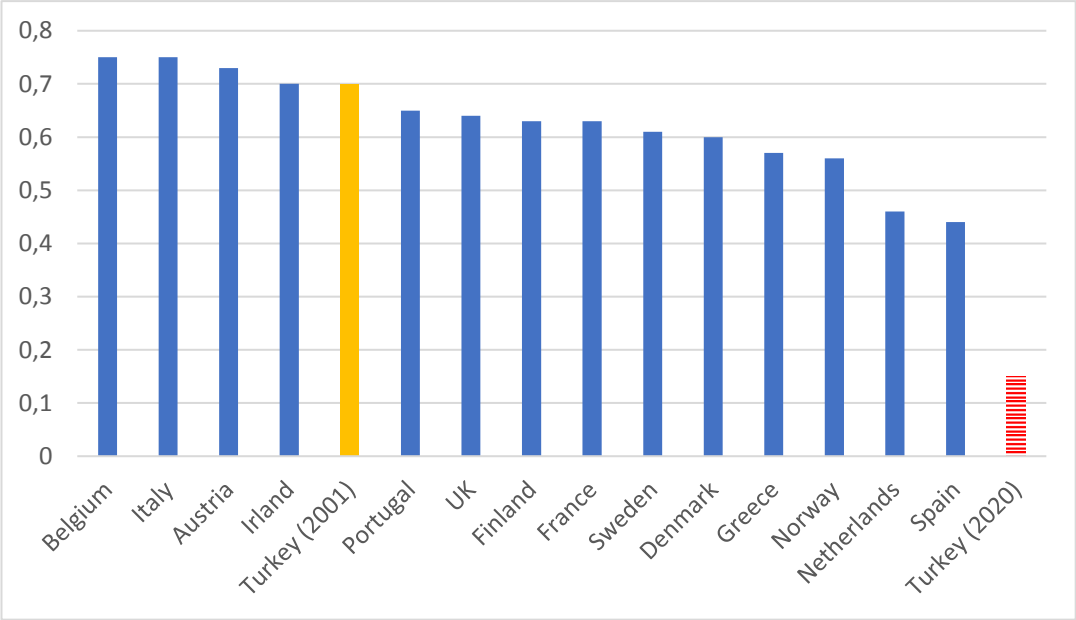

Figure 35 Independence Index of Energy Regulators

Source: European index is taken from Şanlısoy and Özcan (2006). Turkey's indexes are calculated based on Table 10.

A final comment on the issue is that the constitutional amendments made on 16 April 2017 have introduced a new stage in Turkey's political and administrative structure which would have both immediate and long-term impact. Since the 1921 Constitution was declared in 1921, constitutional developments have been swinging

around the goal of finding a balance between a strong government and a more decentralized administration. For instance, the 1982 Constitution instituted a strong executive which is partly shared by the President and the Prime Minister. The constitutional developments through the 1990s and 2000s have relieved such centralization of power, but the 2018 amendments brought a government system in which the executive gained the strongest power comparable to powers of the executive in 19th century Turkey. One of the main reasons why one can argue so is that the cabinet system was abolished. The cabinet systems are by nature more collegial and need to operate in consensus. Although Prime Ministers are important figures or *primus inter pares*, all the government policies should be approved by the cabinet members as well. Especially in cases of coalition governments, policymaking is nothing but finding comprise among different political parties. 1982 Constitution, despite its pro-executive overtones, was aiming at the assurance of such consensus, and it was further solidified by a presidential-correct granted to the President him/herself.

One may doubt the impact of the change of the government system on the narrowing of EMRA's authority as there is little direct legal reference to such development. However, such a claim is not true as the centralization of administrative power in a general sense would increase the sense of arbitrariness in the government, diminish accountability and melt all conflicting views under the strong authority of the President. Among others, we can give the example of relieving judiciary control over the President in the existing presidential system in Turkey. The judicial constraint was highly relieved by bringing the condition of putting the President on trial with a qualified majority of the Parliament. The condition is valid for the ministers as well. In other words, the president's team gains a strong shield against the judiciary check, which deals a serious blow to accountability. The legislative oversight is also reduced to "questions" and "parliamentary investigation" as the vote of confidence was removed. So, the president and his/her team, who may not be a parliamentarian, are granted a great

area of maneuver in policy making and execution while accountability became a simpler concern. The reflection in the natural gas markets would be greater arbitrariness of policymakers and violation of legislation in effect and the increasing tendency of rent-seeking where the gray area between rent-seeking and corruption would be further grown.

Besides, the removal of constraints on the government would also erode accountability in EMRA as well as other public bodies. Although there is no specific amendment regarding the position of the public servants, even their accountability would be harmed as they are expected to be loyal to the government.

Before closing this section, it is worth mentioning that the decentralization of power does not necessarily bring the purported benefits of regulatory credibility, the flow of investments, and market efficiency. The status of regulatory authorities as independent bodies is also open to debate in terms of accountability, democratic gap, and red tape (Sosay and Zengiboz, 2006; OECD, 2014). While the objective of the regulatory reform is to ensure the independence of regulatory authorities so as to maintain regulatory credibility, commitment, and enforcement, one may argue against this liberal perspective in the sense that it is the government that is democratically elected and only answerable to the public with its policy choices.

But in any case, we can see that the so-called independence of the regulatory authority did not have value in the field of gas market reform. EMRA has always followed government objectives as evidenced above even these policies are short-termed, populist, or spoiled by rent-seeking behaviors.

5.3.3 Embeddedness in informal institutions: A perennial barrier?

Thie section went beyond formal institutions and dug deeper into the socio-historical characteristics of Turkey. Having focused on the state-led developmentalist past of the country as well as the established tendency of power

centralization in Turkey, we concluded that the reform goals are heavily deviated by the informal institutions.

The state-led developmentalist past is relevant in the sense that market reform represents a model where asset redistribution is based on the market itself, not the government. However, the Turkish economy has historically been strongly oriented by the government itself. Even if the government does not assume the public service and production by itself, it would keep closely monitoring and interfering with the market transactions. The logic of the market reform, however, is that "profit" should be the main motivating factor, which runs counter to Turkey's established understanding of the state-market relationship.

One of the consequences of the state-led developmentalist past is the persisting rent-seeking behaviors elaborated in the previous chapter. In this chapter, we focused on the other side of the coin: how does the state try to balance or cover the rent-seeking behaviors through non-market behaviors of state-owned companies? BOTAŞ is a crucial actor in that sense, and the government has not preferred to weaken the power of this state-owned company. Together with its involvement in the electricity market, the government can cover the gas prices, manipulate them when necessary, postpone per electoral cycle, favor some consumer groups against others, etc. Besides, the government is ordering BOTAŞ and also urging private distribution companies to make inefficient investments that would not be realized under mere market-based motivations.

Secondly, we have discussed the centralization tendency in the Turkish government. This point is crucial for the purpose of our research because one of the essential instruments of the market reform was to establish an independent regulatory authority. However, such a government entity is quite a contrast to the Turkish centralized government and public administration. We have proven in this section that while EMRA was modeled as truly an independent body, comparable with its peers in Europe, this independence has eroded over time. The existing links

between the central government and EMRA show that the regulatory authority turned out to be a general directorate connected to the Ministry of Energy and Natural Resources (MENR).

The significance of the findings is also a challenge to the institutional theory's recipe of "institutional reforms". The Natural Gas Market Law no. 4646 is a typical institutional reform law that is preceded by the crises of the 1990s. However, if we get to the conclusion that these reforms cannot defy the limits drawn by broader informal institutions, then the reforms are all useless. Our argument is that such a conclusion would be misleading and, worse, may serve as a justification for institutional inertia and decay by the beneficiaries of the status quo. Even if the reforms are beleaguered by the informal institutions, they can still present a leap forward and yield a more efficient outcome. This debate is leading us to the conclusion that institutional reforms should well-consider the constraints imposed by informal institutions and caliber the expectations from the reform accordingly.

5.4 Administrative capabilities as part of institutional endowments

We have based our analysis on the concepts of new institutional economics which focus on "institutions" to understand the form and evolution of economic transactions under a certain polity. As North (1990, p.4) emphasizes, the difference between the "institutions" and "organizations" is crucial while the first is "any form of constraint that humans devise to shape human interaction" and the latter is "groups of individuals bound by some common purpose to achieve objectives". Accordingly, organizations are established to benefit from the opportunities created by institutions in shaping the development of economies. Even if not the same thing, they are firmly intertwined. The birth and evolution of organizations are fundamentally determined by the institutional framework. In turn, they define the evolution of the institutional framework as well. Levy and Spiller (1994, p.206) define the administrative capabilities of nations as one of the elements of a country's *institutional endowments*, aside from legislative and judicial institutions,

informal norms, and ideology. If a country has regulatory bodies with strong administrative capabilities, they can put in place a regulatory system based on specific, substantive rules that can promote efficiency and credibility. Otherwise, they would develop less efficient rules for their regulatory system to work. The administrative capability of a regulatory organization or body consists of the ability of its professionals (i.e., bureaucrats) to handle complex regulatory concepts and processes effectively, without causing disputes and litigation. Higher the administrative capability, the more the potential of successful implementation of advanced and complex regulatory designs. Thus, regulatory systems, like the energy market regulation, needs complex implementation, and high administrative capability. The cost of adverse and ineffective energy regulations would be high over the entire economy and the society considering that energy is an essential interim good for industrial production as well as a basic final good for household consumption. In this section, we will analyze EMRA as a political organization in North's (1991) definition and as a regulatory institution and see how its administrative capabilities and interaction facilitate or block the reform process. Besides, we will check the institutional vacuum and conflict between EMRA, Ministry of Energy And Natural Resources (MENR), and the Competition Authority and how it leads to inefficiencies in the energy market regulation.

5.4.1 Lack of EMRA's administrative capabilities

In this section, we will argue that even if the over-mentioned institutional problems are settled, or non-existing, there is still an institutional constraint to achieve the purported objectives of natural gas market reform. The constraint is EMRA's administrative capacity in dealing with complex issues like natural gas markets. If EMRA is not equipped with sufficient resources, there would be problems of regulatory failure, weakened commitment, and absent coercive power.

The administrative capacity mainly covers human and financial resources. But human resources are more important in the sense that it is the personnel in the

final instance to draft and issue a regulation, settle disputes among market players, and design an efficient market. Besides, we can safely say that EMRA has sufficient financial power as the authority is granted financial independence, and its budget items consisting of the license fees, etc. are large enough to cover its expenses (See EMRA Activity Report, 2019). As Figure 36 shows, EMRA has almost all years transferred the revenues to the treasury which in total passes 1 billion TL since it was established. Thus, we can argue that financial barriers are hardly a problem for EMRA's administrative capabilities.

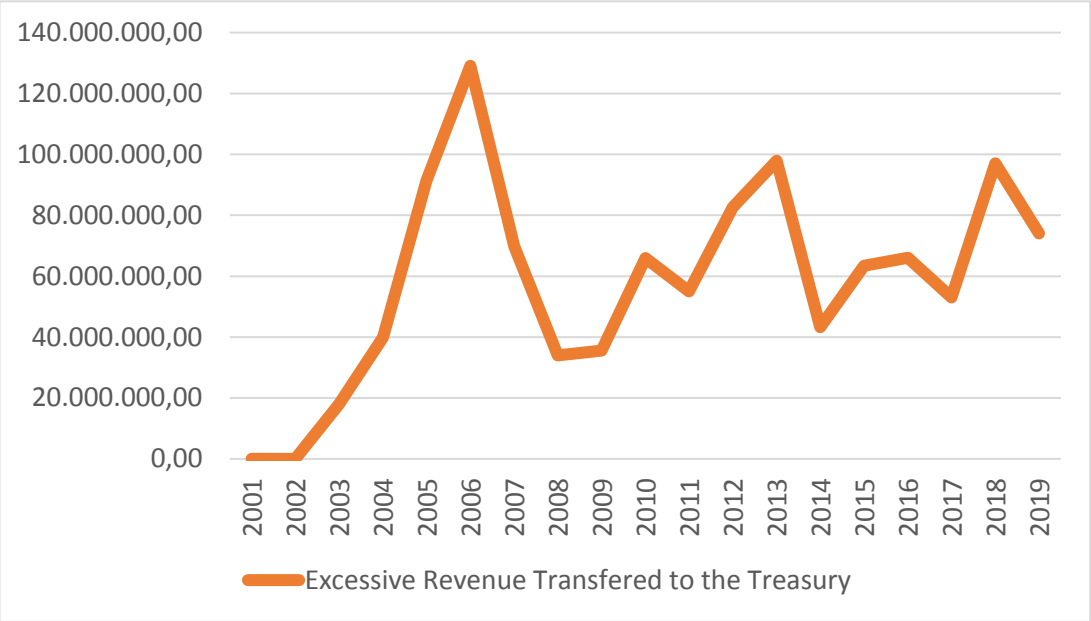

Figure 36 Excessive Revenue of EMRA Transferred to the Treasury (TL)

Source: EMRA Activity Report 2019

As a result, there will be a focus on the human resources of EMRA which is the essential item of administrative capability. Administrative capability, in this regard,

has two elements: The Board members and the professional employees which are both required to design and enforce regulations.

5.4.1.1 The capabilities of EMRA board members

To begin with the Board, we can say that the main barrier for the effective regulation of natural gas markets is that the EMRA Board's area of authority is too broad to handle issues in due course. According to the EMRA Activity Report, the board meets once a week and it took 177 decisions in a meeting on average in 2019 (EMRA Activity Report 2019). One cannot expect EMRA Board to thoroughly evaluate each decision that has important consequences over the market players. What made the EMRA Board deal with such a high number of board meeting agenda items is that EMRA, unlike its counterparts all around the world, deals not only with electricity and natural gas markets but also petroleum and LPG markets. According to the market laws of petroleum (no. 5015) and LPG (no. 5307), EMRA has responsibilities in regulating these markets as well. Under such responsibility, EMRA started to license tens of thousands of new market players in these markets. Moreover, it started to combat petroleum smuggling all over Turkey through partnerships with police and gendarme forces. However, EMRA's new goals were beyond its foundational principles which we elaborated on above. The precedents of EMRA in the US as well as in Europe were established to regulate network-bound energy markets, e.g. electricity and natural gas, whereas petroleum and LPG regulations have little relevance with electricity and gas markets in this respect. Their regulations are typical product regulations that are not required to be handled by an independent specialized authority like EMRA. For instance, the US energy regulator, FERC has certain authority in oil pipelines; but it just covers the fair third-party access conditions to the oil transport pipeline (Dastan, 2011).

Arguably, the extensive roles of EMRA in the petroleum and LPG markets marginalized the responsibilities in the natural gas markets over time. To see the share of Board decisions on natural gas, we can check Figure 37. The share of Board

decisions put into the Board meeting agenda by the Natural Gas Market Department varies between 1, 7 to 5,4 percent in the last decade while the lowest figure was realized in 2019.

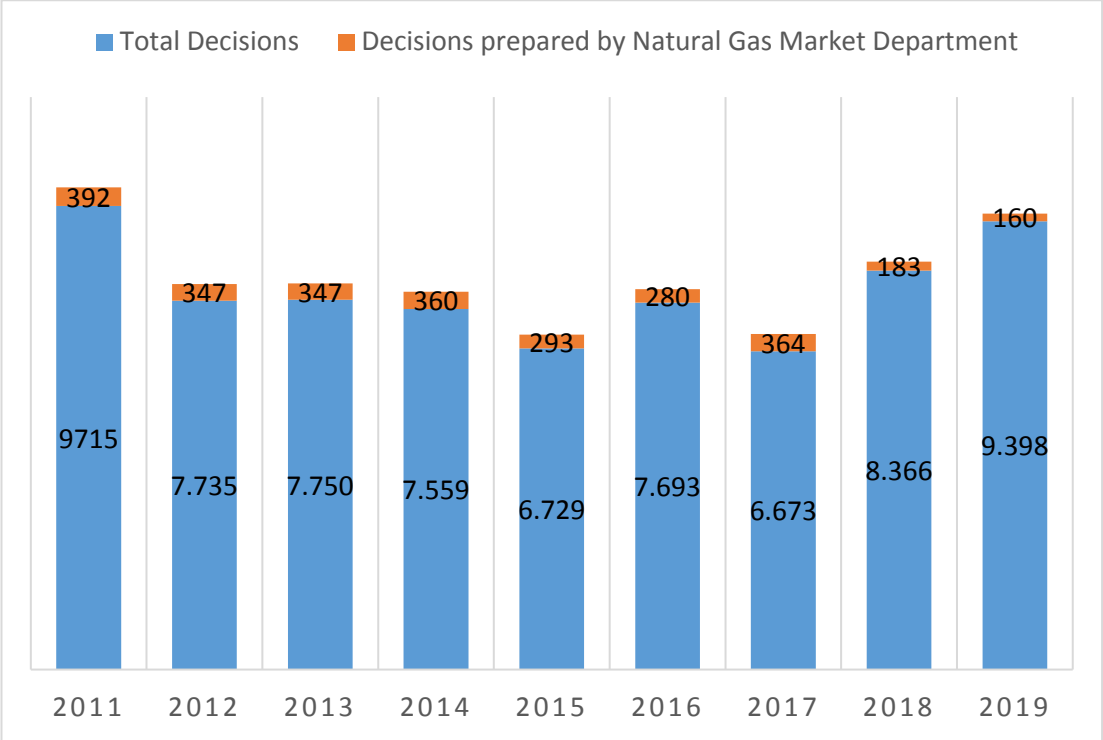

Figure 37 Share of Natural Gas Market Department Decisions of EMRA Board

Source: EMRA Activity Reports, 2011 to 2019

Figure 37 implies that EMRA Board's administrative capacity cannot well handle regulatory decisions in the natural gas market even if it is willing to do so. There are some ways to increase the overall capacity of EMRA such as hiring new personnel for an increasing number of tasks. However, it has no equivalence in the Board as the Board members need to give make a decision for each of the items in the meeting agenda.

The lack of quality of EMRA Board decisions can also be understood by the fact that grounds or reasons of EMRA decisions are not published, unlike the decisions of the Competition Authority[59]. So, stakeholders or those who are not affected by the decision have no idea what lied behind the decision. We should also add that EMRA meetings are not transparently held. There are no public hearings, and the minutes of the meeting are not shared with the people, which are common practices in the US and European counterparts[60]. Due to such absences, EMRA Boards are not enforced to develop sophisticated decisions during the meetings, which would harm the quality of regulations.

Another issue is the quality of EMRA Board members in dealing with complex regulatory issues. It is very difficult to assess the quality of Board members. There are some studies on reforms (such as Erdoğdu, 2012) analyzing the impact of the educational background of the chairman on the success of market reforms. However, the results are not conclusive and not intuitive. We can at least say that the professional capabilities of the Board members are relevant to both the educational background and industrial experience of the appointed person. Figure 38 is charted basing on the information derived from the EMRA web page summarizing the educational and professional background of Board members. As Figure 38 shows EMRA Board's overall quality declines when measured by the universities they graduate from and their professional experiences.

[59] See https://www.rekabet.gov.tr/tr/Kararlar

[60] See, for insatance: https://www.ferc.gov/about/what-ferc/frequently-asked-questions-faqs/frequently-asked-questions-faqs-commission-meetings

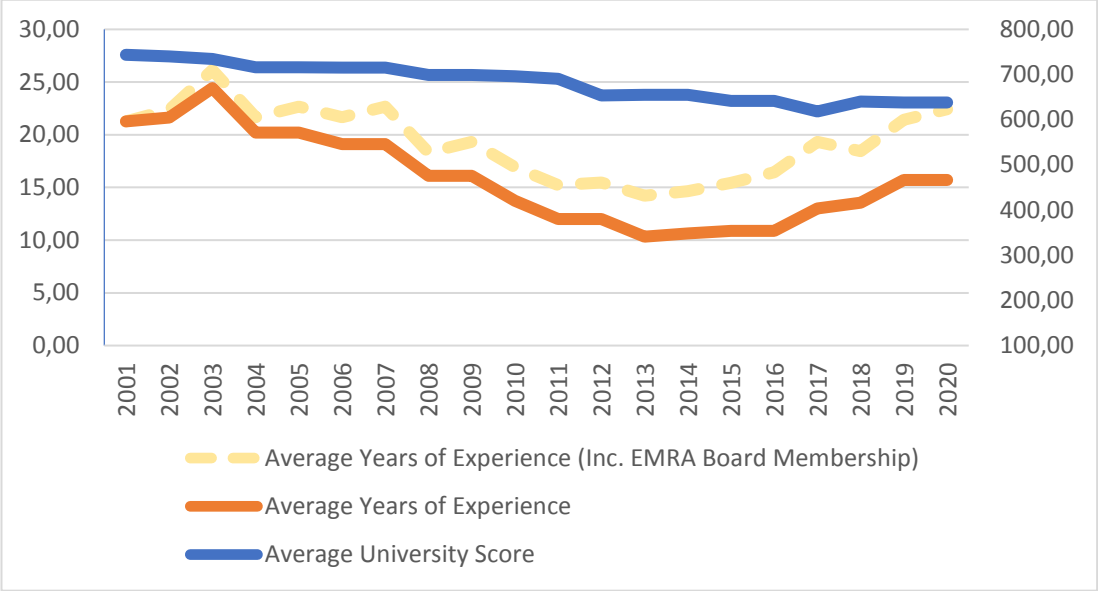

Figure 38 Quality of EMRA Board Members[61]

Source: EMRA Web Page: http://epdk.gov.tr/Detay/BoardMembers; for University Rankings: http://tr.urapcenter.org/2019/2019_t9.php. The left of the vertical axis show years of experience, the right of the vertical axis shows the score of the universities graduated. The dotted line adds the years at EMRA to the years of experience.

Despite such a decline in the figures, we can expect a further decline in the future due to a recent amendment in the law. The former electricity market law no. 4628, which also established EMRA, has actually defined such criteria for the board members as follows (Article 5, paragraph 2):

> The Board members shall be selected and appointed by the Council of Ministers among candidates having completed at **least a four-year program of an undergraduate degree in law, political sciences, administrative sciences, public administration, economics, engineering, management or public finance fields and having minimum ten years of experience in public or private sector and who have distinguished themselves in their professions.**

[61] Professional experience is assumed to have started with jobs related to the mission at EMRA. One of the Board members was a graduate of Eastern Mediterranean University which is not ranked in the referred scale, thus it is taken as the average score in the ranking.

That is, the law stipulated that both the educational and professional backgrounds of board members should be related to their tasks. However, the Decree-Law 703, which was enacted to harmonize the public administration of the presidential system has annulled the provision entirely and specified that

> … the Board members are appointed by the President among those who have completed at least four years of undergraduate education" and Article 3 of the Presidential Degree softened the decreased the professional experience condition to five years.

While this provision enhances the authority of the President to choose any university graduate as a Board member, it eliminates the minimum conditions of quality and appropriateness by removing the conditions of educational background and professional sufficiency. This would arguably pose a risk for the future quality of the Board member, which may also affect the quality of decision-making.

5.4.1.2 The capabilities of EMRA staff

As we mentioned above, administrative capacity is an essential element of the institutional endowment. Quality of the regulatory authority personnel is crucial to ensure a high-level capacity as they are the agenda setter of the Board and background designers of the regulation. By nature, Board members can accept and reject the draft regulations prepared by the staff. They can also make a change in the draft but in practice, this is a rare possibility considering the sophisticated nature of regulations where expertise is significant. From this perspective, it would be safe to argue that the capability of EMRA staff to design regulations is even more important than that of Board members.

Arguably, the most important mechanism to attract the best talent to an institution is to provide higher benefits and promising career opportunities. Newly established institutions like EMRA often face the challenge to attract such talent as they have not yet proved their lasting nature and they are dwarfed by established institutions, like the Ministry of Energy and Natural Resources in the Turkish case. The solution

to overcome this issue is to offer higher salaries to the newly appointed personnel by benefitting from financial independence. As law no. 4628 initially stated: *"The salaries and other financial rights of the EMRA personnel were determined by the Board upon the suggestion of the Chairman and within the principles determined Ministerial Board (Article 9, Paragraph 10)."*

However, EMRA's administrative capabilities to achieve reform objectives were hampered in many ways over time. One of the first issues was that EMRA face when it was established was that all the experienced staff were mainly working in the places which were the losers of the market reform, such as MENR, BOTAS, and other public enterprises. Thus, the prospective EMRA personnel was likely to be market-skeptics. This issue is ignored in the law as Article 9 of Law no. 4628 specified the following:

> Where certain specialized services are required, appointments of Authority personnel for these tasks shall be made by the Board among the personnel employed at the MENR or its affiliated and related organizations or from other public agencies and organizations engaged in energy-related matters, upon the approval of the related Authority or institution.

One may argue that it would be inevitable to appoint existing personnel as they are single experienced staffs who have knowledge of the basic characteristics of energy supply. However, the problem might be overcome by giving their assignment a temporal nature and raise experts from scratch. For instance, the professional staff of the Competition Authority was exclusively consisting of those recruited by a competitive exam (Law no. 4054).

In other words, EMRA's professional cadres were consisting of "energy experts" who were appointed just by referring to their previous workplaces. After EMRA recruited the first Assistant Energy Experts, the professional staff started to become a mixture of those who were transferred from other public bodies to those

becoming assistant energy experts and then promoting to energy expertise after being trained and submitting their thesis[62].

The second problem is more relevant to financial rights which are better than an average state official which we mentioned above. The aim was to attract the most talented people; however, it also paved the way for "adverse selection". According to law no. 4628 (Article 5, paragraph 6, subparagraph l): *"…the Board… makes and applies the personnel policy of the EMRA, including the staff appointment".*

What is more, law no. 4628 also provides the opportunity for the EMRA Board to appoint staff other than the over-mentioned experts (Article 9 Paragraph 4):

> Local and foreign experts may also be employed in accordance with the provisions of the regulations to be prepared by the Chairman's Office and enforced by the approval of the Board.
>
> …
>
> The procedures regarding the appointment of staff from **non-public agencies** and the establishment of personnel career systems shall be regulated regulations to be issued. "
>
> while the regulation has few objective criteria to appoint these staff other than a minimum age and an undergraduate diploma[63].

Law No. 4628 allowed great leeway for the board in the sense that they can almost freely determine the salaries of the staff and they can appoint the staff without any strong objective criteria. The result could be the "adverse selection" as those who are close to the board members gained an advantage to be appointed as well – not necessarily those who were most talented.

[62] See EMRA Human Resource Regulations: https://www.epdk.gov.tr/Detay/Icerik/3-0-22/yonetmelikler

[63] See: https://www.resmigazete.gov.tr/eskiler/2002/02/20020212.htm#5

As a matter of fact, these local experts who were not state officials according to the law were appointed as state officials to EMRA by being exempt from exam and candidacy conditions in the State Officials Law (no. 656) in 2008 with an amendment made with the law no. 5784. On the other hand, as EMRA Activity Reports show, EMRA started to get transfers from other public bodies over time which further mixed the staff structure of EMRA. They also promoted their statuses during the amendment in the law no. 4628 to become experts (See Provisional Article No: 19).

These developments, overall, have eroded EMRA's administrative capacity as EMRA could not recruit the most relevant staff to achieve the reform goals.

On the other hand, with an amendment made in 2013 with law 6446 (Article 30), EMRA lost its financial autonomy to determine the salaries of its personnel and became no longer extra-attractive for potential staff. In the end, EMRA became composed of a mixed staff structure at senior levels and have potentially medium-quality assistant[64] expert recruitment after 2013 with a decline in attractiveness.

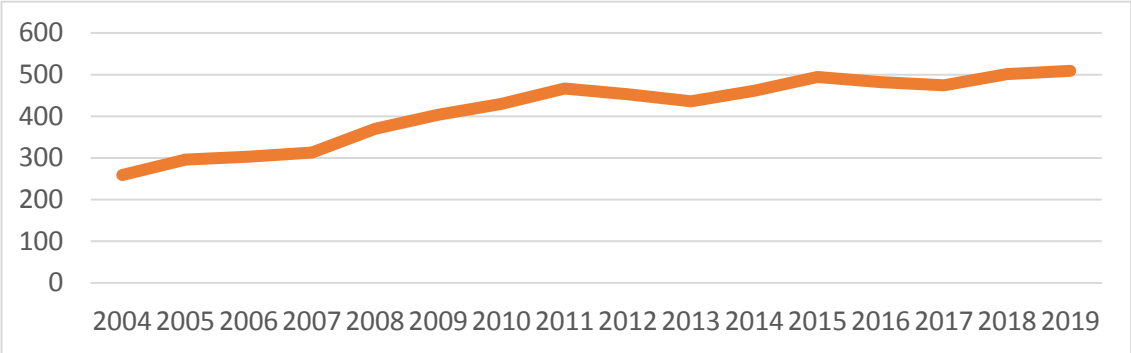

Figure 39 Number of EMRA Staff by Years

Source: Derived from EMRA Activity Reports 2011 to 2019

[64] We can't measure the quality of experts, but we can argue that the loss of financial attractiveness would cause EMRA to recruit average quality staff compared to other experts recruited to overall public institutions.

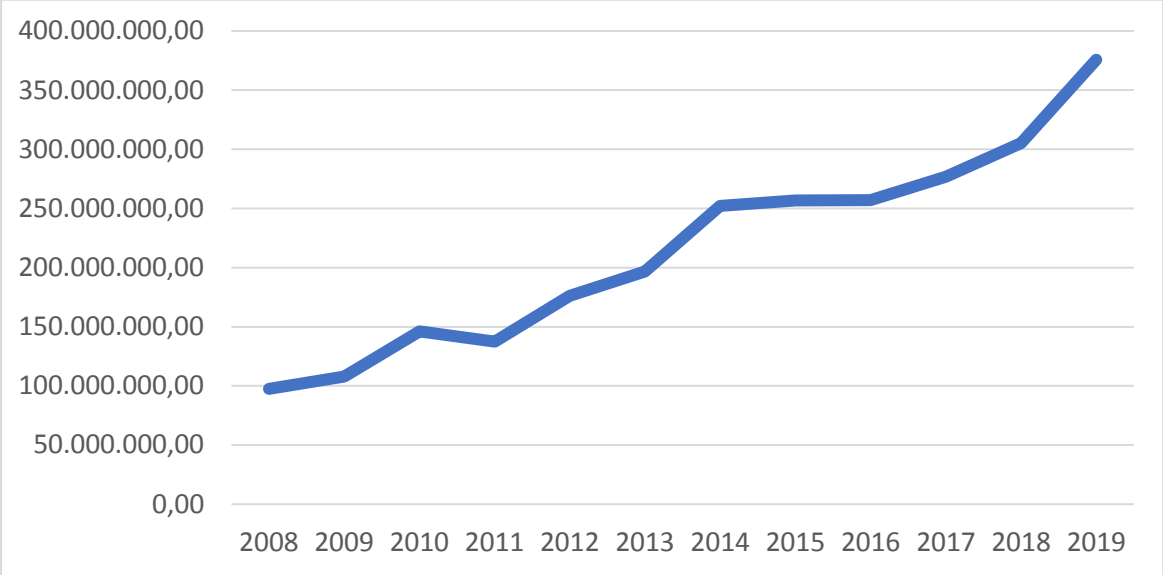

Figure 40 EMRA's Budget (TL) by Years

Source: Derived from EMRA Activity Reports 2008 to 2019

Considering Figures 39 and 40, EMRA lost its initial organizational structure goal based on agility with small but effective staff. With an ever-increasing number of staff and budget, the authority turned out to be a public authority with a huge presence. For instance, EMRA's number of personnel reached almost half of the MENR, while its budget has increased to one-tenth of MENR even if EMRA has no executive functions (MENR Activity Report, 2019).

5.4.1.3 Consequences of administrative incompetence

I would like to analyze the consequences of administrative incompetence in two ways: First, the regulations which are envisaged to be prepared but not or lately done by EMRA, second, EMRA's natural gas consumption forecasts, and third, litigations against EMRA which Levy and Spiller (1996) deem as a tool to measure the level of the administration's capacity.

As regards missing regulations, one of the first regulations which EMRA failed to enact is the regulation on the quality of service in the natural gas distribution

business. According to Article 4 (Paragraph g, subparagraph 5) of the Law, EMRA is required to issue a regulation that covers the issues in service quality and customer satisfaction to be used in the evaluation of the distribution company's extension of the license period. While the termination of the license period is still yet to come, these parameters are also required in setting tariffs for the distribution companies (Article 25 of Board Decision Concerning Methods and Principles of Setting Tariff for Distribution Companies dated 22/06/2017 and no. 7139). Currently, distribution companies are hardly pushed to maintain a quality of service standards that are not openly specified in the relevant regulations.

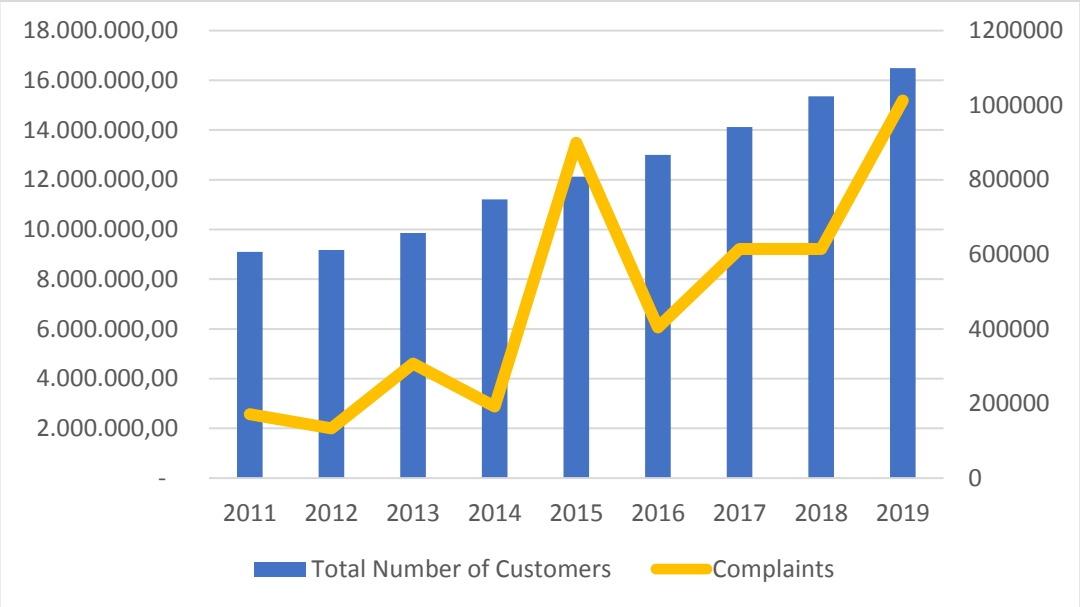

Figure 41 Total number of natural gas customers (left) and customer complaints from distribution companies (right)[65]

Source: Derived from EMRA Natural Gas Sector Reports 2011 to 2019.

[65] The total number of customers include non-eligible and eligible customers. As EMRA did not publish eligible customers in 2011 and 2012, the figure in these years include only non-eligible customers. However, the share of eligible customers is quite low. For instance, it is around 4 percent in 2013. We can argue that the share should even lower in 2011 and 2012 since the eligibility threshold was higher in these years. Therefore, this absence does not make a considerable change in the figure.

Following Levy and Spiller, we can refer the complaints against the distribution companies to measure the customer satisfaction of the distribution services. According to Figure 41, the service quality of the distribution companies has fallen over time.

While the ratio of customer/complaints was 53 in 2011, it rose to 16 in 2019 overtime. That is, one in sixteen customers filed a complaint against the distribution company recently which is five times more than almost ten years ago. We can argue that such a decline in satisfaction can be interpreted by EMRA's failure to issue a regulation on service quality.

The second regulation, which is still pending is on the distribution company's purchase of the gas from the cheapest offer (Article 11/4 of Law). The details of such a mechanism are not defined by EMRA while EMRA is ensuring that they are buying the gas from only BOTAŞ which subsidy the household customers. The details of the supply and pricing dynamics are given above. As far as BOTAŞ's market share remains at such high levels, there is no risk that distribution companies may purchase gas from an expensive source. However, the lack of such regulation increases the ambiguities in the market overall.

Thirdly, we can also mention the spot gas market regulations which were retarded for a long time and established recently. Creating a spot gas market is one of the complex issues in the gas markets and a good tool to judge the maturity of a gas market. For instance, developed markets, like that of the US, the UK, and the Netherlands have liquid spot gas markets (REF) which helps the formation of efficient price signals in the market. The lack of a spot natural gas market that would provide price signals for suppliers and investors had long been a gap in Turkey's gas supply security (Dastan and Selcuk, 2013). The electricity balancing and day-ahead markets have been active since 2009 while their counterpart was inaugurated only in 2018 the gas segment. The lack of seasonal price signals in the gas market in the face of a functioning electricity spot market created arbitrages

among gas and electricity branches and led to mismanagement of both for a long time.

While the establishment of a spot market through EPIAS (Energy Piyasası İşletim A.Ş.) was an important step, the retarded implementation of such mechanism has already made Turkey lose critical opportunities to set up a Eurasian natural gas hub in Turkish soil. As TANAP and Turkish Stream projects have been completed and made Turkey a transit or a corridor country, Turkey's ambition to become a center of international gas resources has been essentially lost (Dastan, 2018).

Concerning EMRA's natural gas consumption forecasts, we can see that the gap between the forecasts and actual consumption has been opened over time. The Law stipulates EMRA to make consumption forecasts to be used in setting market share limits of import and wholesale companies. However, as Figure 41 shows, EMRA's consumption forecast estimation has been drastically deviating from the realized consumption, especially for a decade.

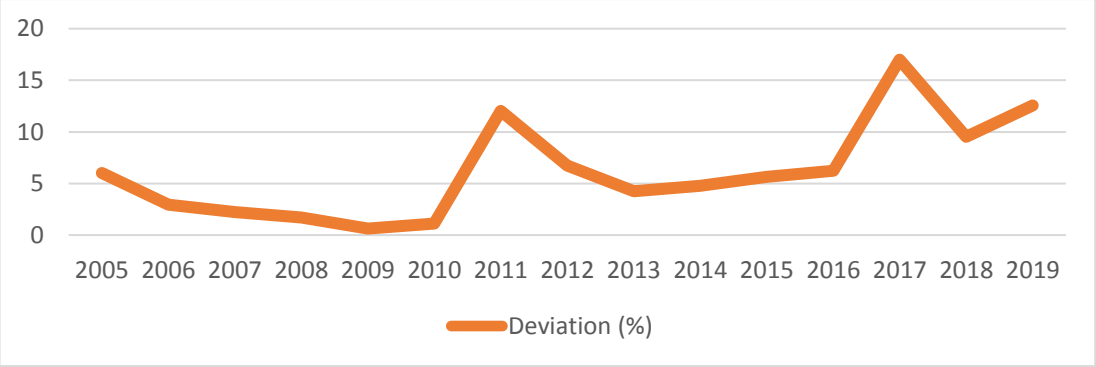

Figure 42 Deviation between EMRA's natural gas consumption forecasts and realized consumption

Source: EMRA Activity Report 2019

Forecast models often rely on certain econometric models and a failed forecast indicates that the model is not well set. As Figure 42 shows the deviation even reached 17 percent in 2017 and there is a consistent rise since 2013. We can conclude that the forecast model of EMRA is not working well and does not give reliable information for the coming year.

Finally, we can also check the complaints against EMRA. We can argue that the complaints against EMRA would fall as long as the quality of regulations increases. However, Figure 43 shows the opposite. Complaints against EMRA have been increasing. In 2015, the number of customer complaints against EMRA was 4600; but it has reached 1180 in 2019. In other words, one in almost one thousand customers has filed a complaint against EMRA.

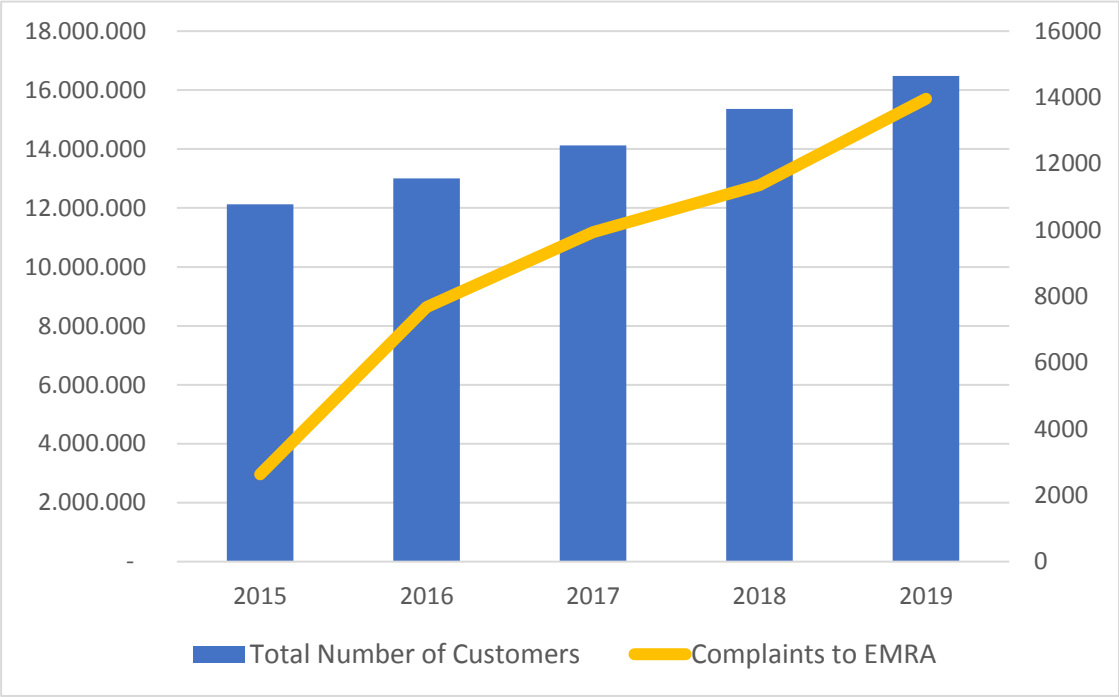

Figure 43 Complaints against EMRA (right) and Total Number of Natural Gas Customers (Left)

Source: EMRA Activity Reports 2015 to 2019

In overall evaluation, we can see that the quality of regulations is declining which we can interpret from the ameliorating administrative capacity we discussed in the previous section.

5.4.2 Institutional vacuum and possible conflict among EMRA, MENR, and TCA

The institutional constellation of a country would also lead to inefficient or ineffective handling of regulatory issues if not well designed. In the case of natural gas market one can count three main administrative entities that have authority over the gas markets based on different legislation: the MENR, EMRA, and the Turkish Competition Authority (TCA). The Report of UNCTAD (2010) defines four areas where these authorities should cover:

(i) ‘‘technical regulation’’, which mainly covers setting and monitoring standards to assure compatibility and to address safety protection concerns,

(ii) ‘‘economic regulation’’ - control monopoly pricing by setting tariffs.

(iii) ‘‘access regulation’’ - ensuring fair TPA to the network infrastructures, and

(iv) ‘‘protection of competition’’ - controlling anti-competitive behavior (such as abuse of dominance) and mergers.

We can illustrate the types of regulation and administrative involvement in the market in Figure 44. In the figure, we argued that these four fields fall into different and separable categories while MENR, EMRA, and TCA can be assigned roles and responsibilities accordingly. In an ideal setting, which can be defined as the most welfare-enhancing institutional constellation, the role of market regulatory authority should be confined to access regulation (licensing) and economic regulation (tariff setting), while the competition authority has a role in the overall supervision of anti-competitive behavior mainly covering anti-competitive mergers and acquisitions as well as predatory price-setting. The other works, which has little relevance with the market formation or competition can fall into the responsibility of other specialized body within or connected to the relevant ministry.

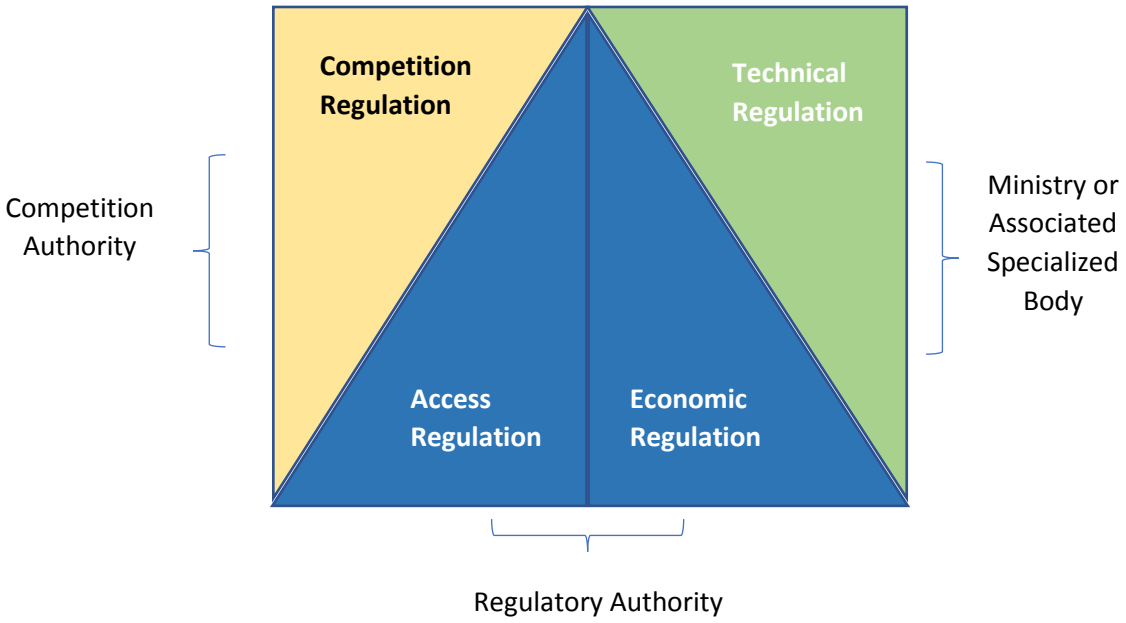

Figure 44 Areas of Regulatory Involvement in Markets

Source: Author's own illustration

Basing on Figure 43, there would be two sources of the problem. First, the roles and responsibilities of the administrative entities in the law may not be well defined. If the roles are not clear, then there exists gray area among the jurisdiction of two authorities which none of them are involved, leading to either an institutional vacuum or a conflict of authorities. This gray area may also be filled by one of the authorities such that it takes other's authorities excessively. Finally, both of the authorities claim jurisdiction over this gray area, leading to institutional overlapping or conflicting, and unnecessary burden over the industry.

The second problem would be is that even if the roles and responsibilities are well-defined, they may not fit into the foundational roles of these institutions which

eventually lead to regulatory failures, frictions, and conflicts during the implementation phase.

In this respect, I will analyze EMRA's roles in comparison and contrast with the MENR and TCA.

5.4.2.1 EMRA and MENR's allocation of responsibilities

To begin with the question of whether the authority areas of EMRA and MENR are well-defined, we can give an affirmative response. As mentioned above, when EMRA was established in 2001, an amendment was made in the institutional law of MENR and explicitly stated that the Ministry's missions do not cover those which are assigned to other institutions. Such a clause openly excludes MENR in involving EMRA's area of responsibility.

However, there are certain questions if EMRA's assigned missions fulfill its foundational objective. The objective of EMRA in the natural gas market is defined as follows:

> This Law concerns with the liberalization of the natural gas market and thus the formation of financially sound, stable and transparent markets along with the institution of an independent supervision and control mechanism over the same, to ensure supply of good-quality natural gas at competitive prices to consumers in a regular and environmentally sound manner under competitive conditions.

To make EMRA administratively more specialized in the creation and functioning of the formation, it should leave the tasks with technical matters to MENR. As we check the market activities to be supervised by EMRA, we can see that the law largely follows this principle. For instance, the Law (article 4) specifies the following for generation activities:

> b) Produce: The natural gas exploration and generation activities are carried out in accordance with Petroleum Law No. 6326. Production activities are not regarded as market activities. The exploration and operation licenses are granted by the General Directorate of Petroleum Affairs.

…

> The Production companies must satisfy the license requirement as provided in paragraphs (e) and (f) above in order to obtain sale and export licenses.

In other words, the Law takes upstream activities from EMRA's sphere of authority as it is not part of natural gas market activity. The gas production companies became market actors when they wish to sell gas to sell gas to any player in the market.

On the other hand, the Law extends EMRA's sphere of authority beyond its foundational objective at the downstream end of the natural gas market chain. Accordingly, the law specifies that (Article 5):

> The import, export, transmission, storage, distribution, and wholesale companies and free consumers which shall engage in activities in the natural gas market may enter into **construction and service contracts** with real persons and legal entities who have obtained a certificate from the Authority.
>
> …
>
> The certificates related to the internal installment and service lines shall be issued by the public or private companies authorized by and on behalf of the Authority and the distribution companies.
>
> …
>
> Those who have obtained certificates from the distribution companies to engage in construction and service activities for internal installation and service lines shall be supervised by distribution companies. They may also be supervised by the Authority upon the application of consumers.

While the provision extends EMRA's area of influence over the regulatory field, it relieves such a burden by sharing with distribution companies. There is still a problem in the sense that the supervision mission is shared by EMRA and distribution companies. These conditions make EMRA responsible for each connection to the System which includes control of important health and safety

risks. These tasks are not within the supervision area of a market regulator as shown in Figure 43's blue triangle consisting of access regulation and tariff setting.

5.4.2.2 EMRA and Turkish Competition Authority

The relationship between the two regulatory institutions, namely EMRA and the Turkish Competition Authority, is important as the lack of clear division and assignment of roles among them would be detrimental to the overall policy to establish a competitive market. On the other hand, it is more difficult to draw a line between the responsibilities of these two institutions as their objectives largely overlap regarding the competitive markets apart from differences in many respects. If such differences had not existed, we might question the existence of two institutions with duplicated missions. It would be possible to organize regulatory divisions within a competition authority, or a competition division within a regulator. But in practice, these sub-divisions would be significantly influenced by the outlook, expertise, and experience of the persons (primarily Board members) they report. Moreover, one can also expect that the institutional cultures of these authorities could differ in ways that might define their effectiveness (OECD, 1998).

Basing on an OECD Report (1998), we can compare regulation and competition authorities in terms of goals, methods, timing, remedies, and administrative power and expertise, and propensity to be captured.

- In terms of objective, competition authorities give weight to the efficiency to be gained through the "competition" itself, while regulatory authorities may be assigned some distributional goals aside from the competition. Thus, the regulatory authorities stand between the central government and competition authority by trying to meet the goals of both.
- Second, basic methods are different in the sense that competition authorities enforce economy-wide rules that constitute a type of market

constitution. Competition laws promote competition through minimum involvement. On the other hand, regulatory authorities are directly involved in the market and mimic the competition. But failure to mimic competition would lead to other anti-competitive behavioral impacts on the market.

- Third, the timing and frequency of intervention are different as competition authorities often involve ex-post controls with the exception of merger reviews, but regulation has an ex-ante and continuous nature.
- Fourth, regulators tend to use behavioral remedies while leaving structural remedies to the competition authority.
- Fifth, as regulators are a sector-specific organization, their expertise in the sector they regulate is higher and more sophisticated than the competition authority. But, competition authorities still have greater foresight and specialization over competition issues than the regulatory authorities.
- Finally, regulatory authorities are more prone to be captured by the industry as they have greater and consistent contact with them while competition authority's relevance with a specific industry is in limited intensity.

To combine these parameters with the share of responsibilities in Figure 43, we can now analyze the positions of EMRA and TCA in the regulation of the Turkish Gas Market. When we check the objectives of these two organizations, the goal of competition law crosses that of natural gas market law. The First Article of the Competition Law No. 4054 is as follows:

> Article 2: Agreements, decisions and practices which prevent, distort or restrict competition between **any undertakings** operating in or affecting **markets for goods and services** within the boundaries of the Republic of Turkey, and **the abuse of dominance by the undertakings dominant in**

> **the market**, and **any kind of legal transactions and behavior having the nature of mergers and acquisitions** which shall decrease competition to a significant extent, and transactions related to the **measures, establishments, regulations, and supervisions aimed at the protection of competition** fall under this Act.

This expression of the objective of the law covers the gas market considering the statements in bold above. *''...Markets for goods and services...''* includes the ''*natural gas*'' as the ''*good*'' and the ''*gas transport*'' as the ''*service*''. On the other hand, Natural Gas Market Law No. 4646 also makes a reference to Competition Law No. 4054 (Article 7-a-1):

> The provisions concerning the freedom of competition, non-abuse of dominant position, mergers and acquisitions set forth in Law No. 4054 Concerning Protection of Competition dated 7 December 1994 shall also apply to legal entities, which shall perform activities in the natural gas market.

Even if this article did not mention the Turkish Competition Authority, we can argue that the Competition Authority is entitled to fulfill responsibilities in the natural gas market and it is the responsible body to apply Law no. 4054. Besides, the gas market law made no specification that excludes the authority of the Turkish Competition Authority in the market. In Banking Law No. 5411 (Article 19), for instance, there is a provision that clearly excludes Law No. 4054 in the merger and acquisitions of banks. In other words, we can argue that the absence of exclusion of Law No. 4054 in the Natural Gas Market Law No. 4646 means that the Turkish Competition Authority has full power in the application of *''transactions related to the measures, establishments, regulations, and supervisions aimed at the protection of competition''* as articulated in the Law No. 4054.

On the other hand, another argument is presented by Öz (2020, pp.1018, 1019) that the TCA's authority over industry is limited by specific and sector-related legislations. Analyzing the TCA verdicts on the claimed anti-competitive behaviors of certain electricity companies, she holds that the TCA should not interfere on a

subject that is explicitly included in the sectoral legislation under the authority of EMRA. Oz rests on the Council of State 13th Chamber Decision[66] that while the authority of the TCA extends towards the telecommunication market which is regulated by Telecommunications Authority, this general rule shall not apply to the exceptions envisaged in Laws and secondary regulations. In a similar vein, TCA should not take any action where EMRA is clearly mandated.

But this stance is not so strong when it comes to the natural gas market where the rules are less explicitly defined. One of the essential differences between the regulation of Turkish natural gas and electricity markets is that in electricity markets the distribution service must be legally unbundled from the retail sales while there is no such a rule in the natural gas market. In other words, an electricity distribution company cannot provide retail sale under the same legal personality, while natural gas distribution companies are also providing retail sale services. That is why the separation of distribution and retail sale companies is a crucial issue in terms of protection of competition in the electricity markets and the mentioned cases above reflect such a strain. In the natural gas market, the issue is a less-regulated space; thus EMRA's explicit mandates (as strong as in the electricity market) to rule out possible TCA involvement do not exist.

Thus, we can argue that there is a gray area between EMRA and TCA where the laws give authority to both of the organizations to establish and supervise competition in the natural gas market. The consequence of such gray area would be two: Either both of them assume the responsibility as the law did not exclude the other from applying their respective rules, methods, and enforcement mechanisms, or none of them assumes such responsibility by arguing that the other party has the prime responsibility. The first case would lead to over-regulation and conflict and duplication in enforcement which would lead to confusion, ambiguity, and burden on the market players. The second case, on the other hand, would lead to a failure

[66] Council of State 13.D, 13.02.2012, E.2008/13184, K.2012/359.

to establish a competitive market and preservation of anti-competitive bottlenecks. We can check the realization of these possibilities by reviewing the decisions and behaviors of EMRA and TCA. TCA Board decisions will be dealt to give clues to answer our question in the fields of acquisition and mergers and violation of competition.

5.4.2.2.1 Authority of the TCA based on Article 7 of Law No. 4054: merger and acquisitions

One of the first cases which we can review is the acquisition of two distribution regions by the Azerbaijani gas export company, SOCAR. According to Competition Law No. 4054 (Article 7), mergers and acquisitions are subject to the approval of CA unless the turnover of companies is not below a certain threshold. Acquisition and mergers are some of the rare areas where competition authority makes an ex-ante review, just like EMRA. Within this framework, the Turkish Competition Authority has reviewed the acquisition application of SOCAR and endorsed the acquisition. We can first say that CA did not transfer the issue EMRA considering that EMRA should also give license to SOCAR to operate in the distribution business. However, the acquisition merits an extensive analysis with impacts on competition since SOCAR is one of the main exporters of natural gas to Turkey and also a player in the natural gas wholesale segment. We have already discussed above the risks of the takeover of a distribution company by a supplier. Basically, it creates a risk in the sense that the distribution company is a natural monopoly and a great portion of the customers are non-eligible to choose their suppliers and will remain to be so considering EMRA's market-opening threshold decisions in the last decade. However, the Turkish Competition Authority did not care about such risk in its Decision No. 19-17/235-106[67]. It solely argued that SOCAR's share in Turkey's imports was low and share in the wholesaler segment was negligible. Competition Authority ignored the fact that the share of Azerbaijan (SOCAR) in Turkey's imports

[67] Permit request concerning SOCAR Turkey Enerji A.Ş.'s acquisition of EWE Turkey Holding A.Ş. dated 2.5.2019 and no. 19-17/235-106

would rise over time especially with the new contract over TANAP. Actually, as we have shown above, SOCAR's share increased over time and the company became the dominant player in Turkey's imports as it has passed the share of Russian Gazprom in the Turkish gas market. More importantly, the Turkish Competition Authority did not even refer to the fact that the transferred companies (distribution companies of Kayseri and Bursa) are natural monopolies and gave its endorsement without regard to such special positions of these companies.

5.4.2.2.2 Authority of TCA based on Articles 4 & 6 of Law No: 4054: violation of competition

Competition Authority analyses the violation of competition cases after such a claim is sued at the Authority. We come across cases that also fall under EMRA's regulation area, but considering the size of the natural gas market, and persistent bottlenecks of competition in the market, the number of claims is small. The number of customer complaints against the distribution companies is 4 while BOTAŞ was complained 5 times either for its pricing policy or service activities[68]. There are also cases in which the internal construction companies claimed that the distribution companies are violating their competition law, which is not covered here as it is not related to our research. But, in any case, we can still argue that the Turkish Competition Authority, compared to other energy markets such as electricity is not a much-consulted authority to remove barriers against competition.

One of the cases investigated by the Turkish Competition Authority was the complaints against the distribution company of İzmir in which the claimants argued that the distribution company was violating the competition by abusing its dominant position as the single distributor of gas in the relevant region. The company was claimed to apply excessive charges when their customers withdraw gas from the network more than their programs. Since the distribution company

[68] The TCA decisions are available at https://www.rekabet.gov.tr/tr/Kararlar .

was a monopoly in the region, it is by nature the dominant company and these industrial customers do not have a chance to negotiate it with other possible suppliers. Competition Authority, on the other hand, argued that the issue is within the scope of EMRA's area of responsibility and decided not to give a decision on the matter and wait for EMRA's decision (see CA decision no. 09-01/2-2[69]). In a similar application against Kütahya (decision no. 10-67-1418-535[70]) and Kayseri's (decision no. 10-66/1401-522[71]) distribution companies, the Turkish Competition Authority again rejected to start an investigation by claiming that the relevant authority was EMRA.

The Turkish Competition Authority repeated and elaborated this position in the case against the transport pricing of Eskişehir Distribution Company which was opened by Eskişehir Organized Industrial Zone. The claimant argued that Eskişehir Distribution Company was charging them excessive transport prices as they abuse their dominant (monopoly) position in the market. Arguably, EMRA regulates the transport (distribution and transmission) prices as we analyzed in the above sections. However, this price is the ceiling in which they are allowed to be applied by EMRA's own calculation based on a reasonable rate of return. In the TCA decision no. 12-41/1171-384[72], it is admitted that the ceiling defined by EMRA may

[69] TCA Decision No 09-01/2-2 Dated 08.01.2009, concerning the claim that sales policies of İzmirgaz İzmir Doğalgaz Dağırım A.Ş. violates Article 6 of Law No. 4054.

[70] TCA Decision No 10-67/1418-535 Dated 27.10.2010, concerning the claim that various practices of the Çinigaz Doğalgaz Dağıtım Sanayi ve Ticaret A.Ş. violates Law No. 4054

[71] TCA Decision No 10-66/1401-522 Dated 21.10.2010, concerning the claim that Kayserigaz Kayseri Doğalgaz Dağıtım Paz. Ve Tic. A.Ş. abuses its dominant position by making calculations in breach of Energy Market Regulatory Authority Regulations

[72]TCA Decision No 12-41/1171-384. concerning reevaluation of Board Decision on the Esgaz Eskişehir Şehir İçi Gaz Dağıtım A.Ş. and Boru Hatları ile Petrol Taşıma A.Ş.' abuse of market

not suffice to ensure competition, and TCA can take further measures to eliminate the abuse of market power. However, the Competition Authority denied giving a decision on whether the price was excessive or not since it did not have the required knowledge to establish such a decision. Thus, it noted that competition authorities tend not to involve in decisions on price. Besides, the Authority insisted that any measure developed by TCB would only lead to behavioral impacts on the company, which is a temporary solution. A regulatory authority, however, has full monitoring capacity over the industry with perpetual supervision tools. Accordingly, if structural measures were existing and there was regulatory legislation, the TCA should not intervene. Therefore, as TCB argues, the regulatory authority should make a decision on pricing as it continually watches the industry, has full knowledge of industrial dynamics and is specialized to make detailed price analyses. On the basis of such argumentation, TCB eventually reject the application and emphasized that EMRA is the relevant authority to make a decision on the issue. With this decision, the Turkish Competition Authority makes a huge withdrawal from natural gas markets as many issues in the gas market merits a specialized regulatory overview.

Another sort of application for violation of competition by abuse of market power is on the pricing policy of BOTAŞ. The case of BOTAŞ was different from the distribution companies as the first was a gas supplier in a theoretically competitive market whereas the latter are monopolies in a given region. While EMRA has no longer been regulating wholesale natural gas prices since 2007, as mentioned above, distribution prices are regulated by EMRA. That is, the Turkish Competition Authority's argument that issues related to prices of the distribution companies merit a sectoral specialization on the issue does not apply to the pricing of BOTAŞ.

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dominance by excessively prpicing th transport fee collected from the eligible customer Eskişehir Sanayi Odası Organize Sanayi Bölgesi

BOTAŞ's pricing policy had been sued at the Competition Authority on two grounds. First, the company was claimed to violate competition by applying excessive pricing; and second, the company was also claimed to apply predatory prices to eliminate competition. The applications with the first argument were easily rejected by Competition Authority (decisions no. 02-13/127-54[73]) by grounding on the fact that BOTAŞ's sales prices are not excessive considering the purchase prices of the company. However, the applications having the claim that BOTAŞ was applying predatory prices were based on a more legitimate ground and Competition Authority could not reject these applications so easily. In 2008, a rival company of BOTAŞ made an application to TCA, claiming that BOTAŞ applies destructive price which is below its costs and this prevents other players to enter the gas market. The claim was based on the fact that BOTAŞ applies different prices to different customers and subsidy losses by charging another sort with higher prices. This is an issue which we analyzed above by mentioning about social policy goals of BOTAŞ and keeping the household prices artificially low. We have also explained that BOTAŞ subsidies such a low sales by highly charging state-owned generation company, EUAS, as well as Build-Operate-Transfer and other PPP power generation facilities. EUAS and PPP companies were purchasing gas at a higher price as they also do not have market-based motivations in the electricity market. From the competition law perspective, the situation was that BOTAŞ is actually a monopoly in selling gas to these companies since these companies, buy gas from BOTAŞ no matter what BOTAŞ's price is. We can resemble these companies with zero demand elasticity against BOTAŞ's prices. Within this framework, BOTAŞ virtually has two markets: A monopoly power in the sales to EUAS and PPP companies, and a competitive branch in sales to other power generators, industrial customers, and household customers. The application was relevant in the sense that typical destructive pricing includes a dominant actor's separation of two markets and

[73] TCA decision no. 02-13/127-54 dated 8.3.2002 concerning the claim that pricing policies in the natural gas market violates the Law. No. 4054.

making cross-subsidy among them. The cross-subsidy scheme is depicted in Figure 45.

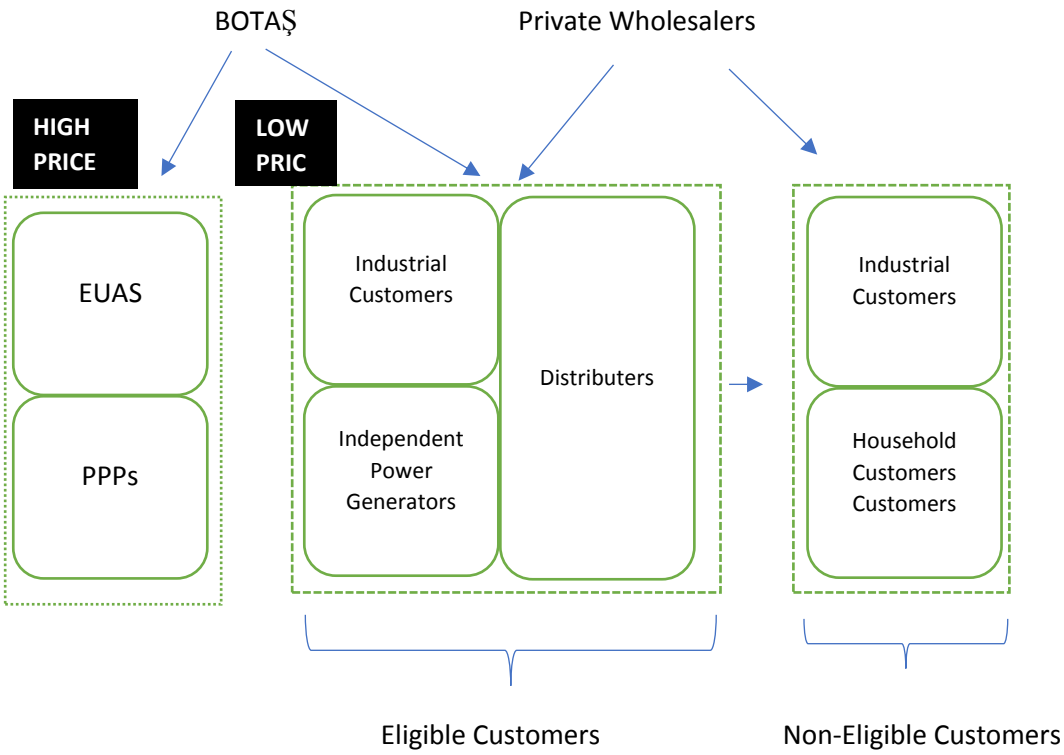

Figure 45 BOTAŞ's Price Policy

Source: Author's own illustration

In its decision, the Board did not deny the existence of such a cross-subsidy scheme, which would lead to predatory pricing. Rather than applying a penalty, the Authority decided to monitor BOTAŞ's prices for the future term (decision no. 08-50/750-305[74]). But, a year later, Competition Board decided to reject the

[74] TCA decision no. 08-50/750-305 dated 14.08.2008 concerning the claim that price policy of BOTAŞ Boru Hatları ile Petrol Taşıma A.Ş. violates the Article 6 of Law. No. 4054.

application again arguing that there is no proof that BOTAŞ's low price policy is consistent and permanent, and occasional application of low prices cannot yet be dealt with as destructive price (decision no. 09-41/999-256[75]). Next year, BOTAŞ's price policy was again challenged by the Competition Board with the same claims. However, Competition Board preserved its position (Decision no. 10-16/189-73)[76] and tried to stay on the fence and argued that extensive and long-term monitoring is needed to be made for a final decision on the matter, which was not realized so far.

As these cases show, the Competition Authority is comparatively a recessive actor in the establishment of a competitive gas market in Turkey. In this respect, we can argue that the reform process is not buttressed by Competition Authority, while its counterparts in Europe, such as UK and Italy have played a more active role than the regulatory authority, which we have already mentioned above. The Competition Authority does not have specialization and/or will to be a supporting actor in the formation of the gas market. Despite the gas market's bottlenecks ahead of the competition which we discussed throughout the paper, there has not been a case in which Competition Authority concluded that the competition law was violated in some way. In the cases we highlighted above, TCA either left the issue to EMRA or did not provide sophisticated analysis taking into account the anti-competitive behaviors of the market players.

[75] TCA decision no. 09-41/999-256 dated 9.9.2009 on evaluation of the price movements of BOTAŞ Boru Hatları ile Petrol Taşıma A.Ş. during the last six months of 2008 in line with the Board Decision dated 14.08.2008 and no. 08-50/750-305 concerning the claim that its price policy violates the Article 6 of Law. No. 4054

[76] TCA decision no. 10-16/189-73 dated 11.2.2010 concerning the claim that BOTAŞ violates the Article 6 of Law. No. 4054

Before closing the chapter, we should note that EMRA and TCA have signed a protocol[77] in 2015 to eliminate possible conflicts of authority among the two bodies. However, the protocol is only based on cooperation purposes. The parties pledged to enhance cooperation and information sharing where necessary; i.e. the protocol does not provide a legal reference to define areas of responsibilities.

Overall, we can argue that the lack of responsibility sharing among EMRA and TCA leads to institutional failure. In this respect, especially the TCA refrains from acting as a reliable actor to promote competition in the natural gas market. It is noteworthy that TCA has so far taken some action in the electricity market as mentioned above. However, these supervision actions have been taken against private companies. The natural gas market is still under heavy dominance of BOTAŞ, which may explain the reason why TCA is not willing to have an active stance. In the "Natural Gas Sector Investigation"[78] published by TCA in 2012, the rapporteurs have even suggested that BOTAŞ should be an even stronger actor and have a presence in the electricity market as well. The findings show that TCA internalizes its objectives with the government and does not function as an independent entity.

5.4.3 Bringing public organizations back in

As mentioned in the earlier parts of the thesis, one of the important developments in the study of institutions was Skocpol et.al's (1985) challenge to society-based perspectives by resting on the claim that the capacity of states conceived as organizations are not merely reflective of the interests of social groups. The implication of the claim was huge in the sense that it builds a research agenda for political scientists to make a greater focus on the states with their complete

[77] The protocol dated 28 January 2015 is available on www.rekabet.gov.tr

[78] The report is available at https://www.rekabet.gov.tr/Dosya/sektor-raporlari/7-rekabet-kurumu-dogal-

institutions. I would like to make an analogy to this effort by focusing on the public organizations per se.

While the increasing emphasis on the institutions provided a fruitful area of study, what we have seen in the case of Turkish natural gas market reform was that public organizations did not get an interest at the required level. The status of EMRA was determined by the Electricity Market Law No. 4628. The administrative capabilities of EMRA were the crucial factor in the achievement of the goals. However, despite the elaboration of market rules, both in electricity and natural gas markets, EMRA's functions, capabilities, and assigned missions prevent this public body to fulfil genuine responsibilities concerning the regulation of markets. The *raison d'etre* of EMRA was to publish specialized rules for the creation and protection of competition among the market players. However, this main reason behind the formation of a regulatory body was not duly realized as EMRA's missions are blurry, the Board is overburdened by irrelevant tasks, the skills and experience of the Board members are steadily declining and the quality of the staff is questionable. Besides, the relationship between EMRA and TCA is not well outlined, leading to inertia especially on the side of TCA. This is by no means a trivial issue as competition authorities (as in the cases of Italy and the United Kingdom we examined above) played a central role in the achievement of market reform goals. The competition authority's buttress to the reform appears weak in the case of the Turkish natural gas market reform.

These finds, which are also mentioned in the overall assessment of the thesis below, show that the "bringing the institutions back in" agenda ought to be further fine-tuned to make an even greater emphasis on the public organizations. As this research made it clear, organizations are not mere takers of the institutions as rules; rather they are interpreters, reproducers, enforcers, or filters of the rules in many ways. Thus, the formulation of public organizations, such as EMRA, is at least as critical as the formulation of the market rules it applies.

CHAPTER 6

OVERALL ASSESSMENT OF FINDINGS

6.1 Power and limits of institutional theory in explaining Turkish natural gas market reform

This thesis tried to analyze the Turkish natural gas market reform from an institutional perspective. In this respect, I find out to what extent the institutional theories explain the failures and achievements of natural gas market reform. The implications of the institutional theories are ‘‘institutional reforms’’ where reforms are mainly the adoption of new rules and the creation of a new organization that is stronger enough to apply these rules. These rules should create a legal environment for the market so that the transactions are done in the most efficient way. The elements of such a mechanism include perfect information of the market players, full enforcement of the contracts, preservation of property rights, and credibility of rule-makers to stick by their long-term commitments. As we check through the research in the case of Turkish gas market reform, the institutional theories have the power to explain the failures of the natural gas market reform. However, their ability to diagnosis the problem does not necessarily mean that the implied policy prescriptions and reforms help solve the problem. In this thesis research, we find that the institutional theories have certain degrees of power in explaining the failures of natural gas market reform; but such explanatory power has limitations.

While this is not to deny that institutions matter, one should consider that i) lack of reliance on the efficacy of rules may create a self-fulfilling prophecy among the stakeholder that institutions would fail; ii) since institutions are created by stakeholders, one should not ignore the fact that the institutions may just be created not to social welfare but serve to certain interests; iii) institutions as ‘‘rules’’

are applied and enforced by institutions as ‘‘organizations’’ who are living organisms and merit a distinctive analytical effort; iv) the informal rules which the formal rules are ultimately dependent on are tended to be taken as ‘‘black boxes’’ despite their definitive nature v) institutions should not be taken as the single *explanan* in explaining social phenomena. These points apply in our analysis of natural gas market reform in Turkey.

To begin with the problem of the self-fulfilling prophecy that institutions of reform would fail, we can give the example of BOTAŞ's insistence to keep its vertically integrated structure. From the transaction costs perspective, two firms would not tend to integrate if the institutions are well enough to prevent contractual problems among these firms. More specifically concerning the subject of the thesis, the supply of natural gas necessitates extensive and sophisticated specialization among different branches of the market. Vertical integrations or separations could have emerged from a transition costs perspective if the firms perceive that their transactions between counterparts in the upstream or downstream may become more costly than doing it under the same legal personality. At the core of the Natural Gas Market Law No. 4646 exists the unbundling of network and trading companies, primarily those of BOTAŞ. However, BOTAŞ did not disintegrate, which can be explainable by the fact that it could better handle the transport of gas under the same corporate identity. The complete idea behind the natural gas market reform was that if the rules are sufficiently perfect, they can eliminate the transaction costs and make the unbundling costless. But, if the rules do not eliminate these costs, the firms sustain every effort to shirk the unbundling requirement. Moreover, if the firms have the concern that rules would not apply, this creates a self-fulfilling prophecy, and actors seek ways of manipulating, bypassing or amending the regulations. As BOTAŞ has had such a concern, it has preserved the vertically integrated structure. The failure to apply unbundling rules functioned as the domino effect which deals a blow to the whole credibility of the reform process. Thus, while the transaction costs approach truly estimates the

behavior of BOTAŞ to preserve its vertically integrated corporate identity, the recipe of the institutional theories to create rules that eliminate transaction costs was not relied on. That is why eventually the unbundling scheme failed.

This point partly applies to the rent-seeking problem. The institutional theories have a sound argument that well-designed institutions would eliminate rent-seeking. However, the problems of rent-seeking would hardly be eradicated by institutions as eventually the rules are designed under certain power configurations. Even if the crisis times shake the existing configuration or create a new one, the institutions would again be captured from the very beginning or over time by a narrow group. That is what we have seen in the natural gas market liberalization in Turkey. For instance, the import licensing procedure was amended only 4 years after the market reform law in the parliament so that a significant licensing rent was created. It is also valid in the distribution segment. The rent-seeking scheme was seeded in the first decade of the reform, which paid dividends after a decade.

Arguably, rules rarely create explicit rents, but they are often implicit in the laws and regulations and need investigative analysis. In this respect, this research has shown that rents persist in the natural gas market. The entry into the gas market is not transparent and the government keeps the power to discriminate among the potential entrants of the market. Secondly and more importantly, tariffs of distribution companies have been set such that they have perpetually increased the rents of private distribution companies in the form of revenue requirements. Besides, the regulation of LNG terminal operators is not consistent, and one may have a justifiable concern of rent-seeking in this field as well. These rent-seeking activities prevent the rise of competitive forces and competitive pricing, which are the main goals of Natural Gas Market Law No. 4646. In sum, we get to the point that institutions did not suffice to eliminate the rent-seeking motivation in the case of Turkish natural gas market reform.

A third matter to be considered is that ‘‘organizations’’ are both part of the ‘‘institutions’’ and also ‘‘creators’’ or ‘‘practitioners of institutions’’. Institutionalists emphasize that (North, 1991) organizations, such as public authorities, legislative, etc. are part of the institutional endowment of a country. This creates an essential, if not ontological, problem that *it is the institutions that create or apply the institutions*. EMRA is both an institution created by an organizational law but is also a reproducer, supervisor, and practitioner of the market law. This point indicates that it would be naïve and bold expectation to see practitioners of the reforms as having superior nature compared to the market participants. For instance, the reform envisages major privatization of the BOTAŞ as well as the distribution companies by resting on the assumption that private actors would operate more efficiently. If public companies are deemed inefficient or corrupt, why do we assume that the EMRA as a public body is efficient and not corrupt? Rather, EMRA is set up by the existing bureaucratic setting of the country and we have no reason to believe that the authority has a broader public spirit not beleaguered by private interest and objectives. EMRA’s malfunction would be even more dangerous than a public company as the former has an encompassing authority over the energy market and industry.

Thus, how public authority is designed is not an ordinary problem; rather it is the backbone of any institutional reform because the entire fate of the reform is dependent on the relevant public authorities. However, the institutionalist theory does not attach special importance to the ‘‘organizations’’ that make institutions by laws, regulations, directives, and who carry out them. The administrative capability of reform bodies is important from an institutional perspective although organizations like EMRA, MENR, and TCA are not ‘‘institutions’’ by themselves, but organizations. However, they are critical actors in the definition and application of rules and determinants of institutions. In this respect, we have seen that the organizational law which is part of the former Electricity Market Law no. 4628 was not able to create a body skillful and independent enough to carry out the reform

goals. One of the single measures that the reform law envisaged for a skillful and competent EMRA was to establish financial freedom to the authority. However, such a measure led to an ‘‘adverse selection’’ effect on the formation of EMRA’s administrative power as the authority spoiled and lost its initial dynamism over time. Similarly, EMRA’s outer space is not well planned particularly when the relationship between EMRA and the Competition Authority is considered. While the powers of MENR were appropriately determined by the law, the boundaries between TCA and EMRA were left blurry which lead both of the sides to stay away from thorny issues. Both natural gas market law and competition law assign responsibilities to the TCA, but some overlaps with the responsibilities of EMRA. In such cases, the TCA does not involve in the issue and transfer it to EMRA. We have also seen that there were cases where TCA was challenged to stop BOTAŞ’s anti-competitive behaviors. However, TCA avoided fining BOTAŞ and postponed decisions that do not run parallel to government policies. In both cases, the administrative capability of reform institutions is low, and could not implement the tasks to establish a functioning competitive natural gas market. In sum, we saw that the reform law was not firmly outlined the organizational aspects, or the objects of the reform while the focus was mainly made on the subject of the reform. This perspective runs parallel to the institutional theory’s understanding of organizations as the ordinary elements of institutional reforms. Institutional theories should give supremacy to the ‘‘organizations’’ as institutions. The public administration, as well as the public law nature of institutions, is the bedrock of the institutions determining the contractual relationship among market actors.

Fourthly, it is often ignored that the informal rules which the formal rules are ultimately dependent on cannot be reformed or reformed in quite different contexts. As we mentioned above, especially institutional economists rarely examine informal institutions. Albeit admitting that “formal institutions” are embedded in “informal institutions”, they expect a change at a period from one hundred to one thousand years. That is, the informal institutions are exogenous to

models of institutional economics. A justifiable question is that if any reform is eventually determined by the informal institutions and informal institutions cannot be reformed, the efforts to make reform turn out to be useless. A tautological determinism appears in the sense that all the constraints in the formal institutions are a reflection of the same constraints in the informal institution: *failure of institutions because of failed institutions.* Without integrating formal and informal institutions into a full-blown institutional approach, one would develop incomplete reasoning and incorrect analysis of institutions. Practically, the implication is that reforms may be useless in certain settings. Those who disproportionately benefit from the inefficient status quo may defend the status quo on this ground. More clearly, they would argue against the best-practice reforms because *"they live in a second-best environment"* and rest on the "*peculiar*" conditions of their countries.

We should note that not all the strands of new institutional economics see the informal institutions as a black box. Acemoglu and Jackson (2016), for instance, examine the interplay between social norms and the enforcement of laws. Their basic point is that even some laws are unenforced due to their conflict with strong social norms and transplantation of legislations may be useless, there are also cases where legal reforms change the informal institutions as well.

This debate also has relevance to our research. We tried to dig deeper into the space of informal institutions, which new institutional economics occasionally refer to, such as while tracing historical antecedents of existing institutions. We focused on two informal institutions which we claimed that existing legislations are embedded in this layer. The state-led developmentalist past and the centralization of power are two issues that we need to consider in the liberal transformation of the Turkish economy. We provided pieces of evidence that state-led developmentalist background hinders the formation of a liberal economy as the ‘‘market’’ is not historically trusted to provide efficiency and maximize welfare. As regards the centralization of power issue, the independent regulatory authority

model does not fit into Turkey's administrative structure as we have seen that EMRA's independence eroded within two decades after the natural gas market reform. This was further ascertained with the transition to the presidential system in 2018.

We claimed that state-led developmentalist roots are so strong that nobody questions the government's continuing existence in the market as the dominant, if not single, supplier of natural gas. But this is not to say that reform has had no effect or the pre-reform status quo was better. We rather indicated these informal constraints function as the brakes or frictions of the reform which retards achieving the objection of reform or deviates it from original targets. In this respect, we should admit that countries with similar historical paths, such as many late-developmental states of continental Europe with a strong centralized authority have different reform experiences and the same constraints functioned differently. That is, the informal institutions are not ‘‘fate’’ and should not be taken be exogenous to institutional analysis.

Finally, the institutional explanation is not all-encompassing. While the role of institutions has explanatory power in the analysis of the Turkish natural gas market, we cannot argue that such institutional theories are exclusively explanatory. If we assign omnipotence to the institutions, then we indicate them as the single instruments for policy targets, such as the creation of a competitive economy. But it would be an oversimplification. If the institutional theory evolves into the ‘‘theory of everything’’, as Sachs warns (2003), they would inevitably miss non-institutional causes of social phenomena, including development, competition, market formation, etc. For instance, depicting ‘‘property rights’’ as the single explanatory instrument for economic development (Acemoglu et.al., 2001), implies that the donor institutions should only care about legal reforms that ensure and protect ‘‘property rights’’. However, this understanding ignores poverty traps, geographical constraints, restricted resource endowments, and many other non-institutional

factors. Therefore, this prevents the formation of understanding as regards what reformers and donors should do to address complex and country-specific challenges; and makes the need for financial donations questionable and a greater focus is made on the technical assistance for human resources reforms.

This general critique of the institutional approach to economic development, based on ‘‘property rights reductionism’’ is also valid for this research as well. In this thesis, we put forward that the high transaction costs, persistent rent-seeking, stagnant informal institutions, and lack of administrative capacity have prevented the realization of natural gas market reform objectives. But we cannot just argue that the reasons suffice to explain the failures.

After listing these points, I would like to refer to the following point showing that the institutional approach has certain limitations in our analysis as well. An issue to be considered is that electricity and natural gas market reforms followed different paths. This is a paradox for pure institutional perspective in the sense that the institutional frameworks of these markets are almost the same. For instance, the electricity market has taken strides to achieve a competitive market in power generation after the enactment of the Electricity Market Reform Law in 2001. The share of power generation by private generators has risen above two-thirds of the total generation while the share of public and pre-reform PPP companies with purchase-guarantees declined below one-third overtime (Figure 46).

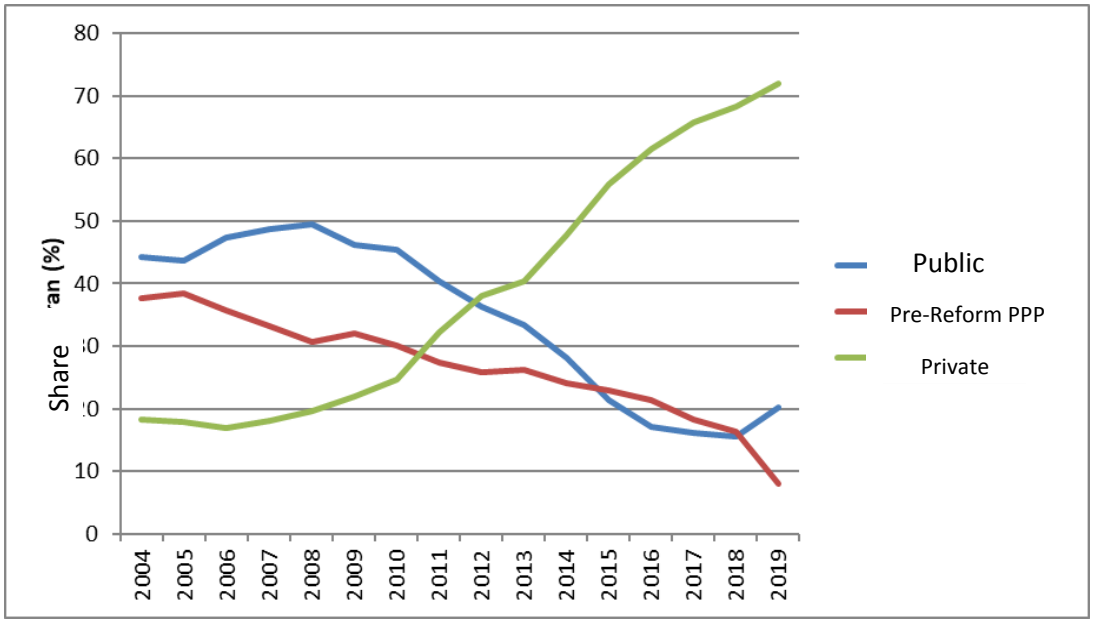

Figure 46 Power Produced by Private Producers

Source: EMRA 2019 Electricity Market Report.

The consistent decline of public share in the electricity generation has increased the competition in the system, which was not realized in the gas market. The establishment of electricity spot exchanges started earlier than natural gas as the balancing and settlement regulation was published in 2009[79], which is much earlier than the relevant regulation in the natural gas market.

We should also note that the Competition Authority is more active in the electricity market than the gas market. It has already investigated many cases and applied significant administrative fines to certain electricity companies that it found to have

[79] It was published in the Official Gazette dated 14.04.2009 and dated 27200.

violated competition (See Competition Authority Decision no 18-27/461-224[80] dated 08.08.2018).

In sum, we argue that while electricity and natural gas markets are regulated in the same institutional setting with almost the same reform objectives, their developments were not the same. It proves that there may be some other factors other than institutions that explain variation among policy targets.

At this point, we can question how we can sort out the impact of institutions on the natural gas market liberalization? To answer this question, we can compare the Turkish gas market liberalization with the European countries that have almost entirely followed the same historical path in the reform process. I benefitted from two geographical parameters, which are by definition non-institutional. The geography of a country is given and it does determine the liberalization process at least in two ways: First, if a country has coasts, it can diversify the resources and increase the number of players through LNG terminals. Second, if the country has indigenous natural gas resources, the liberal market can easily flourish thanks to gas-to-gas competition among the natural gas producers.

To begin with the first one, I plotted the coastal lengths of EU countries (plus Turkey and the UK) against the HHI in each country. The regression is based on 25 countries shows that HHI falls as the coastal length of a country increases. In other words, the gas market becomes more competitive if the physical formation of the country allows the construction of more LNG terminals.

[80] TCA decision no 18-27/461-224 dated 08.08.2018 concerning the claim that Enerjisa Enerji A.Ş., İstanbul Anadolu Yakası Elektrik Dağıtım A.Ş., Başkent Elektrik Dağıtım A.Ş., Toroslar Elektrik Dağıtım A.Ş., Enerjisa İstanbul Anadolu Yakası Elektrik Perakende Satış A.Ş., Enerjisa Başkent Elektrik Perakende Satış A.Ş., Enerjisa Toroslar Elektrik Perakende Satış A.Ş have violated the Article 6 of La No. 4054 http://www.rekabet.gov.tr/Karar?kararId=b6989e2e-27ce-4ded-8591-05b0b23c86c1.

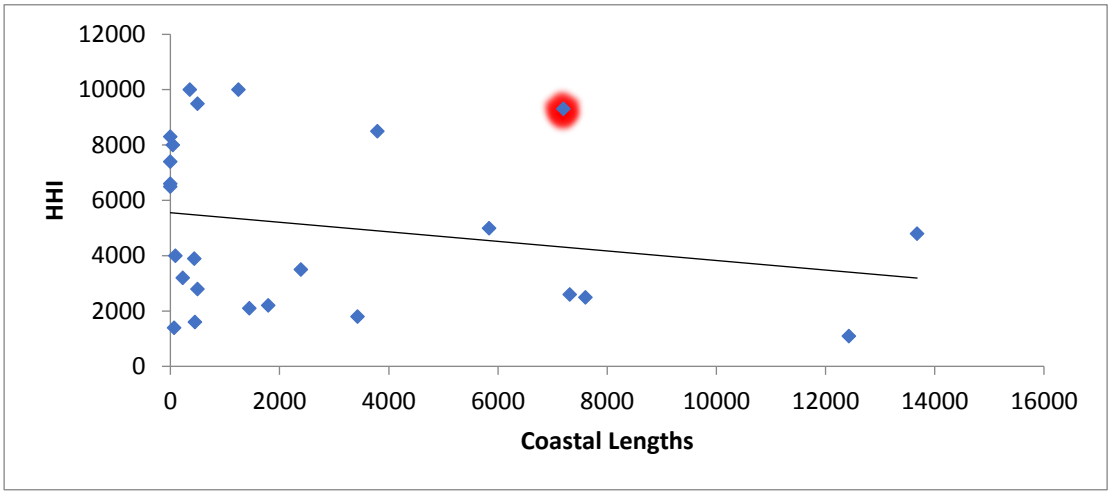

Figure 47 Relationship between the Natural Gas Market HHI and Coastal Lengths of EU countries

Source: Derived from HHI data of ACER (2018) and CIA data of coastal length (https://www.cia.gov/library/publications/resources/the-world-factbook/fields/282.html). Turkey's value (circled with red) is derived from EMRA Natural Gas Market Reports.

What Figure 47 shows for Turkey is quite dramatic. Even if the coastal lengths diminish the market power, Turkey could not realize it as shown by the apparent distance between Turkey's location on the figure and the regression line. Turkish natural gas market is one of the least competitive gas markets in Europe despite its long coastal lengths that would allow multiple market players to import and sell natural gas.

Another physical factor that affects the creation of energy markets is the natural resource endowments of a country. One can expect that competition would be higher if the gas is extracted indigenously. There would be local competition among the natural gas extractors, and this would be reflected at downstream. However, if the gas is mostly imported, the local firms would face export monopolies of resource countries, as in the case of Turkey where the exporter companies, e.g. Gazprom and SOCAR, have monopolies in their countries. This puts a barrier to the

formation of a competitive market in the target market. As a matter of fact, the relationship between the HHI values and natural gas production of the EU countries shows that countries having local natural gas production have more competitive markets (Figure 48).

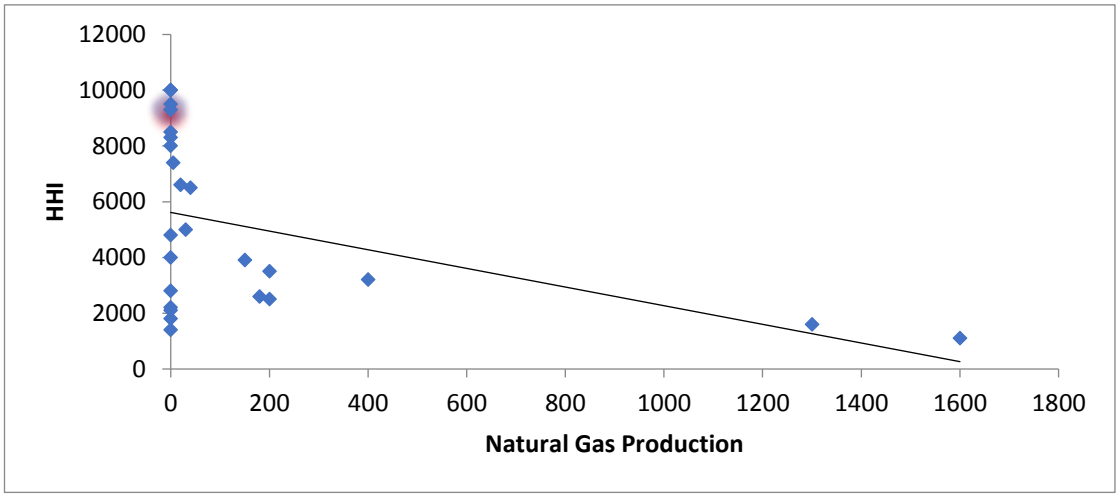

Figure 48 HHI and Natural Gas Production of the EU Countries

Source: Derived from HHI data of ACER (2018) and natural gas production data from Eurostat (https://ec.europa.eu/eurostat/statistics-explained/pdfscache/10590.pdf). Turkey's value (circled with red) is derived from EMRA Natural Gas Market Reports.

Figure 48 shows that countries with indigenous resources have a greater chance to liberalize their markets. The Turkish case again stands out among other countries that do not have their own natural gas resources. This figure says that Turkey cannot explain its highly limited gas market competition with the lack of gas resources. Many other countries that are firmly dependent on imported gas have achieved extensive degrees of competition in their markets, as the figure puts.

Figures 46 and 47 are significant in the sense that they both show the limitations of institutional theory and also the power of the institutional theory. That is,

geography as a non-institutional factor affects the liberalization of the natural gas markets. However, this effect varies among countries, supporting the view that institutions matter.

To wrap up the discussion, the findings of the thesis by no means suggest that institutions are useless. What we realized is that the Turkish natural gas market reform law did not make a workable and reliable market design and created a lasting institutional setting free from rent-seeking impulses and capable of carrying out sophisticated market creation. Institutional theories are useful in elucidating the issue but policymaking needs to develop a more sophisticated and comprehensive perspective.

6.2 Policy implications of the findings

In this thesis, we tried to explain the progress of Turkish natural gas market reforms from an institutional perspective. We get to the point that reform objectives have not yet been achieved even two decades after the reform. While there are some improvements in terms of security of supply, the objective of a competitive market was by no means achieved. Turkish gas market was liberalized on paper based on liberal ideals that competitive markets provide efficiency and maximize overall welfare. The reform program was one of the harshest ones in Europe as the incumbent BOTAŞ was envisaged to be replaced by plenty of actors in less than a decade while the entire country was projected to be connected to the gas network in this process. Regulations would mimic private monopolies, i.e. distribution companies were regulated such that they do not exert monopoly power.

We put forward the reasons for failures in terms of institutional perspective. As these targets are not realized fully, how would a better policy and regulatory design be achieved? What would be the policy implications of our findings?

Arguably, it is not easy to determine the result of specific policy reform. In case of a failure, the original defenders would hold that the reform was failed not because it

was mistaken, but it was not well or sufficiently applied. For instance, the economic crisis of the 1990s has often led to controversy if the reason was the application of the liberal market economy or just the misapplication of it (Bedirhanoğlu & Yalman, 2010). As the latter view has been the dominant one, neoliberal reforms have further strengthened after each crisis. Our findings in this thesis show that some of the reform goals were not required even at the very beginning while some did not work due to misapplication.

One of the first things we can safely argue that the drastic goal of reducing BOTAŞ's market shares as the importer was not realistic. The contract transfer scheme included conduits of rent-seeking and led BOTAŞ to preserve its vertically integrated structure to avoid transaction costs in the contractual relationship with the unbundled company. Considering that BOTAŞ's trading partners are monopolies in their respective countries, fragmentation of the import market would increase the negotiating power of export companies against their Turkish customers. Besides, the global gas market is not liquid and there is a risk that negotiation at the international level would be better handled by single-buyer companies, like BOTAŞ. This is not to say that BOTAŞ should preserve its legal monopoly in the import market. The private companies may enter into the market as long as BOTAŞ's contracts terminate, make new deals, or import LNG. They would, of course, need to compete with BOTAŞ's remaining contracts, which would eventually lead to competitive prices as the law envisages.

How would the competition emerge in the wholesale segment in a short period then? This was made possible by gas release programs in the European cases, not contract transfer as in the Turkish case. Wholesale companies in Turkey compete with each other to achieve efficiency, arrange customers, manage customer issues, etc. In the ideal setting, BOTAŞ should remain as the dominant supplier for another decade after reform without transferring the contract. But the private import

options should remain open as well, which especially increases the investments in LNG terminals.

On the other hand, the reform goal to unbundle BOTAŞ's trading and transmission companies was essential in the sense that fair access to the network cannot be sustained as we have shown above. But, if BOTAŞ as the trading company withdraws from the wholesale business, the necessity to unbundling diminishes as it would not ship gas in the transmission network.

When it comes to LNG terminal operation and LNG imports, the model of exemption from TPA developed by the EU would also work for Turkey. However, Turkey did not develop such an exemption mechanism and applied the same conditions to existing LNG terminals and newly built ones.

Another point to be addressed is the franchising of the distribution business to private companies. We have shown that both the franchising process and the tariff-making are problematic and exposed to rent-seeking practices. The institutional theory has well explained the risks of tenders if not well designed and the issues of regulatory capture. Indeed, the conditions that the distribution companies were not transparent, and they were negotiated 8 years after these companies were awarded licenses. Thus, the purported benefit of public regulation of private monopolies was not ensured. In the ideal setting, the conditions should be publicized earlier. Besides, the tariff setting is not a price-cap regulation as envisaged by the law. Rather, the distribution companies have a superior advantage to increase their revenues by manipulating the parameters of tariffs. The need for privatization and franchising of natural gas businesses becomes questionable considering the transferred rents to these companies. One may argue that even rents are transferred to these companies, they have made investments and connected the people to the natural gas network. But such service can also be made by municipalities or other public companies. For instance, BOTAŞ as a public company has made transmission investments that catch up with the investments of

distribution companies. A public-owned company would not necessarily lag behind private companies in terms of investments. This is still not to say that the distribution business should be handled by public companies. The operational expenses of these companies might be higher, and a public company may grapple with inefficiencies that are often referred to in the privatization literature (Shirley, 1999). Besides, the more the number of distribution companies, the easier for the regulator to make benchmarking and regulate them. In this respect, there is no problem in terms of franchising these companies to private companies. The problem is that EMRA cannot mimic competition for private distribution companies.

An interesting question is concerning the rapid natural gas network investments all over Turkey to increase the number of customers. This is a government policy to bring natural gas all over the country. In some respect, such a goal is praiseworthy since natural gas is more comfortable and cleaner than other fossil fuels such as oil, coal, and wood. However, the rapid expansion of the distribution and transmission network has drastically increased the cost of shipping. As we have seen, the tariffs of distribution and transmission companies have increased above the inflation level in the last decade and more. That is, the socialization of investments should be well calculated and investment decisions should consider the increases in the invoices as part of a cost-benefit analysis.

BOTAŞ's pricing policy is also an important point dealt with in this thesis. The government keeps its presence in the market through the main instrument of determining the price. If nothing else does so, the politically determined prices of the natural gas market suffice to prevent the development of competition in the natural gas market. BOTAŞ's potential rivals cannot compete with it as the commodity price is not defined by measurable or foreseeable demand and supply dynamics. One may defend the social considerations of BOTAŞ's pricing policy as natural gas is a critical good for heating, which may be depicted as an essential good to be provided by public means. However, BOTAŞ's pricing policy does not fully

include social consideration as the gas price is subsidized by industrial and power generators. Higher costs in these segments would lead to higher manufacturing costs and electricity prices. In the ideal setting, BOTAŞ should apply the prices as determined by the market, but the government can make subsidization to the customers to prevent energy poverty.

In this respect, another noteworthy issue is the relationship between the Turkish Competition Authority and EMRA. As we noted above, the boundaries between these two public authorities are not well defined, which often leads the Competition Authority to retreat from the cases. This is understandable in the sense that some of the EMRA regulations need extensive specialization on the issue. Thus, a decision of the Competition Authority may be counterproductive if the issue merits a regulatory insight. In any case, the boundaries of authorities should be well determined so that no conflict or omission arises.

A final argument that we can develop is on the role of EMRA. As we mentioned through the paper, EMRA could not preserve its semi-judicial position within the administrative apparatus. We have explained it through the centralization tendency of public administration in Turkey. But, EMRA would be inevitably prone to such tendency as long as its authority extends to policy-related areas. The government, directly accountable to the public, would not let EMRA do remain at the helm of natural gas policy. In this respect, EMRA would assume tasks in more technical terms having objective applications. Tariff-setting, regulation of access to networks would be among these tasks that EMRA should be more concerned with. This eventually provides the semi-judicial power back to EMRA.

To round up, we get to the point that some failures of the reform are not bad, such as partial transfer of contracts to new importers. Its reasoning is low, and applicability is difficult. But many other failures are welfare-decreasing such as lack of market-based pricing and unfair access conditions to the network. The market reform would be more successful and institutions of the reform would be sounder if

the goals of liberalization would not be assertive and there would be fewer obsessions for dwindling of state involvement in the market.

CHAPTER 7

CONCLUSION

This final chapter is devoted to a gist of the arguments and findings included in this thesis research in general. The conclusions of the thesis arguments are provided in the sections of Chapter 5. Besides, an evaluation of the institutional theory against the findings of Turkish natural gas market reform was made in Chapter 6.

Institutional theories are attracting scholarly attention with their flexible and interdisciplinary nature. In political science, the new institutionalism refers to the scholarly effort to "bring institutions back in", against the dominant society-centric explanations of state-society relations. The new institutional economics, on the other hand, is the reformulation of challenges to neoclassical economics by not rupturing from the very basis of the discipline. The sub-fields of this branch of economics vary and often refer to the studies in the broader fields of law, organizational theory, and public policy and public administration. In this context, this thesis research applied some basic arguments of the institutional theories on Turkey's natural gas market reform.

The institutional approaches have paved the way for a massive interest in institutional restructuring and public sector reform agendas especially throughout the 1990s and afterward. The regulation of natural gas markets in the 1990s was among the fields where the tenets of institutional reforms were applied with the neoliberal transformation of economic governances all over the world. From the US to the European countries, all developed countries have reformed their natural gas businesses where the central governments devolved their authorities to independent agencies to regulate and supervise the market.

Turkey has also liberalized its gas markets in 2001. Turkey's market fundamentals very much followed its European counterparts as the law was enacted under World Bank guidance and during the lively days of the EU candidacy process. Almost two decades have passed following the enactment of the law and comprehensive analysis of natural gas market reform is studied in this thesis against this background.

The reform law's fundamental goal is to ensure competitive prices for natural gas under certain service quality and standards. But our gap analysis has shown that competition was not achieved which we measured by the HHI values in the supply business. The market concentration declined towards the mid-2010s but then increased to the pre-reform levels in recent years. When it comes to the security of supply, the tendency is negative but there are some improvements as well. For instance, Turkey's natural gas import dependency increased in the last two decades, the supplier countries remained to be those with unstable political regimes, and the gas intensity has increased over time. On the merit side, gas resources have diversified with the rise of Azerbaijan's share after the TANAP project, and the resilience capacity of the natural gas network ameliorated after the licensing of new floating LNG terminals and increases in the natural gas underground send-out capacity. Finally, the natural gas (real) prices have increased since the beginning of the reform, which is a strong indicator that the reform failed. Overall, the conclusion reached in this study is that the reform objectives were not achieved especially in terms of providing a competitive market.

The thesis has investigated the reform process on four institutional grounds. First, the transaction cost theory was applied to understand the failure of the unbundling regime in Turkey. Second, the rent-seeking practices were traced especially by applying the theories of Krueger (1974) and Demsetz (1968). Thirdly, the research focused on informal institutions which we deemed to be relevant in the Turkish case. In this respect, the state-led developmentalist roots and power centralization

tendencies of Turkey are analyzed. Finally, the thesis also focused on administrative failures. More specifically, EMRA's lack of administrative capability and the lack of coordination between EMRA and TCA is analyzed.

As regards the failed unbundling regime, the companies avoided unbundling requirements and EMRA did not enforce them to do so. Transaction cost theory well-explains why BOTAŞ resisted separating the company as the company might be avoiding the transaction costs that may occur after the separation of the company. BOTAŞ is the former state-owned incumbent company and rests on the argument that it can only ensure gas supply security through a vertically integrated structure. On the other hand, we can attribute the failed unbundling regime in the natural gas distribution and LNG terminal operation businesses to the profit motives of these companies. In any case, the failed unbundling regime is one of the essential reasons why third-party entry into the natural gas market is limited and competition cannot be ensured.

Concerning the rent-seeking practices in Turkish natural gas market reform, the thesis made it clear that two broad sources of rents are granted to the natural gas market actors. The first one is during licensing stage where Kruger's (1974) theory of rent-seeking has strong explanatory power. The market entry to import, storage, and distribution branches of the natural gas market are rife with privileged access opportunities. The second one is on the tariffs and the thesis proved that gold-plating is applied by the natural gas distribution companies, which implies a tacit rent transfer to them. Some representative samples showed that natural gas distribution tariffs increased steadily over inflation. Thus, market efficiency, which is the main goal of Market Reform Law No. 4646 was not ensured.

Thirdly, the research showed that informal institutions present an important barrier against the achievement of reform goals. The state-led developmentalist past of the country and the established tendency of power centralization in Turkey heavily deviate objectives. The state-led developmentalist past ensures that the Turkish

economy has historically been strongly oriented by the government itself. That is, the market-based mechanisms excluding the government would not be applied in Turkey. Even if the government stays away from direct public service and production, it would still closely monitor and intervene in the market transactions. State-led developmentalist past is an essential reason for rent-seeking behaviors. But it also makes the government support non-market behaviors of state-owned companies. In this respect, the government does not weaken the power of BOTAŞ. The government determines the gas and electricity prices as political choices, not in accordance with market requirements. Besides, the government also makes BOTAŞ and also urges distribution companies to realize inefficient investments may not be met by market-based motivations. Besides the power centralization tendency, which is an informal institution, explains EMRA's gradually disappearing independence. The initial independent authority model of EMRA disappeared over time as it contradicted Turkey's deep-rooted central government model.

Fourthly, the thesis emphasized the need for an increased focus on public organizations. Institutional theories take the public organization as any other institution. However, they are the most crucial actors as we have seen the natural gas market reform in Turkey, and failure to establish a strong and capable actor would deal a blow to the entire reform process. The administrative capabilities of EMRA fall short of a sophisticated regulatory authority that fulfills specialized tasks in the natural gas market. Besides, the relationship between EMRA and TCA is blurry, allowing TCA to stay away from its foundational task.

Finally, we can conclude that the reform in the natural gas market and the liberalization efforts have merit. However, in many cases, the law and all other relevant regulations are not sufficiently fine-tuned, not properly enforced, or applied in short-termist, pro-industrial considerations without sticking to the foundational objective of the reform law.

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APPENDICES

A- NATURAL GAS CONSUMPTION AND INVESTMENT FIGURES IN KAYSERI, ERZURUM, TRAKYA AND SAMSUN NATURAL GAS DISTRIBUTION REGIONS

Table 11 Tariffs (System Use Fee) and Asset base of Kayseri Distribution Company

Consumption		0-100.000 m³	100.001-1.000.000 m³	Over 1.000.001 m³	Over 10.000.000 m³	Over 100.000.000 m3
System Use Fee (SUF) (Tl/m3)	01.08.2012-01.08.2014	0,067346	0,031094	0,026891	0,022883	0,022883
	01.08.2014-01.2.2016	0,109172	0,050536	0,039693	0,026432	0,026432
	01.02.2016-01.12.2016	0,133552	0,060494	0,042453	0,028268	0,028268
	01.12.2016-01.11.2017	0,100941	0,05752	0,033413	0,032982	0,032982
	01.10.2017-01.06.2019	0,164866	0,082667	0,036266	0,014554	0,009188
	01.06.2019-	0,220772	0,110846	0,048639	0,01939	0,012238
Asset Base) TL=	2013: 31.820.960,00					
	2018: 141.607.715,00					

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

Table 12 Kayseri Distribution Region Investment Ceilings and Investments (TL)

	2012	2013	2014	2015	2016
Kayseri Distribution Region Investment Ceiling	6.025.000	6.025.000	6.025.000	6.025.000	20.699.000
Develi District Expansion	0	**0**	18.060.739	18.060.739	18.060.739
Bünyan District Expansion	0	0	0	329.923	18.921.207
TOTAL INVESTMENT CEILING	6.025.000	6.025.000	24.085.739	24.415.662	57.680.946
Realized Investment	7.101.952	8.640.805	29.799.807	43.653.061	54.937.601
	2017	2018	2019	2020	2021
TOTAL INVESTMENT CEILING (Continued)	36.051.300	29.763.408	28.295.655	13.256.345	9.209.338

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

Table 13 Tariffs (System Use Fee) and Asset base of Erzurum Distribution Region

Consumption		0-100.000 m³	100.001-1.000.000 m³	Over 1.000.001 m³	Over 10.000.000 m³	Over 100.000.000 m3
System Use Fee (SUF) (Tl/m3)	01.01.2012-02.10.2014	0,06092	0,06092	0,06092	0,06092	0,06092
	02.10.2014-16.11.2015	0,063872	0,063872	0,063872	0,063872	0,063872
	16.11.2015-01.10.2017	0,081357	0,081357	0,081357	0,081357	0,081357
	01.10.2017-12.11.2018	0,205226	0,122096	0,050813	0,027987	0,015415
	12.11.2018-01.06.2019	0,278907	0,166275	0,0692	0,038113	0,020991
	01.06.2019-01.07.2020	0,316504	0,188689	0,078528	0,043252	0,023823
	01.07.2020	0,31513	0,1782	0,072062	0,052087	0,037649
Asset Base (TL)	2013: **15.567.000**					
	2018: **33.880.058**					

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

Table 14 Erzurum Distribution Region Investment Ceilings and Investments (TL)

	2012	2013	2014	2015	2016
Erzurum Distribution Region Investment Ceiling		2.609.724	2.100.000	2.100.000	4.100.000
Aşkale District Expansion	0	0	0	7.642.276	3.275.261
TOTAL INVESTMENT CEILING	0	2.609.724	2.100.000	9.742.276	7.375.261
Realized Investment		3.414.882	4.006.830	11.211.664	6.341.120
	2017	**2018**	**2019**	**2020**	**2021**
TOTAL INVESTMENT CEILING (Continued)	57.387.471	29.390.460	34.185.196	7.724.436	5.658.762

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

Table 15 Tariffs (System Use Fee) and Asset base of Trakya Distribution Company

Consumption		0-100.000 m³	100.001-1.000.000 m³	Over 1.000.001 m³	Over 10.000.000 m³	Over 100.000.000 m3
System Use Fee (SUF) (Tl/m3)	01.01.2012-01.02.2015	0,115008	0,033715	0,033715	0,06092	0,06092
	01.02.2015-01.06.2015	0,154862	0,035672	0,035672	0,035672	0,035672
	01.06.2015-1.4.2018	0,199207	0,038189	0,038189	0,038189	0,038189
	1.4.2018-01.09.2019	0,248436	0,121768	0,054162	0,027851	0,014495
	01.09.2019	0,322785	0,15707	0,06971	0,036158	0,018758
Asset Base (TL)	2013: **8.521.683**					
	2014: **148.808.859**					
	2017 **195.474.109**					

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

Table 16 Trakya Distribution Region Investment Ceilings and Investments (TL)

	2012	2013	2014	2015	2016
Trakya Investment Ceiling		426.084	6.917.150	9.478.925	9.478.925
Keşan İpsala Districts Expansion					12.938.732
Total Investment Ceiling	0	426.084	6.917.150	9.478.925	22.417.657
Realized Investment	17814949	28241108	13.855.776	11.178.266	25.817.811
	2017	**2018**	**2019**	**2020**	**2021**
Total Investment Ceiling (continued)	42.028.070	88.023.609	71.682.808	64.738.154	52.744.084

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

Table 17 Tariffs (System Use Fee) and Asset base of Samsun Distribution Company

Consumption		0-100.000 m³	100.001-1.000.000 m³	Over 1.000.001 m³	Over 10.000.000 m³	Over 100.000.000 m3
System Use Fee (SUF) (Tl/m3)	01.06.2013-01.03.2014	0,045881	0,016064	0,01317	0,01317	0,01317
	01.03.2014-01.06.2015	0,049574	0,017481	0,011495	0,011495	0,011495
	01.10.2017-1.4.2018	0,060314	0,025616	0,017344	0,006091	0,001796
	1.4.2018-01.07.2019	0,081413	0,035319	0,022466	0,008086	0,002483
	01.09.2019	0,142269	0,080219	0,046946	0,015006	0,009008
Asset Base (TL)	2013: 22.809.252					
	2017: 29.382.559					

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

Table 18 Samsun Distribution Region Investment Ceilings and Investments (TL)

	2013	2014	2015	2016	2017
Samsun Distribution Region Investment Ceiling	7.948.161	7.948.161	7.948.161	7.948.161	3.850.000
Total Investment Ceiling	7.948.161	7.948.161	7.948.161	7.948.161	3.850.000
Realized Investment	5.888.652	9.203.810	7.476.307	10.079.023	
	2018	**2019**	**2020**	**2021**	
Samsun Distribution Region Investment Ceiling (Continued)	19.791.524	20.797.495	5.622.234	4.109.046	
Total Investment Ceiling (Continued)	19.791.524	20.797.495	5.622.234	4.109.046	

Source: Derived from EMRA Tariffs available at http://epdk.gov.tr/Detay/Icerik/3-7219/dogal-gaz-piyasasi-tarife-kurul-kararlari

B. CURRICULUM VITAE

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Education

2015-2021: Middle East Technical University, Ph.D. in Political Science and Public Administration

2008-2010: The London School of Economics and Political Science, Master's in Public Administration, Public Policy and Management

1996-2000: Ankara University, Faculty of Political Science, Department of International Relations (B.A)

Professional Experience

2016 onwards: Independent Research and Consultancy

2015-2016 Turkish Prime Ministry: Industrial Monitoring and Assessment Rapporteur

2003 – 2015 Energy Market Regulatory Authority: Energy Expert

- Creation of gas balancing and spot market
- Improvement of Natural Gas transmission network, underground storage and LNG terminal codes
- Settling the disputes among market participants in the supply segment
- The Association of the Mediterranean Regulators for Electricity and Gas (MEDREG) Contact Officer: Following MEDREG activities as the representative of Energy Market Regulatory of Turkey and Coordinating Gas Ad Hoc Group activities on behalf of the Gas Ad Hoc Group Chairman (from 2010 to 2014)
- Energy Community Regulatory Board (ECRB) Contact Officer: Following ECRB activities on behalf of EMRA Gas Division (from 2010 to 2012)
- Petroleum Market/Licensing
- Auditing of Energy Companies

Awards	**Indian Technical and Economic Cooperation (ITEC) Program Scholarship.** Provided by Indian Government to finance an international training program in Hyderabad/India titled "Program on Power Transmission and Distribution Management and Technologies", Date: 21st January-16th March 2008
Papers published in Academic Journals	**"The merit order effect of wind and river type hydroelectricity generation on Turkish electricity prices", co-authored by Berkan Acar and Orhun Selcuk,** Energy, Policy, Volume 132, September 2019, Pages 1298-1319, https://www.sciencedirect.com/science/article/pii/S0301421519304483?dgcid=coauthor **"Negotiation of a cross-border natural gas pipeline: An analytical contribution to the discussions on Turkish Stream.",** Energy Policy, Volume 120, September 2018, Pages 749-760. https://doi.org/10.1016/j.enpol.2018.03.012 **"Review of the Security of Supply in Turkish Energy Markets: Lessons from the Winter Shortages",** co-authored by Orhun Selcuk, Renewable and Sustainable Energy Reviews, Volume 59, June 2016, Pages 958–971. https://doi.org/10.1016/j.rser.2016.01.015 **"Analyzing success of regulatory policy transfers: Evidence from Turkish energy markets"**, Energy Policy, Volume 39, Issue 12, December 2011, Pages 8116-8124. https://doi.org/10.1016/j.enpol.2011.10.006
Other Published Papers /Reports	**"Is it realistic to create a Eurasian gas hub in Turkey",** Eurasian World, Volume 3, p. 52-54, April 2018. (https://avim.org.tr/en/Dergi/Avrasya-Dunyasi-Eurasian-World-1/3) **"Interconnection Infrastructures In The Mediterranean: A Challenging Environment For Investments- Gas Chapter", the** full report was prepared by MEDREG Investment Task Force and approved by MEDREG General Assembly, Istanbul, May, 2015, (https://tinyurl.com/y2emaa46). **"MEDREG Second Natural Gas Benchmarking Report",** prepared on behalf of MEDREG Gas Working Group and approved by MEDREG General Assembly, Barcelona, Spain, November 2014, (https://goo.gl/3Ieqqw). **"Natural Gas Storage Regime",** Bulletin of Energy Markets; February-April 2013, Issue 25-26. (http://www.enerjiuzmanlari.org.tr/bulten/Bulten_25-26.pdf)

"Could spot gas market be a solution maintaining security of gas and electricity supply?" Bulletin of Energy Markets; December 2012, Issue 24. (http://www.enerjiuzmanlari.org.tr/bulten/Bulten_24.pdf)

"Status Review on Gas Network Infrastructure and Security of Supply in the Mediterranean", Report, prepared on behalf of MEDREG Gas ad hoc group and approved by MEDREG General Assembly, Istanbul, Turkey, June, 2012, (https://goo.gl/dRzsVv).

"Is it tenth or the last year of Energy Market Regulatory Authority?", Bulletin of Energy Markets; June 2011, Issue 15. (http://www.enerjiuzmanlari.org.tr/bulten/Bulten_15.pdf)

Addresses and Lectures

Address to the "MEDREG Workshop on Interconnection Infrastructures in the Mediterranean", Sharm El Sheikh, April 2015

Address to the "MEDREG – ERRA Joint Workshop: The Forefront Topics in the Gas Market: Tariffs, Performance Standards and TPA", Milan, Italy, September, 2014.

Address to the "First joint MEDREG-ECRB roundtable on energy investments and consumer protection", Athens, September, 2014.

Address to the Conference in the "Argus Turkish Power and Gas Trading 2013" Istanbul, Turkey, May 2013.

Guest Lecturer in the "Enerco Energy Trading" Zirve University, April 2013.

Certificate program on "Access to the Natural Gas System and Trading" organized by Association of Energy Experts, Ankara, Turkey, November 2013.

Address to the International Congress on Energy and Politics on "Turkish Natural Gas Market and Network Code", Antalya, Turkey, April, 2012.

Address to the EU Joint Research Centre, Enlargement and Integration Workshop, "Assessing Infrastructure in the Electricity and Gas Sectors", Dubrovnik, Croatia, October, 2011.

Guest Lecturer in the Ozyegin University, "Turkish Natural Gas Market: Legal Framework", Energy Law certificate program, Istanbul, October, 2011. (repeated in November 2014)

Works and Other Papers

System Integration Costs of Renewable Energy Generation In Turkey, Working Paper, co-authored and currently under review of Renewable and Sustainable Energy Reviews.

"Understanding Cross-national Variance of Energy Markets' Regulation", Paper, presented in the 13th Mediterranean Research Meeting, European University Institute, Montecatini Terme, Italy, March 2012.

"Are the regulatory policy transfers throughout the world yielding benefit? What does the evidence from Turkey suggest?", Dissertation, MPA, LSE, London, UK April, 2010.

"Measuring Progress in Carbon Reduction and Energy Diversification Policies to Combat Climate Change", LSE / MPA Capstone Project, client organization: United Kingdom Department of Energy and Climate Change and 2020 Delivery Ltd., London, UK, March 2010.

"An Insight into Performance Budgeting and Some Derivations for Turkey" with M.A. Demircioglu, paper presented in the 4th International Conference on Social Science Research, Nashville, USA, December, 2009.

"An analysis of Turkish and Indian Electricity Market Reforms" Report, submitted at the end of the "Program on Power Transmission and Distribution Management and Technologies", Hyderabad, India, March, 2008.

"Economic and Infrastructural integration of the EU Energy Markets"; Dissertation (prepared to promote Energy Expertise position), Energy Market Regulatory Authority, Ankara, Turkey, May, 2006.

International Trainings and Certificate Programs

Training course on the "New challenges for energy system in the Mediterranean region", Venice, Italy, May 2012.

Certificate Program "Program on Power Transmission and Distribution Management and Technologies", Hyderabad/India Date: 21th January-16th March 2008

Summer School of Energy Regulators Regional Association (ERRA), Budapest/Hungary, "Introduction To Energy Markets Regulation", 22th-26th July 2007

Certificate Program, "Institutional Strengthening of the Energy Market Regulator", Twinning Project, Energy Market Regulatory Authority of Turkey & The European Union, Ankara. Duration: 3 months, 2006

Certificate Program, "New Era", Texas Energy Center (in cooperation with the University of Houston), Houston, Texas, 25th August-6th December 2004

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TURKISH SUMMARY / TÜRKÇE ÖZET

Bu tez çalışması yirmi yıl önce başlatılan Türk doğal gaz piyasası reformunu kurumsal teoriler çerçevesinde ele almaktadır. Bu bağlamda, araştırmanın üç temel hedefi vardır: yirmi yıl sonra reform sürecinin sonuçlarını ortaya koymak, ulaşılamayan temel hususları kurumsal bir perspektiften tartışmak ve kamu ve piyasa reformlarına ilişkin kurumsal teorilerin teşhis ve reçetelerini analiz etmektedir.

Doğal gazın son yıllarda önemli bir birincil enerji kaynağı haline gelmesi nedeniyle bu konu incelenmeye değerdir. Uluslararası Enerji Ajansı (2011) doğal gazın aşamalı olarak önümüzdeki yıllarda petrolün yerini alarak "altın çağa" gireceğini belirtmiştir. 19. yüzyılda odundan kömüre ve 20. yüzyılda petrole başlayan enerji geçiş döngülerinde, arz ve talep dinamiklerinin gösterdiği gibi doğalgaz, 21. yüzyılın yakıtı olarak görünmektedir. Doğal gaz, gelişen üretim ve çatlatma teknolojileri sayesinde daha fazla üretilecek ve daha ucuz LNG terminallerinin inşası ve yüzer LNG terminal teknolojilerinin yükselişi ile daha büyük miktarlarda taşınabilecektir. Talep tarafında ise kömür ve petrole kıyasla daha düşük karbon emisyonuna yol açtığı için gaz tercih edilmektedir. Bir yandan nükleer projeler 2004'teki Fukushima felaketinden sonra yerini artık aşamalı olarak doğal gaza bırakmakla, diğer taraftan da doğal gazla çalışan elektrik santralleri rüzgar, güneş, yağmur veya dalga gibi yenilenebilir santrallerin daha güvenilir bir alternatifi olarak öne çıkmaktadır.

Doğal gazın birincil enerji kaynağı olarak yükselişi Türkiye'de de geçerlidir. İhmal edilebilir yerli üretime ve ithal gaza yüksek oranda bağımlılığa (%99) rağmen, tüketim son yirmi yıldır artmaktadır. Doğal gazın yukarıda bahsedilen avantajlarının yanı sıra, Türkiye örneğinde, gaz tüketim eğiliminin büyük ölçüde 1980'lerde kamu-özel sektör ortaklıklarının ilk örnekleri olan elektrik santrallerinin inşasıyla birlikte başladığını da eklemek gerekir. Bugün gaz tüketimi yaklaşık otuz yılda sıfırdan neredeyse 50 milyar metreküpe yükselmiştir (EPDK, 2019) ve Türkiye dünyanın en

büyük gaz tüketicisi ve ithalatçısı ülkelerinden biri haline gelmiştir. Türkiye'de ortalama tüketici gazı fiyatlarına bakıldığında gazın yıllık ticaret hacmi 100 milyar TL'nin üzerinde olduğu görünmektedir. Daha da önemlisi, bu tutarın büyük bir kısmı emtia fiyatı olarak yabancı ülkelere aktarılmakta ve ülkenin makroekonomik dengelerinde önemli bir kalem olmaktadır. Sonuç olarak, Türkiye'deki gaz arzının boyutu ve önemi göz önüne alındığında, doğal gazla ilgili araştırmamızın gerekli olduğu söylenebilir.

Türkiye 2001 yılında gaz tedarik işini tamamen serbestleştirmeyi amaçlayan bir doğal gaz piyasası reformu başlatmıştır. Reform, Türkiye'de ekonomik yönetişimin neoliberal dönüşümünün bir öğesidir. Doğal gaz, 2000'li yıllardan önce hükümetlerin rekabete açma yönünde zayıf irade sergilediği ender alanlardan biriydi. Ancak reform yasası, dünyanın en rekabetçi piyasalarından biri olması beklenen liberal gaz piyasasının temellerini attı. Öngörülen piyasa yapısı, ekonomik sıkıntı altında ulusal hükümetler tarafından alelacele benimsenen tipik Dünya Bankası ve IMF reçeteleriyle örtüşüyordu.

Bu ortamda, Türkiye'nin tercih ettiği piyasa modeli, gaz piyasalarını da dönüştürmeye başlayan bazı Avrupa ülkeleri için bir bile hayal niteliğindeydi. Bu noktada sorulması gereken önemli bir soru şu: Doğal gaz piyasası reformu, arz risklerinden taviz vermeden rekabetçi fiyatların temin edilmesi amacına ulaştı mı? Türkiye'nin modeli, serbestleştirilmiş bir piyasanın rekabetin arzu edilen faydalarını getirip getiremeyeceği sorusu için dünyanın geri kalanı için iyi bir test olacaktır. Tez, bu sorunun cevabını aramaktadır.

Araştırma son yıllarda oldukça etkili hale gelen kurumsal teorilerden yararlanmaktadır. Kurumsal reformun gerektiği gibi yapılmaması durumunda 1990'ların neo-liberal reformlarında herhangi bir politika yapıcı için bir kabus olacak olan, kapitalizmin en kötüsü ile devletçiliğin en kötüsünün buluştuğu amorf bir yapı beklenmelidir. Araştırmanın açıklığa kavuşturduğu gibi, kurumlar statükodaki değişikliğe çeşitli şekillerde direnir veya hedeflerinin dışına çıkarır. Kurumlar bunu

reform yasasını iptal etmek veya değiştirmek, gelecekteki politika yapıcıların zihinlerini yeniden şekillendirerek reformu çarpıtmak veya işlemez hale getirmek gibi bazı mekanizmalar ile gerçekleştirirler.

Diğer taraftan, bu araştırma neo-liberal politika hedeflerinin reçetelerini olduğu gibi doğru kabul etmemektedir. Daha ziyade, liberalleşme hedeflerine ulaşmada reform araçlarının yararlılığını eleştirel olarak değerlendirmektedir. Dolayısıyla kurumların direnişinin kamu refahını mutlaka azaltması gerekmez. Bu çalışmada da piyasa yanlısı ve devlet yanlısı politikaların esasları ortaya koyulmuş ve sonuca ulaşmak için dengeli bir analiz geliştirilmiştir.

Tezin bazı metodolojik sınırlarını ve karşılaştığı zorlukları vurgulanmakta yarar var. Önümüzdeki teorik çerçeve bölümünde tartışılacağı gibi, kurumsal teoriler sosyal bilimlerin birçok disiplini arasında farklılaşmakta ve aynı zamanda birleşmektedir. Bu tez, hukukun ekonomi üzerindeki etkisine özel bir vurgu yapmakta ve temelde yeni kurumsal ekonomiye dayanmaktadır. Türkiye'deki doğal gaz piyasası reformunu açıklamak için dört odak alana öncelik verilmektedir: işlem maliyeti yaklaşımı, firma-devlet ilişkilerine rant arayışı yaklaşımı, resmi kuralların sınırlarını anlamada gayri resmi kurumların rolü ve piyasa reformlarının temel parçası olarak kamu kuruluşları. Türkiye'deki doğal gaz piyasası gelişmelerinin açıklayıcı değişkenleri olan bu dört sütun araştırmanın ana gövdesini oluşturmaktadır. Öte yandan, araştırmanın tüm amacı bu değildir. Tez, özellikle bulguların değerlendirilmesinde, kurumsal teorinin sınırlarının yanı sıra genel olarak kurumsal reformların başarısını da sorunsallaştırmaktadır.

Araştırmanın bazı zorlukları ve sınırlarından da bahsetmek gerekmektedir. Yukarıda değinildiği üzere, kurumsal teoriler sosyal bilimlerin çeşitli kollarından beslenmektedir. Çoğu durumda, bu kolların yaklaşımları örtüşür ve iç içe geçse de bilimsel çıkış noktaları ve yöntemleri farklı olabilir. Buradaki zorluk, bu alanda yapılan kapsamlı araştırmaların, metodolojik bir çerçeveye bağlı kalmayıp bu yaklaşımlar arasında kaymasıdır. Tez, bu riskin üstesinden gelmek için yeni kurumsal

ekonominin argümanlarına bağlı kalmaya çalışmıştır. Diğer bir zorluk ise teorinin doğası gereği sosyal bilimlerdeki geniş alanlarla ilgili olduğu gerçeğidir. Bu alanda araştırmacılar çeşitli konulara sürüklenme ve araştırma ajandalarına bağlılıklarını kaybetme riskiyle karşı karşıya kalmaktadırlar. Böyle bir sorundan kaçınmak için araştırma, Türkiye'deki doğal gaz piyasası yasasına ve ikincil düzenlemelere mümkün olduğunca yakın kalmaya ve yalnızca çok gerekli olduğunda teorik argümanlara başvurmaya çalışmıştır.

Bu araştırma mevcut çalışmalara özgün bir katkı sağlamaktadır. Bu çalışmanın alanı ile ilgili çeşitli çalışmalar olmuştur. Ancak bunların hiçbiri bu araştırmanın amacı ile tam olarak örtüşmemektedir. Örneğin, Çakmak (2011) Enerji Piyasası Düzenleme Kurumu'na tamamen yasal bir bakış açısıyla odaklanırken, Yayla (2012) benzer araştırmaları daha geniş bir şekilde doğal gaz sektörüne odaklanarak yapmaktadır. Yardımcı (2016) ise Türkiye doğal gaz dağıtım sektörü üzerine bir araştırma yaparak düzenlemenin etkinliğini analiz etmektedir. Tezi dağıtım şirketlerine uygulanan tarifeler üzerinedir. Bu çalışmaya daha benzer bir analiz, Türkiye'deki doğal gaz piyasası modeli çerçevesinde neoliberal teori eleştirisi geliştiren Düzyol (2012) tarafından yapılmıştır. Bu araştırmalar, Türkiye'deki Türk gaz piyasası reformu konusundaki analitik çabalara katkıda bulunurken, elinizdeki tez araştırması, Türkiye gaz piyasası reformunun unsurları üzerine kurumsal bir analiz oluşturmaya yönelik ilk akademik çalışma olarak ortaya çıkmaktadır. Bu bağlamda tez, reformun farklı yönlerini, yani ayrıştırma, lisanslar, tarifeler, gaz fiyatlandırması, şebeke yatırımları, EPDK ve EPDK'nın Rekabet Kurumu ile etkileşimini aynı teorik çerçeve altında toplamaktadır ki bu da tezin mevcut araştırma yelpazesine orijinal katkısını oluşturur.

Doğalgaz Piyasası Reformunun Arka Planı

Türkiye'nin doğal gaz piyasası reformu, Nisan 2001'de 4646 sayılı Doğal Gaz Piyasası Kanununun yürürlüğe girmesiyle gerçekleştirilmiştir. Bu reform, 1980'lerden başlayarak devam eden çeşitli liberal reformların uzantılarıdır. 2000'li yılların

başında iki faktör enerji piyasalarında temel reformun yolunu açmıştır. Bunlardan biri, devam eden makroekonomik istikrarsızlık nedeniyle uluslararası aktörlerin, yani Dünya Bankası ve IMF'nin Türkiye'nin politika oluşturma sürecinde oldukça etkili olmasıdır. Gerek Türkiye'nin 1999 yılında IMF ile imzaladığı stand-by anlaşması, gerekse Dünya Bankası ile imzalanan Ekonomik İyileşme Kredi Anlaşması, enerji piyasasının yeniden yapılandırılması için neoliberal kural kitabının uygulanmasını öngörmüştür. Bu planlar, dramatik 2001 ekonomik krizinden sonra ortaya çıkmıştır. Şubat 2001'de Türk Lirası'ndaki çöküşten sonraki iki ay içinde hükümet, elektrik ve doğal gaz piyasalarını tamamen değiştiren yasalar çıkardı. Kanunlar, uluslararası alacaklılara neoliberal bir kurumsal uyum konusunda güvence vermek için hızla hazırlanan diğer birçok reform kanunu arasındaydı. 1980 sonrası dönemin neoliberal ortamında gelişen 2001 ekonomik krizinin ortaya çıkmasında rant arayışı önemli bir rol oynamıştı. Ancak, 2001 reformlarının arkasındaki fikir, 1980 sonrası dönemdeki yönetişim sorunlarından devlet öncülüğündeki kalkınmacı geleneği sorumlu tutarak liberal ekonomi kavramını daha da sağlamlaştırmaktı (Bedirhanoğlu ve Yalman, 2010).

Bu dönemdeki ikinci itici güç, Türkiye'nin AB adaylık süreci olmuştur. Yukarıda bahsedildiği gibi, AB, üyelerinin enerji piyasasının serbestleştirilmesi için kapsamlı bir yasal çerçeve geliştirmiştir. İlk olarak ilgili direktiflerde hazırlanan bu kılavuz ilkeler, AB'nin Türkiye ile 1999 yılında adaylık müzakerelerine yeni başlamış olması nedeniyle, Türkiye'nin enerji piyasası serbestleşmesi yolunda bir referans işlevi de görmüştür. Adaylık süreci, Türkiye'nin AB ile kurumsal uyumunu sağlamasına ivme kazandırmıştır. Sonuç olarak, 4646 sayılı Doğal Gaz Piyasası Kanunu'nun ana hatları, ayrıştırma gerekliliklerini, adil üçüncü şahıs erişim hükümlerini içermesi ve piyasa denetimi sorumluluğunun aşağıda detaylandırılacak olan bağımsız bir düzenleyici otoriteye verilmesi nedeniyle AB müktesebatına benzemektedir.

Reform Hedeflerine Ulaşıldı mı?

Tez'de reform hedefleri 4646 sayılı Doğal Gaz Piyasası Kanunu amacı yani birinci maddesindeki unsurlar olarak incelenmiştir. Bunlar, rekabetçi bir piyasanın tesis edilmesi ve doğal gaz arz güvenliğinin sağlanmasıdır. Türkiye'de yerel gaz üretimi az olduğu için doğal gaz piyasasında rekabet temelde ithalat yoluyla karşılanabilir. Ancak, ithalat verileri incelendiğinde BOTAŞ'ın piyasadaki gücü devam ettiği görüldüğünden bu rekabetin tesisi hedefine ulaşılamadığı görülebilir. Arz güvenliği ile ilgili olarak ise, son yıllarda yeni giriş kapasiteleri nedeniyle olumlu gelişmeler olmakla birlikte genel olarak arz güvenliğinin arzu edilen seviyede olmadığı sonucuna varabiliriz. Ayrıca reel doğal gaz tüketici fiyatlarına baktığımızda, faturaya yansıyan fiyatlarda esaslı bir artış da dikkat çekmektedir.

Beklenen yüksek işlem maliyetleri ve ayrıştırma

4646 sayılı Doğal Gaz Piyasası Kanunu'nun ayrıştırma gereklilikleri incelendiğinde, ayrıştırma gerekliliklerinin şirketler tarafından yerine getirilmediğini ve EPDK'nın bu amaca ulaşmak için etkin bir yaptırım mekanizması uygulamadığını gördük. Ayrıştırmanın başarısızlığını açıklamak için iki neden dikkate değer. Birincisi, BOTAŞ için şirketin bütünleşik yapısını korumanın temel motivasyonu arz güvenliğini sağlamaktır. BOTAŞ, hükümetin hedeflerini içselleştiren eski yerleşik şirket olarak, aynı yasal çatı altında iletim ve ticaret dalları arasında kusursuz bir koordinasyon ile sorunsuz bir gaz arzı sağlayabileceği iddiasına dayanmakta ve bu yüzden yapısını korumaktadır. Öte yandan, doğal gaz dağıtım ve LNG terminal işletmeciliği işletmelerindeki ayrıştırma rejiminin başarısız olması, daha çok şirketlerin kâr saiklerine bağlanabilir.

BOTAŞ'ın piyasadaki hakim konumu dikkate alındığında, şirketin ayrışmaya karşı gösterdiği direnç, piyasanın serbestleşmesinin önünde önemli bir engel teşkil etmektedir. BOTAŞ'ın ticaret kısmı, iletimden bilgi akışı, şebekeye ayrıcalıklı erişim ve yönlendirilmiş yatırım kararları sayesinde diğer rakip firmalara karşı doğal bir üstünlüğe sahiptir.

Dağıtım işiyle ilgili olarak, bir ana şirketle ortaklık yoluyla bütünleşik şirketin yapısı korunmaktadır. Böyle bir uygulama 4646 sayılı Kanun'un amacına aykırı olmakla birlikte, EPDK bu şirketlerin dolaylı hissedarlık ilişkilerine göz yummaktadır. Bununla birlikte dağıtım sektöründeki başarısız ayrıştırma rejimi, halihazırda BOTAŞ'ın doğal gaz piyasasının ticaret segmentine hakim olması nedeniyle rekabete karşı ciddi bir engel teşkil etmemektedir.

Depolama segmentindeki bütünleşik şirket yapısı, LNG terminal işletme hizmetlerinde sorun teşkil etmektedir. Spot LNG ticareti doğal gaz şirketleri için uygun bir seçenek sunsa da, kendi ticaret şirketlerini kayıran LNG terminal operatörleri rekabeti etkili bir şekilde engellenmektedir.

Son olarak, daha geniş bir perspektiften ayrıştırma rejiminin başarısızlığını açıklamada kendini gerçekleştiren kehanet sorununa dikkat etmeliyiz. Kurumlara karşı bir güven eksikliğinin, kurumları başarısız kılan bir kehanete yol açacağını iddia edebiliriz. Zira, özellikle BOTAŞ örneği dikkate alındığında, şirketin düzenlemelere güvenmeyip ayrıştırılmış bir piyasada özellikle arz güvenliğini sağlayamayacağını düşünmesi hedeflenen piyasa yapısı önünde başlıca engeli teşkil etmektedir.

Rant arayışının bir parçası olarak doğal gaz piyasası reformu

Tez, Türkiye doğal gaz piyasası reformunda rant arayışının yollarını ele almış ve reform hedeflerine ulaşılmasında nasıl bir engel oluşturduğunu analiz etmiştir. Rantlar kurallarla oluşturulduğundan, rant arayışı sorununun temelinde kurumlar yatmaktadır. Türkiye doğal gaz piyasası reformu söz konusu olduğunda, özel aktörlere tanınan iki geniş rant kaynağı gördük. Bunlardan ilki lisans verme, diğeri ise tarife belirleme aşamasındadır.

Lisans verme, piyasaya girişe karşılık gelir; dolayısıyla tanımı gereği özel şirketler arasında bu dar alana girmek için verilen bir mücadele alanıdır. Kurallar bu şirketlerin sayısını bir şekilde sınırlandırırsa, rant arama eğilimi artar. Doğal gaz piyasasının birçok segmentinde bunu gördük. Gaz ithalatçılarını ve LNG terminal

operatörlerini tanımlayan kurallar, hükümete Türkiye'ye gaz ithal etmek için başvuran şirketlerle işbirliği yapması için geniş fırsatlar sunuyor. Doğal gaz dağıtım ihalelerinde olduğu gibi doğal tekellerde giriş rantları daha dramatiktir. Kurumsal bir perspektiften incelediğimizde, gaz dağıtım ihaleleri teklif veren firma için uzun vadeli bir vizyona dayanmamıştır. Sadece zımni olarak gelecekteki rantları garanti altına alabilen şirketler ihaleyi kazanarak dağıtım lisanslarına sahip olmuştur.

Tarife belirlemeye gelince, doğalgaz dağıtım şirketlerinin yatırımlarını şişirerek gelirlerini artırdığını gördük. EPDK tarafından tasarlanan tarife metodolojisi, Averch Johnson etkisine izin vermektedir. Tez, doğal gaz dağıtım şirketlerinin tarifelerinin enflasyon üzerinde sürekli arttığını temsili örnekler ile göstermiş ve yatırımların giderek daha az verimli hale geldiğini kanıtlamıştır.

Genel olarak, doğal gaz piyasası reformunun temel motivasyonlarından biri piyasa verimliliğinden yararlanmaktı. Ancak bu hedef, doğal gaz piyasasındaki rant arama uygulamalarının devam etmesi nedeniyle başarısız olmuştur.

Resmi olmayan kurumların etkisi

Tezde, resmi kurumların ötesine geçip Türkiye'nin sosyolojik ve tarihsel özelliklerini daha da derinden incelenmiştir. Ülkenin devlet güdümlü kalkınmacı geçmişine ve yerleşik güç merkezileşme eğilimine odaklanarak, reform amaçlarının resmi olmayan kurumlar tarafından büyük ölçüde saptırıldığı sonucuna varılmıştır.

Devlet önderliğindeki kalkınmacı geçmiş, sermayenin dağılımının piyasanın kendisine dayandığı bir modeli temsil eden doğal gaz piyasası reformu ile uyuşmamaktadır. Türk ekonomisi tarihsel olarak hükümetin kendisi tarafından güçlü bir şekilde yönlendirilmiştir. Devlet, kamu hizmetini ve üretimini tek başına üstlenmese bile piyasa işlemlerini yakından takip etmekte ve piyasanın akışına müdahale etmektedir. Buna karşın piyasa reformunun mantığı "kâr" esasına dayanmakta olup bu durum Türkiye'nin yerleşik devlet-piyasa ilişkisi anlayışına ters düşmektedir.

Devlet önderliğindeki kalkınmacı geçmişin sonuçlarından biri de ısrarlı rant arayışı davranışlarıdır. Ancak tez madalyonun diğer yüzüne de odaklanmıştır. Buna göre devlet, kendisine ait şirketlerin piyasa dışı saiklere dayanan davranışlarıyla özel şirketlerin rant peşinde koşma davranışlarını dengelemeye çalışmaktadır. BOTAŞ bu anlamda çok önemli bir aktördür ve hükümet devlete ait bu şirketin gücünü zayıflatmamayı tercih etmemiştir. Devlet, elektrik piyasasında da var olarak gaz ticaretindeki zararları karşılayabilir, gerektiğinde manipüle edebilir, seçim döngüsünü dikkate alarak fiyat artışlarını erteleyebilir, bazı tüketici gruplarını diğerlerine karşı tercih edebilir vb. Ayrıca hükümet yalnızca BOTAŞ'ı yönlendirmemekte aynı zaman özel dağıtım şirketlerini de piyasa temelli motivasyonlar altında gerçekleştirilemeyecek verimsiz yatırımlar yapmaya teşvik etmektedir.

Bu kapsamda ikinci olarak, Türk hükümetindeki merkezileşme eğilimini tartışılmıştır. Bu nokta araştırmamızın amacı açısından çok önemlidir çünkü piyasa reformunun temel araçlarından biri bağımsız bir düzenleyici otorite kurmaktı. Ancak, böyle bir devlet kurumu, Türk merkezi hükümeti ve kamu idaresine oldukça zıttır. EPDK'nın Avrupa'daki emsalleriyle karşılaştırılabilir gerçek anlamda bağımsız bir kurum olarak modellenmesine rağmen, bu bağımsızlığın zamanla aşındığı gösterilmiştir. Merkezi hükümet ile EPDK arasındaki mevcut bağlantılar, düzenleyici otoritenin Enerji ve Tabii Kaynaklar Bakanlığı'na (ETKB) bağlı bir genel müdürlüğe evrildiğini göstermektedir.

Bu bulguların, kurumsal teorinin "kurumsal reformlar" tarifine de bir meydan okuma niteliğindedir. 4646 sayılı Doğal Gaz Piyasası Kanunu, 1990'ların krizlerinden sonra gelen tipik bir kurumsal reform yasasıdır. Ancak, bu reformların daha derindeki resmi olmayan kurumlar tarafından çizilen sınırlara karşı gelemeyeceği sonucuna varırsak, o zaman reformların işe yaramadığı gibi bir sonuç ortaya çıkmaktadır. Ancak, böyle bir sonuç yanıltıcı olabilir. Daha da kötüsü, statükodan yararlananlar tarafından kurumsal atalet ve çürümenin korunduğu bir yapı için bir

gerekçe olarak gösterilebilir. Reformlar resmi olmayan kurumlar tarafından kuşatılmış olsa bile, yine de ileriye doğru bir sıçrama sunabilir ve daha verimli bir sonuç verebilir. Bu tartışma bizi kurumsal reformların resmi olmayan kurumların dayattığı kısıtlamaları iyi düşünmesi ve reformdan beklentileri buna göre kalibre etmesi gerektiği sonucuna götürüyor.

Kamu kurumlarına daha fazla odaklanma gerekliliği

Türkiye doğal gaz piyasası reformu örneğinde kamu kuruluşlarının gereken düzeyde reformun odağında olmadığını görüyoruz. EPDK'nın statüsü 4628 sayılı Elektrik Piyasası Kanunu ile belirlenmiştir. EPDK'nın idari yetenekleri hedeflere ulaşılmasında çok önemli bir unsurdur. Ancak, hem elektrik hem de doğal gaz piyasalarında piyasa kurallarının detaylandırılmasına rağmen, EPDK'nın işlevleri, yetenekleri ve verilen misyonlar, bu kamu kuruluşunun piyasaların düzenlenmesine ilişkin gerçek sorumluluklarını yerine getirmesini engellemektedir. EPDK'nın varlık nedeni, piyasa oyuncuları arasında rekabetin yaratılması ve korunması için özel kurallar yayınlamaktı. Ancak, EPDK'nın görevlerinin bulanık olması, Kurul'un ilgisiz görevlerle aşırı yüklenmesi, Kurul üyelerinin beceri ve deneyimlerinin sürekli olarak azalması ve personelin kalitesinin sorgulanabilir olması nedeniyle düzenleyici bir organ görevini gereğince yerine getirememektedir. Ayrıca, EPDK ve Rekabet Kurumu arasındaki ilişkinin ana hatlarının iyi çizilmemesi, özellikle Rekabet Kurumu tarafında eylemsizliğe yol açmaktadır. Rekabet kurumları (İtalya ve Birleşik Krallık örneklerinde olduğu gibi) piyasa reformu hedeflerine ulaşılmasında merkezi bir rol oynadığından, Türkiye için bu durum önemli bir açıklık oluşturmaktadır. Türkiye doğal gaz piyasası reformu örneğinde, rekabet otoritesinin reforma desteği zayıf görünmektedir.

Genel değerlendirme

Bu tez, Türkiye doğal gaz piyasası reformunu kurumsal bir perspektiften analiz etmeye çalışmıştır. Bu bağlamda, kurumsal teorilerin doğal gaz piyasası reformunun başarısızlıklarını ve başarılarını ne ölçüde açıkladığını bulunmuştur. Kurumsal

reformlarının hedefleri, işlemlerin en verimli ve etkin şekilde yapılabilmesi için piyasada yasal bir ortam oluşturmaktır. Böyle bir mekanizmanın unsurları arasında, piyasa oyuncularının piyasa işlemleri hakkında eksiksiz bilgiye sahip olması, sözleşmelerin tam olarak uygulanması, mülkiyet haklarının korunması ve kural koyucuların uzun vadeli taahhütlerine bağlı kalması bulunmaktadır. Türkiye gaz piyasası reformu örneğinde, kurumsal teoriler doğal gaz piyasası reformunun başarısızlıklarını açıklama gücüne sahiptir. Bununla birlikte, sorunu teşhis etme yetenekleri, ima edilen politika reçetelerinin ve reformların mutlaka sorunun çözülmesine yardımcı olduğu anlamına gelmez. Bu tez araştırmasında, kurumsal teorilerin doğal gaz piyasası reformunun başarısızlıklarını açıklamada belirli derecelerde güce sahip olduğunu bulduk; ancak bu açıklayıcı gücün bazı sınırları vardır.

Kurumlar önemli olmakla birlikte şu hususları göz ardı etmemek gerekir: Kuralların etkinliğine güvenmemek, paydaşlar arasında kurumların başarısız olacağına dair kendi kendini gerçekleştiren bir kehanet oluşturabilir; ii) kurumlar paydaşlar tarafından oluşturulduğundan, kurumlar sadece sosyal refah için değil, belirli çıkarlara hizmet edebilecek şekilde kurgulanmış olabilirler; iii) "kurallar" olarak kurumlar, canlı organizmalar olan ve ayırt edici bir analitik çabayı hak eden "organizasyonlar" olarak kurumlar tarafından uygulanır; iv) resmi kurumların nihai olarak bağlı olduğu resmi olmayan olmayan kurumlar, bu niteliklerine rağmen açıklanamaz ‘‘kara kutular’’ olarak alınmaya eğilimlidir. v) kurumlar, toplumsal olguları açıklamada tek açıklayıcı olarak değerlendirilmemelidir. Bu noktalar, Türkiye'deki doğal gaz piyasası reformu analizinde de geçerlidir.

Reform kurumlarının başarısız olacağına ilişkin kendi kendini gerçekleştiren kehanet sorunuyla başlayacak olursak, BOTAŞ'ın dikey olarak bütünleşik yapısını korumaktaki ısrarı örneğini verebiliriz. İşlem maliyetleri açısından bakıldığında, eğer kurumlar firmalar arasındaki sözleşme sorunlarını önleyecek kadar iyiyse, iki firma bütünleşme eğiliminde olmayacaktır. Daha spesifik olarak, doğal gaz arzı,

piyasanın farklı dalları arasında kapsamlı ve sofistike bir uzmanlaşmayı gerektirmektedir. BOTAŞ'ın ayrışmaması, aynı kurumsal kimlik altında gaz taşımacılığını daha iyi yönetebilmesiyle açıklanabilir. Doğal gaz piyasası reformunun ardındaki bütün fikir, kuralların yeterince mükemmel olması halinde işlem maliyetlerini ortadan kaldırabilecekleri ve ayrıştırma sonrasındaki firma ilişkilerini maliyetsiz hale getirebilecekleriydi. Ancak, kurallar bu maliyetleri ortadan kaldırmazsa, firmalar ayrıştırma gereğinden kaçınmak için her türlü çabayı sürdürürler. Ayrıca, firmaların kuralların uygulanmayacağı endişesi varsa, bu kendi kendini gerçekleştiren bir kehanet oluşturur ve aktörler düzenlemeleri manipüle etmenin, düzenlemelerden kaçınmanın veya değiştirmenin yollarını ararlar. BOTAŞ'ın böyle bir kaygısı olduğu için şirket dikey entegre yapısını korumuştur. Ayrıştırma kurallarının uygulanmaması, reform sürecinin tüm güvenilirliğine bir darbe indiren domino etkisi işlevi gördü. Bu nedenle, işlem maliyetleri yaklaşımı BOTAŞ'ın dikey olarak entegre kurumsal kimliğini koruma davranışını doğru bir şekilde öngörmektedir. Ancak, bu durum işlem maliyetlerini ortadan kaldıran kurallar öngören kurumsal teorilerin reçetelerin her zaman güvenilir olduğu anlamına gelmez.

Bu nokta kısmen rant arama sorunu için geçerlidir. Kurumsal teoriler, iyi tasarlanmış kurumların rant arayışını ortadan kaldıracağına dair sağlam bir argümana sahiptir. Bununla birlikte, kurallar belirli güç konfigürasyonları altında tasarlandığından, rant arayışı uygulamaları reformlara karşı da direnç gösterebilecektir. Kriz zamanları mevcut güç konfigürasyonunu sarsa veya yeni bir yapı oluştursa da, kurumlar en baştan veya zamanla dar bir grup tarafından ele geçirilebilecektir. Örneğin, ithalat lisansı prosedürü, parlamentodaki piyasa reformu kanunundan sadece 4 yıl sonra değiştirilmiş, böylece önemli bir lisans rantı oluşması sağlanmıştır. Bu durum, dağıtım segmentinde de geçerlidir. Rant aktarma planının temelleri, on yıl sonra temettü ödeyecek şekilde reformun ilk on yılında atılmıştır.

Kurallar nadiren açık rantlar yaratır. Rantlar genellikle yasalarda ve düzenlemelerde örtük olarak bulunurlar ve araştırma analizine ihtiyaç duyarlar. Bu açıdan bakıldığında, bu araştırma, doğal gaz piyasasında rantların devam ettiğini göstermiştir. Gaz piyasasına giriş şeffaf değildir ve hükümet potansiyel piyasaya girecekler arasında ayrım yapma gücünü elinde tutmaktadır. İkincisi ve daha da önemlisi, dağıtım şirketlerinin tarifeleri, özel dağıtım şirketlerinin gelir ihtiyacını şeklinde sürekli artıracak şekilde belirlenmiştir. Ayrıca, LNG terminal operatörlerinin düzenlemesi tutarlı değildir ve bu alanda da haklı bir rant aktarma endişesi bulunmaktadır. Bu rant aktarma faaliyetleri, 4646 sayılı Doğal Gaz Piyasası Kanunu'nun temel amacı olan hem rekabetçi güçlerinin yükselmesini hem de rekabetçi fiyatlamayı engellemektedir. Özetle, Türkiye doğal gaz piyasası reformu örneğinde, kurumların rant arayışı motivasyonunu ortadan kaldırmaya yetmediği noktasına gelinmektedir.

Dikkate alınması gereken üçüncü bir husus, "kuruluşların" hem "kurumların" bir parçası hem de "kurumların ortaya çıkarıcısı" veya "uygulayıcısı" olmalarıdır. Kurumsal teori, kamu otoriteleri, yasama vb. gibi kuruluşların (North, 1991) bir ülkenin kurumsal donanımının bir parçası olduğunu vurgular. Bu ise kurumları yaratan veya uygulayanların kurumların kendisi olduğu gibi temel bir sorun yaratır. EPDK, hem bir teşkilat kanunu ile oluşturulmuş bir kurumdur hem de piyasa kanununu yeniden üreten, denetleyen ve uygulayan bir kurumdur. Oysa reformları uygulayanların piyasa katılımcılarına kıyasla daha üstün bir donanıma ve kamusal amaçlara sahip olduklarını görmek naif ve cesur bir beklentidir. Örneğin, reform BOTAŞ'ın ve dağıtım şirketlerinin özel aktörlerin daha verimli çalışacağı varsayımına dayalı olarak büyük ölçüde özelleştirilmesini öngörmektedir. Kamu şirketleri verimsiz veya yozlaşmış olarak kabul ediliyorsa, neden EPDK'nın bir kamu kurumu olarak verimli olduğunu ve yozlaşmadığını varsayıyoruz? Aksine, EPDK ülkenin mevcut bürokratik yapısı tarafından kurulmuştur ve bu kurumun özel çıkar ve hedeflerle kuşatılmamış daha geniş bir kamu ruhuna sahip olduğuna inanmak için hiçbir

nedenimiz yoktur. EPDK'nın hata yapması, enerji piyasası ve endüstrisi üzerinde kapsamlı bir yetkiye sahip olduğu için özel bir şirketten bile daha tehlikeli olacaktır.

Dolayısıyla kamu otoritesinin nasıl tasarlandığı sıradan bir sorun değildir. Hatta bu husus tüm kurumsal reformların bel kemiğidir, çünkü reformun tüm kaderi ilgili kamu yetkililerine bağlıdır. Ancak kurumsal teori, kanun, tüzük, yönergelerle kurumları oluşturan ve uygulayan "örgütler"e özel bir önem vermez. EPDK, ETKB ve Rekabet Kurumu gibi kuruluşlar ve reform organlarının idari kapasitesi kurumsal açıdan önemlidir. Ayrıca kuralların belirleyicilerinin tanımlanmasında ve uygulanmasında kritik aktörlerdir. Bu itibarla, 4628 sayılı Kanun reform hedeflerini gerçekleştirecek kadar mahir ve bağımsız bir organizasyon yapısı oluşturamamıştır. Reform yasasının mahir ve yetkin bir EPDK için öngördüğü az sayıdaki tedbirlerden biri, otoriteye mali özgürlük sağlamaktı. Ancak böyle bir önlem, otoritenin zamanla bozulması ve ilk dinamizmini kaybetmesi nedeniyle EPDK'nın idari gücünün oluşumunda "ters seçilim" etkisine yol açmıştır. Benzer şekilde, özellikle EPDK ile Rekabet Kurumu ilişkisi düşünüldüğünde EPDK'nın görev alanı iyi planlanmamıştır. ETKB'nin yetkileri kanunla uygun şekilde belirlenirken, Rekabet Kurumu ve EPDK arasındaki sınırların belirsiz kalması her iki tarafı da çetrefilli konulardan uzak tutmaya sevk etmiştir. Hem doğal gaz piyasası hukuku hem de rekabet hukuku, Rekabet Kurumuna çeşitli sorumluluklar yüklemektedir. Ancak bunlardan bazıları EPDK'nın sorumlulukları ile örtüşmektedir. Bu gibi durumlarda Rekabet Kurumu konuya müdahil olmamakta ve sorumluluğu EPDK'ya devretmektedir. Ayrıca, BOTAŞ'ın rekabete aykırı davranışlarını durdurulması için Rekabet Kurumuna başvurulduğunu da gördük. Ancak Rekabet Kurumu, BOTAŞ'a para cezası vermekten kaçınmış ve hükümet politikalarına paralel olmayan kararları ertelemiştir. Her iki durumda da, reform kurumlarının idari kapasitesi düşüktür ve işleyen bir rekabetçi doğal gaz piyasası kurma görevlerini yerine getirememişlerdir. Özetle, reform yasasının reformun örgütsel yönlerini veya amaçlarını kesin olarak belirlemediğini ve esas olarak reform piyasasına odaklanıldığını gördük. Bu bakış açısı, kurumsal teorinin kamu kurumlarını kurumsal reformların sıradan unsurları olarak

anlamasıyla paralellik gösterir. Kurumsal teoriler, kurumlar olarak "örgütlere" üstünlük vermelidir. Kamu yönetimi ve kurumların kamu hukuku niteliği, piyasa aktörleri arasındaki sözleşme ilişkisini belirleyen kurumların temelini oluşturmaktadır.

Dördüncüsü, resmi kuralların nihai olarak bağımlı olduğu gayri resmi kuralların tamamen farklı bağlamlarda yeniden düzenlenemeyeceği veya düzeltilemeyeceği genellikle göz ardı edilir. Yukarıda bahsettiğimiz gibi, özellikle kurumsal iktisatçılar, resmi olmayan kurumları nadiren incelerler. "Resmi kurumların" "resmi olmayan kurumların" içinde yer aldığını kabul etseler de yüz yıldan bin yıla kadar bir süreçte bir değişim öngörürler. Yani, resmi olmayan kurumlar, kurumsal ekonomi modellerine dışsaldır. Bu durumda şöyle haklı bir soru ortaya çıkar: Eğer herhangi bir reform eninde sonunda resmi olmayan kurumlar tarafından belirlenirse ve resmi olmayan kurumlar reform edilemezse, reform yapma çabaları en baştan faydasız olacaktır. Resmi kurumlardaki tüm kısıtlamaların resmi olmayan kurumdaki aynı kısıtlamaların bir yansıması olduğu anlamında bir totolojik determinizm ortaya çıkar. Bir başka ifadeyle, "kurumların başarısız olmasının nedeni kurumların başarısız olmasıdır" şeklinde bir anlam gelişir. Resmi ve gayri resmi kurumları tam gelişmiş bir kurumsal yaklaşımla bütünleştirmeden, eksik akıl yürütme ve kurumlara ilişkin yanlış analizler geliştirilebilir. Pratikte bunun anlamı, reformların belirli ortamlarda faydasız olabileceğidir. Verimsiz statükodan orantısız olarak yararlananlar, statükoyu bu zeminde savunabilirler. Daha açık bir ifadeyle, bu gruplar "ülkelerinin kendine has koşulları nedeniyle" en iyi uygulama reformlarına karşı çıkacaklardır.

Yeni kurumsal iktisadın tüm kollarının resmi olmayan kurumları bir kara kutu olarak görmediğini belirtmeliyiz. Örneğin Acemoğlu ve Jackson (2016), sosyal normlar ile yasaların uygulanması arasındaki etkileşimi inceler.

Bu tezde de yeni kurumsal iktisadın ara sıra atıfta bulunduğu, örneğin mevcut kurumların tarihsel öncüllerinin izini sürerken olduğu gibi, gayri resmi kurumlar

alanına daha derinden inilmeye çalışıldı. Mevcut mevzuatın bu katmana gömülü olduğunu iddia ettiğimiz iki resmi olmayan kuruma odaklandık. Devlet öncülüğünde kalkınmacı geçmiş ve iktidarın merkezileşmesi, Türkiye ekonomisinin liberal dönüşümünde dikkate almamız gereken iki konu. Devletin öncülüğünde kalkınmacı arka planın liberal bir ekonominin oluşumunu engellediğine dair kanıtlar sunduk çünkü "piyasa" tarihsel olarak verimlilik sağlamak ve refahı maksimize etmek için güvenilir görülmemektedir. Güç konusunun merkezileştirilmesi ile ilgili olarak, bağımsız düzenleyici otorite modelinin Türkiye'nin idari yapısına uymadığı sonucuna varılabilir. Nitekim EPDK'nın bağımsızlığının doğal gaz piyasası reformundan sonraki yirmi yıl içinde aşınması buna delil olarak getirilebilir. Bu durum 2018 yılında başkanlık sistemine geçilmesiyle daha da belirginleşmiştir.

Bu bağlamda, Kıta Avrupası'nın güçlü bir merkezi otoriteye sahip birçok geç gelişmiş devleti gibi benzer tarihsel yollara sahip ülkelerin farklı reform deneyimleri olduğunu ve aynı gayri resmi kısıtların farklı işlev gördüğünü kabul etmeliyiz. Yani gayri resmi kurumlar "kader" değildir ve kurumsal analize dışsal olarak alınmamalıdır.

Son olarak, kurumsal yaklaşım her şeyi açıklayamamaktadır. Türkiye doğal gaz piyasasının analizinde kurumlar rolü açıklayıcı güce sahip olsa da, bu tür kurumsal teorilerin her şeyi açıkladığını iddia etmek doğru olmaz. Kurumlara her şeyi açıklama yetkisi vermek aşırı basitleştirme olurdu. Kurumsal teori, Sachs'ın uyardığı gibi (2003) "her şeyin teorisine" dönüşürse, kaçınılmaz olarak kalkınma, rekabet, piyasa oluşumu vb. dahil olmak üzere sosyal fenomenlerin kurumsal olmayan nedenleri gözden kaçırılacaktır. Kurumsal indirgemeci anlayış, yoksulluklara neden olan tuzakları, coğrafi kısıtlamaları, sınırlı doğal kaynakları ve diğer birçok kurumsal olmayan faktörü göz ardı etmektedir. Bu hata, reformcuların ve bağış yapan ülkelerin karmaşık ve ülkeye özgü zorlukların üstesinden gelmek için ne yapmaları gerektiğine ilişkin anlayış oluşturmasını engeller. Ayrıca, mali bağış ihtiyacını

sorgulanabilir hale getirir ve insan kaynakları reformları için teknik yardıma daha fazla odaklanmaya neden olur.

Ekonomik kalkınmaya yönelik kurumsal yaklaşımın mülkiyet hakları indirgemeciliğine dayalı bu genel eleştirisi, bu araştırma için de geçerlidir. Bu tezde, işlem maliyetlerinin yüksekliği, sürekli rant arayışları, resmi olmayan kurumların getirdiği kısıtlar ve idari kapasite eksikliğinin doğal gaz piyasası reform hedeflerinin gerçekleştirilmesini engellediğini ortaya koyduk. Ancak sayılan nedenlerin başarısızlıkları açıklamaya yettiğini iddia edemeyiz.

Politika Sonuçları

Belirli bir reformunun başarılı olup olmadığını tespit etmek kolay değildir. Başarısızlık durumunda, ilk savunucular reformun hatalı olduğu için değil, iyi veya yeterince uygulanmadığı için başarısız olduğunu kabul edeceklerdir. Örneğin, 1990'ların ekonomik krizi, nedenin liberal piyasa ekonomisinin uygulanması mı yoksa sadece yanlış uygulanması mı olduğu konusunda çoğu zaman tartışmalara yol açmıştır (Bedirhanoğlu ve Yalman, 2010). İkinci görüş baskın olduğundan, neoliberal reformlar her krizden sonra daha da güçlenmiştir. Bu tezdeki bulgularımız, reform hedeflerinden bazılarının daha en başında gerekmediğini, bazılarının ise yanlış uygulama nedeniyle işe yaramadığını göstermektedir.

İthalatçı olarak BOTAŞ'ın pazar paylarını düşürme yönündeki sert hedefinin gerçekçi olmadığını güvenle söyleyebiliriz. Sözleşme devir planı, rant aktarma kanallarını da içeriyordu ve BOTAŞ'ın ayrıştırılmış şirketle sözleşmeye dayalı ilişkisinde ortaya çıkabilecek işlem maliyetlerinden kaçınmak için dikey olarak entegre yapısını korumasına yol açtı. BOTAŞ'ın ticaret ortaklarının kendi ülkelerinde tekel olduğu düşünüldüğünde, ithalat pazarının parçalanması ihracatçı firmaların Türk müşterilerine karşı pazarlık gücünü artıracaktır. Ayrıca, küresel gaz piyasası likit değildir ve uluslararası düzeyde müzakerelerin BOTAŞ gibi tek alıcılı şirketler tarafından daha iyi yönetilmesi şansı vardır. Bu, BOTAŞ'ın ithalat pazarındaki yasal tekelini koruması gerektiği anlamına gelmez. BOTAŞ'ın

sözleşmeleri sona erdiği sürece özel şirketler piyasaya girebilir, yeni anlaşmalar yapabilir veya LNG ithal edebilir. Tabii ki, BOTAŞ'ın kalan sözleşmeleriyle rekabet etmeleri gerekecek ve bu da sonunda yasanın öngördüğü gibi rekabetçi fiyatlara yol açacaktır.

O zaman kısa sürede toptan satışta rekabet nasıl ortaya çıkacaktı? Bu, Türkiye örneğinde olduğu gibi sözleşme transferi değil, Avrupa örneklerindeki gibi miktar devri programları ile mümkün olabilirdi. Türkiye'deki toptan satış şirketleri, verimlilik elde etmek, müşteri profillerini yönetmek, müşteri sorunlarını gidermek vb. için birbirleriyle rekabet edebilirlerdi. İdeal ortamda, BOTAŞ, sözleşmeyi devretmeden reformdan sonra bir on yıl daha hakim tedarikçi olarak kalmalıdır. Ancak özel ithalat seçeneklerinin de açık kalması özellikle LNG terminallerine yapılan yatırımları artırabilir.

Öte yandan, BOTAŞ'ın ticaret ve iletim şirketlerini ayrıştırmaya yönelik reform hedefi, yukarıda gösterdiğimiz gibi şebekeye adil erişimin sürdürülemeyeceği anlamında çok önemliydi. Ancak ticaret şirketi olarak BOTAŞ toptan satış işinden çekilirse, iletim şebekesinde gaz sevk etmeyeceği için ayrıştırma ihtiyacı azalmaktadır.

LNG terminal işletmeciliği ve LNG ithalatı söz konusu olduğunda, AB'nin geliştirdiği üçüncü taraf erişiminden muafiyet modeli Türkiye için de uygulanabilir. Ancak Türkiye böyle bir muafiyet mekanizması geliştirmemiş ve aynı koşulları mevcut ve yeni inşa edilen LNG terminallerine aynı şekilde uygulamıştır.

Ele alınması gereken bir diğer nokta da dağıtım işinin özel şirketlere franchising olarak verilmesidir. Hem franchising sürecinin hem de tarife yapmanın sorunlu olduğunu ve rant aktarma uygulamalarına maruz kalındığını gösterdik. Kurumsal teori, iyi tasarlanmadığı takdirde ihalelerin risklerinin ve düzenleyici kurumun ele geçirilmesinin mümkün olacağını iyi bir şekilde açıklamıştır. Nitekim dağıtım şirketlerinin tarife koşulları şeffaf değildi ve bu şirketlere lisans verildikten 8 yıl sonra ancak belirlendi. Böylece, özel tekellerin kamu tarafından düzenlenmesinden

beklenilen fayda sağlanamadı. İdeal ortamda, koşullar daha önce duyurulmalıdır. Ayrıca tarife belirlemede, kanunun öngördüğü gibi bir fiyat tavan düzenlemesi uygulanmadı. Bunun yerine dağıtım şirketleri, tarife parametrelerini manipüle ederek gelirlerini artırma konusunda üstün bir avantaja sahip oldu. Doğal gaz işletmelerinin özelleştirilmesi ve franchising ihtiyacı, bu şirketlere aktarılan rantlar dikkate alındığında sorgulanır hale gelmektedir. Karşı görüş olarak bu firmaların yatırım yaptığı ve insanları doğal gaz şebekesine bağladığı söylenilebilir. Ancak bu hizmet belediyeler veya diğer kamu şirketleri tarafından da yapılabilir. Örneğin BOTAŞ halka açık bir şirket olarak dağıtım şirketlerinin yatırımlarını yakalayan iletim yatırımları yapmıştır. Kamuya ait bir şirket, yatırımlar açısından mutlaka özel şirketlerin gerisinde kalmaz. Bu yine de dağıtım işinin kamu şirketleri tarafından yapılması gerektiği anlamına gelmiyor. Bu şirketlerin işletme giderleri daha yüksek olabilir ve kamu şirketi, özelleştirme literatüründe sıklıkla bahsedilen verimsizliklerle boğuşabilir (Shirley, 1999). Ayrıca, dağıtım şirketlerinin sayısı ne kadar fazla olursa, düzenleyicinin kıyaslama yapması ve bunları düzenlemesi o kadar kolay olur. Bu açıdan bu hizmetlerin özel şirketlere franchising olarak verilmesi kendi başına bir sorun bulunmamaktadır. Sorun, EPDK'nın özel dağıtım şirketleri için rekabeti taklit edememesidir.

Türkiye'nin her yerinde müşteri sayısını artırmak için hızlı doğalgaz şebekesi yatırımları ile ilgili ilginç bir soru akla gelmektedir. Şöyle ki, ülkenin her yerine doğal gaz getirmek bir hükümet politikasıdır. Doğal gazın petrol, kömür ve odun gibi diğer fosil yakıtlardan daha konforlu ve temiz olması bakımından böyle bir amaç için övgüye değerdir. Bununla birlikte, dağıtım ve iletim ağının hızla genişlemesi, taşıma maliyetini önemli ölçüde artırmıştır. Görüldüğü gibi dağıtım ve iletim şirketlerinin tarifeleri son on yılda fazla enflasyonun üzerinde yükselmiştir. Yani yatırımların sosyalleşmesi iyi hesaplanmalı ve yatırım kararlarında maliyet-fayda analizinin bir parçası olarak faturalardaki artışlar dikkate alınmalıdır.

BOTAŞ'ın fiyatlandırma politikası da bu tezde ele alınan önemli bir noktadır. Devlet, fiyatı belirleyen ana araç olarak piyasada varlığını sürdürmektedir. Ancak, doğal gaz piyasasının siyasi olarak belirlenmiş fiyatları, doğal gaz piyasasında rekabetin gelişmesini engellemeye yeterlidir. BOTAŞ'ın potansiyel rakipleri, emtia fiyatı ölçülebilir veya öngörülebilir talep ve arz dinamikleri tarafından tanımlanmadığı için onunla rekabet edemez. Doğal gazın ısıtma için kritik bir mal olduğu ve kamu tarafından sağlanması gereken temel bir mal olarak tanımlanabileceği için BOTAŞ'ın fiyatlandırma politikasının sosyal kaygıları savunulabilir. Ancak, gaz fiyatı endüstriyel ve elektrik üreticileri tarafından sübvanse edildiğinden, BOTAŞ'ın fiyatlandırma politikası tamamen sosyal değerlendirmeyi içermemektedir. Bu segmentlerdeki daha yüksek maliyetler, daha yüksek üretim maliyetlerine ve elektrik fiyatlarına yol açacaktır. İdeal ortamda BOTAŞ, piyasanın belirlediği fiyatları uygulamalıdır, ancak hükümet enerji yoksulluğunu önlemek için müşterilere doğrudan sübvansiyon yapabilir.

Dikkat çeken bir diğer konu da Rekabet Kurumu ile EPDK arasındaki ilişkidir. Yukarıda da belirttiğimiz gibi, bu iki kamu otoritesi arasındaki görev sınırlarının iyi tanımlanmaması, Rekabet Kurumu'nun çoğu zaman işlerden çekilmesine yol açmaktadır. Bu, bazı EPDK düzenlemelerinin kapsamlı uzmanlığa ihtiyaç duyması bakımından anlaşılabilir bir durumdur. Bu nedenle, konu düzenleyici bir içgörüyü hak ediyorsa, Rekabet Kurumu'nun kararları ters etki yapabilir. Her halükarda, yetkililerin sınırları iyi belirlenmelidir, böylece hiçbir çelişki veya ihmal ortaya çıkmaz.

Geliştirebileceğimiz son bir argüman EPDK'nın rolü üzerinedir. Yazıda belirttiğimiz gibi, EPDK idari aygıt içindeki yarı yargısal konumunu koruyamadı. Bunu Türkiye'de kamu yönetiminin merkezileşme eğilimi üzerinden açıkladık. Ancak EPDK, yetkisi politikayla ilgili alanlara yayıldığı sürece, kaçınılmaz olarak bu eğilime açık olacaktır. Doğrudan halka karşı sorumlu olan hükümet, EPDK'nın doğal gaz politikasının başında kalmasına izin vermeyecektir. Bu açıdan EPDK daha teknik anlamda objektif

uygulamalara sahip görevler üstlenmelidir. Tarife belirleme, şebekelere erişimin düzenlenmesi EPDK'nın daha fazla ilgilenmesi gereken görevler arasında yer almalıdır. Bu sonuçta yarı yargı gücünü EPDK'ya geri verir.

Sonuç olarak, sözleşmelerin yeni ithalatçılara kısmi olarak devredilmesi gibi reformun bazı başarısızlıklarının kötü olmadığı noktasına geliyoruz. Ancak, piyasaya dayalı fiyatlandırma eksikliği ve şebekeye haksız erişim koşulları gibi birçok başka başarısızlık da refahı azaltmaktadır. Liberalleşme hedefleri iddialı olmasaydı ve devletin piyasaya müdahalesini azaltma takıntıları daha az olsaydı, piyasa reformu daha başarılı olacak ve reformun kurumları daha sağlam olabilecekti.

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TEZİN ADI / TITLE OF THE THESIS (**İngilizce** / English):
An institutional perspective on Turkish natural gas market reform

TEZİN TÜRÜ / DEGREE**:** **Yüksek Lisans** / Master ☐ **Doktora** / PhD ☒

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