DIVERGENT INSTITUTIONAL SYSTEMS AND ECONOMIC ACTORS: A COMPARATIVE STUDY OF IRAN AND TÜRKİYE

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ETHICAL DECLARATION

I hereby declare that I am the sole author of this thesis and that I have conducted my work in accordance with academic rules and ethical behaviour at every stage from the planning of the thesis to its defence. I confirm that I have cited all ideas, information and findings that are not specific to my study, as required by the code of ethical behaviour, and that all statements not cited are my own.

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Date: 26.12.2023

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ABSTRACT

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Master's Program in Business Administration

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This thesis undertakes a comparative study of Iran and Türkiye in order to contribute to a better understanding of the effect of national institutional systems on the characteristics of main economic actors. Drawing on Varieties of Institutional Systems (VIS) and the National Business Systems (NBS) perspectives, this study employs a cross-national comparative approach, leveraging evidence from sources such as the World Bank, UN, IMI-100, and ISO-500 lists. It unfolds in two major parts: an examination of institutional dimensions by using statistical data, and a comparison of the top 50 companies in Iran and Türkiye based on ownership, control, origin, business group affiliation, and diversification level. The findings highlight the differences between two countries' institutional systems in terms of government intervention, family ownership and generalized trust. In Iran, state-provided capital, and direct state ownership are more common, and government intervention into the economy is more direct, families are less influential in the economy, and generalized trust level is lower as compared to Türkiye. Due to these institutional differences, the characteristics of main economic actors also differ between two countries. In Iran, main economic actors are usually owned by the state alone, or allied with private entrepreneurs, owned less by foreign companies, less affiliated with business groups, and less diversified companies. This research contributes to the literature by elaborating the relationship between institutional systems and the characteristics of main economic actors by comparing relatively less studied two countries.

Keywords: Institutional systems, Varieties of Institutional Systems (VIS), National Business Systems (NBS), ownership, business group affiliation, diversification.

ÖZET

FARKLI KURUMSAL SİSTEMLER VE EKONOMİK AKTÖRLER: İRAN VE TÜRKİYE ÜZERİNE KARŞILAŞTIRMALI BİR ARAŞTIRMA

Behzadfar, Atena

İşletme Yüksek Lisans Programı

Tez Danışmanı: Prof. Dr. Şükrü Özen

Ocak, 2024

Bu tez, ulusal kurumsal sistemlerin temel ekonomik aktörler üzerindeki etkilerinin daha iyi anlaşılmasına katkıda bulunmak için Iran ve Türkiye'yi karşılaştırmalı olarak incelemektedir. Kurumsal Sistem Çeşitleri (VIS) ve Ulusal İş Sistemleri (NBS) olmak üzere iki çerçeveye dayanarak, bu çalışma Dünya Bankası, BM, IMI-100 ve ISO-500 listeleri gibi kaynaklardan elde edilen kanıtlardan yararlanarak, ülkeler arası karşılaştırmalı bir yaklaşım izlemektedir. Çalışma iki ana bölümden oluşmaktadır: istatistiksel veriler kullanılarak kurumsal boyutların incelenmesi ve İran ve Türkiye'deki en büyük 50 şirketin mülkiyet yapısı, kontrol türü, menşei, işletme grubu üyeliği ve çeşitlilik düzeyine göre karşılaştırılması. Çalışmanın bulguları, iki ülkenin kurumsal sistemlerinin ekonomiye devletin müdahalesi, aile sahipliği ve genel güven açısından farklılaştığını vurgulamaktadır. Buna göre, Türkiye'ye göre İran'da, devlet kaynaklı sermaye ve devlet sahipliği daha yaygın, devletin ekonomiye doğrudan müdahalesi daha güçlü, aileler ekonomiye etki açısından daha az etkili ve genel güven düzeyi daha düşüktür. Bu kurumsal farklılıklardan dolayı, temel ekonomik aktörlerin özellikleri de farklılaşmaktadır. İran'daki ekonomik aktörler genellikle devletin yalnız veya özel girişimcilerle ortak sahip olduğu, daha az yabancı sermayenin olduğu, işletme topluluklarına daha az bağlı ve daha az çeşitlenmiş şirketlerdir. Araştırma, görece az çalışılmış iki ülkeyi karşılaştırarak, kurumsal sistemlerle temel ekonomik aktörler arasındaki ilişkiyi ayrıntılandırarak ilgili literatüre katkıda bulunmaktadır.

Anahtar Kelimeler: Kurumsal sistemler, Kurumsal Sistem Türleri (VIS), Ulusal İş Sistemleri (NBS), sahiplik, işletme grubu üyeliği, çeşitlenme.

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PREFACE

Here the author informs the reader about their experiences during the writing of this thesis, all the stages from the beginning to the completion of the thesis.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

During the last two decades, scholars have argued that economic activities are coordinated in different ways across countries depending on their distinguishing institutional systems. Varieties of Capitalism (VoC) (Hall and Soskice, 2001) and National Business Systems (NBS) (Whitley, 1999) are two pioneering theoretical frameworks to explain institutional systems differences. VoC classifies advanced economies based on resource allocation mechanisms into liberal and coordinated market economies. On the other hand, NBS focuses on distinct ways of structuring economic activities by explaining how varieties in institutions such as the state, financial systems, skill development and control systems, and authority and trust relationship result in varying business systema in ownership and non-ownership coordination economic activities, and employment relations and work management. While both frameworks are useful for explaining institutional varieties across developed economies, they are less appropriate for describing emerging and developing economies. These economies, which currently hold the majority of the world's population and purchasing power, often deviate from established advanced economies due to their unique trajectories. A new theoretical framework, called Varieties of Institutional Systems (VIS) has recently been developed by Fainshmidt et al. (2018) to provide a more comprehensive understanding of the organizational context in regions such as Africa, the Middle East, Eastern Europe, Latin America, and Asia. It further develops the previous two frameworks by particularly including institution characteristics specific to emerging and developing countries such as the prominence of the state and the family, human capital, social capital, and corporate governance structure. However, it does not explain how these institutional characteristics of the developing countries generate varieties in their business systems.

Although there has been comparative research conducted to test these theories' arguments (e.g., Hotho, 2014; Schneider, 2013), there has still been a lack of comparative empirical research on the specific dimensions of institutional systems and their business system consequences. Particularly, how different institutional systems result in different forms of organizations is neglected. Whitley (1999) argued that institutional differences with respect to the role of the state, financial systems, skill development and control systems (education, and labor relations systems), and authority and trust relationship leads to differences in ownership coordination (i.e., the nature of the firm) regarding ownership type, vertical integration, and horizontal integration. Accordingly, in some countries, family-owned SMEs specialized in a single industry but in other countries publicly owned conglomerates, or family-owned diversified business groups, or state-owned enterprises become the dominant economic actors. However, how institutional dimensions lead to these variations in the type of economic actors are not well articulated.

Therefore, in this thesis, we comparatively study two countries which have different institutional characteristics despite having long historical interactions, and cultural commonalities, Iran, and Türkiye. Although Fainshmidt et al. (2018) have suggested that Turkish institutional system is hierarchically coordinated and Iran's is centralized tribe, they have not predicted how these two countries' dominant economic actors differentiate depending on these institutional system differences. Thus, the aim of this thesis is to explain how institutional differences between Iran and Türkiye result in differences in dominant economic actors. Since the relationship between national institutional systems and the characteristics of main economic actors based on Whitley's studies, is not well established, and not studied for developing countries, we develop a framework by combining VIS and NBS perspectives to compare these countries. We consider the institutional dimensions described in VIS whereas the dimensions of ownership coordination (dominant economic actor) as one of the business system characteristics described in NBS. The institutional dimensions considered are namely the role of the state, financial markets, human capital, social capital, and corporate governance. The characteristics of dominant economic actors include ownership (i.e., the state or private), type of control (i.e., direct, alliance, or market control), origin (i.e., domestic or foreign), business group affiliation (affiliated with a business group or independent), and diversification level (i.e., relatedly or unrelatedly diversified).

The design of this research is cross-national comparative research relying on secondary data such as documents, websites, and available statistics. Our research is descriptive in the sense that we aim to describe political, economic, institutional systems, and the economic actors of the two countries (Neuman, 2014). However, it is also explanatory because we qualitatively attempt to explain the relationship between institutional system and ownership coordination by comparing the two countries. To measure the institutional dimensions by Fainshmidt et al., (2018) for Iran and Türkiye, we used data sources like UN, World Bank, WEF Global Competitiveness report, Heritage Foundation Economic Freedom, Turkish Statistical Institute, Human Development Index, and Global Health Security Index[1]. We used graphs, and tables that we gathered from official websites of the transnational organizations such World Bank. For the characteristics of dominant economic actors in Iran and Türkiye, we collected data for top 50 companies that we chose from the two websites, IMI-100 for Iran, and ISO-500 for Türkiye, which contained the list of largest companies by the year of 2021. The data about these companies to measure the characteristics of ownership coordination in Iran and Türkiye were collected from the companies' websites.

According to the findings, both countries have similarities in social capital and corporate governance but differ in ownership types, family influence, government intervention, generalized trust, and economic actors. Notably, Türkiye outperforms Iran in indicators of state indirect intervention, economic freedom, and regulatory efficiency. Differences in state roles, financial market efficiency, labor environments, and trust levels are attributed to institutional variations, impacting ownership structures and economic outlooks. State intervention in Iran is more direct and in the form of sole or quasi-governmental ownership, while Türkiye's intervention is more indirect, and shaped by economic policies supporting family-owned businesses that result in family-owned business groups diversified vertically and horizontally.

Therefore, we can imply that when a tight elite group rules the country and controls the state according to their ideology and beliefs, main economic actors tend to be owned more by the state. The development level of financial markets affects ownership structures, with Iran's limited capital markets contributing to centralized ownership, while Türkiye's developed markets facilitate diversified ownership. Labor laws and trust levels further influence ownership and coordination, reflecting historical, cultural, and social factors in each country. The degree of market control and business diversification is influenced by economic policies and regulatory

[1] Each of the data sources refer to specific times that their details are stated thoroughly in Methodology Chapter.

environments, with Iran facing limitations and Türkiye emphasizing open markets and business diversification.

In the following chapters, we first review the literature relevant to this research, particularly explaining NBS and VIS approaches, and the associations between NBS and characteristics of main economic actors. Then, we present the methodology chapter, which contains the aim of the research, its model, design, the sampling and data sources, and measurements. We present data analysis and findings in the next chapter, which compares the institutional systems and the characteristics of main economic actors of the two countries. Finally, we discuss all the findings with respect to their implications for the literature. Lastly, we mention some limitations and provide further suggestions for future research.

CHAPTER 2: REVIEW OF RELEVANT LITERATURE

2.1 Theoretical Background

Any comparison between countries with respect to the characteristics of their main economic actors require conceptual frameworks explaining the differences between their institutional structures that result in divergent organizational form of major economic actors. In comparative institutional analysis, there are basically two approaches, namely, NBS, and VIS approaches. In this chapter, we briefly discuss these approaches.

2.1.1. National Business System Approach

Business systems, which are known as dominant patterns of economic organization and control, can be considered as the starting point of the business system approach (Whitley, 1999). The business system approach basically explains how different forms of economic organization or business systems are shaped by different institutional arrangements. According to Whitley (1992: p.125) business system is defined as "particular ways of organizing, controlling, and directing business enterprises that become established as the dominant forms of business organization in different societies".

Whitley (2000) placed organization and management at the center of his analysis instead of focusing on more general processes of economic and political structure. Regarding the institutions, he develops a framework which includes education, collective bargaining and workplace organization, financial institutions, the nature and purpose of government, law, and regulation in relation to economic development. Moreover, he gives central importance to the relationship between owners and managers and the implications of different forms of relationships between these groups for the way companies and groups of companies are organized. Secondly, he articulates the relationship between types of management and the nature of workplace organization and shows how authority in the workplace can be distributed and shared among different actors, with consequent effects on commitment, quality, and incremental improvement.

NBS (Whitley, 1999) framework is one of the most influential theoretical perspectives that looks for explaining how institutional combinations form economic exchange within nation states. In this framework Whitley (1998, p. 449) predicts that "economies can be compared as different kinds of systems of economic organization according to the prevalent ways in which economic activities and relationships are coordinated and controlled". In his framework, business system characteristics are dependent variables that can be explained by institutional structuring of economic activities as independent variables.

2.1.1.1. Business Systems Characteristics

According to Whitley (1999), the main characteristics of business systems are ownership coordination, non-ownership coordination, and employment relations and work management (see Table 1):

Table 1. Key characteristics of business systems (Source: Whitley, 1999, p. 34)

Ownership coordination
Primary means of ownership control (direct, alliance, market contracting)
Extent of ownership integration of production chains
Extent of ownership integration of sectors
Non-ownership coordination
Extent of alliance coordination of production chains
Extent of collaboration between competitors
Extent of alliance coordination of sectors
Employment relations and work management
Employer–employee interdependence
Delegation to, and trust of, employees (Taylorism, task performance discretion, task organization discretion)

Ownership coordination refers to the relationship between owners and managers as well as the extent of direct participation of owners in business management. Ownership coordination hints at the characteristics of main economic actors in an economy, which represent the typical way of organizing economic activities in that economy. For instance, main economic actors in South Korea are horizontally and vertically integrated family-owned business groups, i.e., Chaebols, whereas conglomerates or multidivisional, publicly owned companies are the main economic actors in the U.S. Ownership coordination consists of three dimensions as it is shown in the above table. The first dimension is named as primary means of ownership control, that includes three control types: direct control of the companies by managers, alliance control (which means the owners give significant decision-making rights to managers, but at the same time remains committed to specific companies), and the market control, which means the control by managers where company is publicly-owned. There are two more dimension of ownership coordination, which are related to the extent of ownership integration of economic activities of firms, that is to say, the extent to which the companies' activities are integrated vertically through the different stages of production chain, and the degree to which activities are integrated horizontally across different (related or unrelated) sectors. Vertical integration refers the extent to which different businesses operating in the different stages of a production chain (for raw material production to marketing) within the same sector are coordinated by the same ownership control. On the other hand, horizontal integration (often called diversification) refers to the extent to which different businesses operating in related and unrelated industries are coordinated by the same ownership control. Whitley argues that the characteristics of ownership relations, specifically alliance forms of owner control and market-based ones, are often interconnected. Alliance forms inhibit unrelated diversification like German firms, while market-based forms encourage it as a strategy to spread risks that cannot easily be shared with business partners like US conglomerates. When owners are closely tied to specific firms, they tend to develop expertise in their technologies and markets to manage increased exposure to risk. In contrast, diversification into unfamiliar fields raises owners' risks and is less likely to be encouraged. Portfolio holders in capital markets, however, can sell assets on liquid secondary markets, making them less resistant to diversification failures.

The second characteristic refers to non-ownership coordination. In the realm of non-ownership coordination, Whitley describes three categories of inter-firm relationships: those within a production chain, those among competitors, and those between firms in different industries. These relationships vary from adversarial and competitive to cooperative and mutually committed. Production chains, despite fragmented ownership, may feature strong networks of contractual agreements between stable suppliers and customers. Competitors might fiercely vie for customers but collaborate on aspects like technology, employment policies, and lobbying through formal associations. Firms may also form cross-sector alliances to enter new markets, acquire technologies (e.g., joint ventures), or mitigate specialization risks. The effectiveness of alliance relationships or inter-firm networks should be assessed based on the conscious and repeated coordination of economic activities across sectors in different market economies.

Finally, the third feature is called “employment relations and work management”. The former is characterized by the degree of employer-employee interdependence, ranging from reliance on external labor markets to fostering commitment and mutual investment in organizational capabilities. Organization-based employment systems, like those in many large Japanese firms, exhibit high mutual dependence. The Anglo-Saxon model, marked by flexible external labor markets and frequent employment changes, represents the opposite extreme. Regarding work management, discretion and trust granted to the workforce by employers play a crucial role. Scientific management removes discretion, while responsible-autonomy strategies trust workers with more independence. Employment strategies and work systems are interrelated; it's challenging to envision a firm simultaneously implementing a Taylorist system and seeking long-term commitments from workers. Combining fluid external labor markets with highly skilled and discretionary workers is possible, as seen in Danish work systems and many Anglo-Saxon professional service firms. High mutual commitment employment systems are linked to work-control practices, encouraging firm-specific skill development, functional flexibility, and the delegation of autonomy over task performance within large, dominant enterprises.

Whitley presented six business system types based on the coordination of economic activities through ownership and non-ownership and employment relations. Table 2 summarizes the six types of business systems and the business system features based on Whitley’s studies. In the vertical column there are three business systems feature with their subsets and on horizontal row the six business system types are shown.

Table 2. Six types of business systems based on the coordination of economic activities (Source: Whitley, 1999, p. 34)

Business system features	Business system type					
	Fragmented	Coordinated industrial. district	Compartmentalized	State organized	Collaborative	Highly coordinated
Ownership coordination						
Owner control	Direct	Direct	Market	Direct	Alliance	Alliance
Ownership integration of production chains	Low	Low	High	High	High	Some
Ownership integration of sectors	Low	Low	High	Some to high	Limited	Limited
Non-ownership coordination						
Alliance coordination of production chains	Low	Limited	Low	Low	Limited	High
Collaboration between competitors	Low	Some	Low	Low	High	High
Alliance coordination of sectors	Low	Low	Low	Low	Low	Some
Employment relations						
Employer employee interdependence	Low	Some	Low	Low	Some	High
Delegation to employees	Low	Some	Low	Low	High	Considerable
	Hong Kong	Italian Districts	Anglo-Saxon Countries	France Korea	Germany Scandinavian countries	Japan

Based on the mentioned dimensions, Whitley developed six ideal types of business systems which distinguish from each other from the business system features defined above. As presented in Table 3 these business systems are namely fragmented, coordinated, segmented, state-organized, cooperative, highly coordinated industrial area (Whitley, 1999, p. 42). It is worth mentioning that although these names and the number of types has changed slowly over the years, the basic approach has remained the same.

Table 2. Characteristics of six major ideal types of business systems (Source: Whitley, 1999, pp. 41–4)

Types of business systems	Characteristics
Fragmented	Controlled by small owner-controlled firms which are in hostile competition with one another as well as short term market contracting with suppliers and customers. (e.g., Hong Kong economy)
Coordinated industrial district	Controlled by small firms, with greater inter-firm integration and cooperation and stronger linkages across sectors. Economic coordination is of long-term perspectives and cooperation, commitment, and flexibility. (e.g., Italia)
Compartmentalized	Controlled by large firms although it shows levels of cooperation between firms and business partners. Also, both in the goods market and in the labor market, there is more competition or hostile confrontation. (e.g., U.S., and U.K.)
State – Organized	Controlled by large corporations. These are mainly relied on government coordination and support to integrate production chains and activities across sectors. In these systems, families and partner economies are usually able to maintain direct control over large corporations since the government supports their growth through subsidized credit. (e. g., France in Europe and Korea in Asia)
Collaborative	The control of the owners of these large forms is usually union in nature and they tend to concentrate on certain industries rather than diversifying into different industries. They create greater degrees of employer-employee interdependence and trust among skilled workers than do employers in state-organized, segmented business systems. (e.g., continental Western Europe, in German-speaking countries, as well as in Scandinavia)
Highly coordinated	Controlled by forms of owner-control alliances and extensive alliances between larger firms, usually conglomerates, and distinct chains of suppliers. Also, employer-employee interdependence is high, and a large part of the workforce is integrated into the company in a more sustainable way. (e. g., Japan)

Whitley's typology is widely used in the literature (like in Hotho, 2014; Carney- Witt, 2014; Fainshmidt et al., 2018). Based on The Whitley’s typology of business systems, Sorge (2003) compared France and Germany. This typology is presented as a useful tool for knowing the interaction between dimensions of business systems. In the context of France, described as having a state-organized business system, the influence of public sector templates on corporate governance and social relations is highlighted. In contrast, Germany is characterized as having a collaborative business system with corporatist economic governance, where vocational education and training involve collaboration between employers, trade unions, and the government. In the mentioned article, it is said that business systems are often mixtures of different types, and Whitley's typology is not the only one available. Despite its limitations, typology is considered the most frequently used and differentiated in organization studies. The passage emphasizes that such typologies provide a broad understanding of how countries and business systems differ but may not capture specific and evolving differences between nations. The comparison is likened to a Swiss knife—a versatile tool with limitations that can guide toward more specific tools. The value of business system typologies lies in highlighting linkages between institutional domains and recognizing the evolving interrelationships among institutions in different domains.

2.1.1.2. Societal Institutions

According to Whitley (1999, p.48), there are four main dimensions which represent societal institutions that structure business systems characteristics. These dimensions are state, financial system, skill development and control system, and trust and authority relations. These are shown in detail in the table below (table 4).

Table 3. Whitley’s four main dimensions in terms of societal institutions (Source: Whitley, 1999, p. 48)

<table>
<tr><td rowspan="3">Proximate institutions</td><td>The state
Dominance of the state and its willingness to share risks with private owners.
State antagonism to collective intermediaries
Extent of formal regulation of markets</td></tr>
<tr><td>Financial system
Capital market or credit based.</td></tr>
<tr><td>Skill development and control system
Strength of public training system and of state–employer–union collaboration
Strength of independent trade unions
Strength of labor organizations based on certified expertise.
Centralization of bargaining</td></tr>
</table>

Table 4. (continued) Whitley's four main dimensions in terms of societal institutions

Background institutions	**Trust and authority relations** Reliability of formal institutions governing trust relations Predominance of paternalist authority relations Importance of communal norms governing authority relations

Whitley (1999) shows that business system characteristics are interdependently defined by institutions in a specific context. The importance of these institutions stems from their potential to create a specific type of ownership and economic coordination (Hotho, 2014). Whitley (1992a: 19) considers the key societal institutions that influence the types of business systems that develop in different market economies, distinguishing between more fundamental or background institutions and proximate institutions. As shown in Table 4, the state, financial systems, and skill development and control systems are proximate institutions, whereas trust and authority relations are background institutions. Proximate institutions are not only involved in the economic system directly, but also, they form a more immediate business environment. They are progressed by the formation of the modern state, and they are often named as the industrialization process product. These institutions closely influence business organization forms and in turn influenced by older and successful business systems (Koen, 2005, p.161-163). Background institutions, on the other hand, are replicated and reproduced through the educational system, religious organizations, and family and often show considerable continuity. Moreover, they influence the development of collective identities and common practices of compliance and commitment in systems of power.

According to the above-mentioned dimensions, the state is regarded as the most influential actor with its role in the economy. Based on Whitley (1999), with the power over private property rights, regulation of markets, and the comprehensive economy, the state is a prominent factor in an economic system. Its role involves with two basic features. These include the scope of the government for active participation as well as driving the economy and the extent of the government for active encouragement and the structure of intermediary groups. In institutional systems where the government dominates economic affairs by sharing risks with private business and be antagonistic to collective intermediaries, private businesses tend to have more and stronger political connections with the government to receive resources and privileges from the government. Consider, in compartmentalized business systems where the government maintains an arm's length position, formal relationships are often frequent. This is attributed to the existence of well-established formal market rules that build trust among actors and intermediary organizations and enable them to act seamlessly between government and firms. Conversely, in a state-dependent trading system characterized by a state with dominant developmental characteristics and paternalistic relations, the dynamics are different.

Financial systems are categorized into capital-market-based and credit-based systems. Capital-market-based systems involve competitive allocation of capital through trading, leading to a weak commitment to individual firms and fostering a strong market for corporate control. In credit-based systems, dominant institutions like large universal banks or a combination of commercial and long-term credit banks allocate capital through administrative processes, often focusing on specific sectors. Skill development and control systems are examined through the lens of education and training systems and the regulation of skill sales in labor markets. The level of coordination between practical learning in firms and formal education is a critical aspect. In addition, the extent to which vocational schools are well established to generate qualified employees is important. Related with dimension, the relative power of labor unions in bargaining with firms determines particularly employment relations and work management.

Background institutions, namely trust and authority relations, refer to social institutions which can make general patterns of cooperation, identity, trust, and compliance within a society. The commitment of employees and the organizational culture could be named as an example of these patterns. These are very important since they form exchange relations between business partners as well as employer-employee relations.

Since Whitley never provided a systematic empirical test of his typology, the concern was whether the business systems he identified really encompassed all the important patterns of economic organization around the world or not (Hotho, 2014). He differentiates between centralized and dispersed ownership within business systems. Moreover, he does not precisely incorporate the category of the primary owner in his typology. Therefore, this approach does not describe the role of powerful families in societies thoroughly. According to Fogel (2006) corporations could provide, promote, and secure the national status of family households in many countries. This approach disregarded these social actors and ignored the key power relations within society (Morgan, 2007). Furthermore, the utility of the NBS becomes evident in clarifying the characteristics and outcomes of systematic variations, particularly within developed economies. However, it is important to acknowledge that applying the NBS framework may not always be suitable for describing a substantial group of newly developed, emerging, and developing economies. It's necessary to highlight that these emerging and developing economies encompass a significant portion of the world's population and hold the majority of global purchasing power. Consequently, it is necessary to go beyond this framework and consider additional institutional aspects which have proven to be highly relevant to economies in Africa, the Middle East, East Europe, Latin America, and Asia. (Fainshmidt et al., 2018).

2.1.2. Varieties of Institutional Systems

Varieties of institutional systems (VIS) express the institutional context, which is constituted by the government, financial markets, human capital, social capital, and corporate governance institutions. This framework relies on NBS framework but modifies it by paying attention to the role of government and powerful families which were absent in NBS framework. More importantly, it focuses on the institutional systems of understudied emerging (developing and under-developed) countries. The more detailed of each of the VIS five institutional dimensions are explained as follow:

2.1.2.1. The State

There are three basic ways that economies are affected by the government (Fainshmidt et al., 2018):

1. Direct state dominance: The dominance of the government over national economic system is directed by the degree of straight and active participation in economic production, by majority and minority of state-owned enterprises.
2. Indirect intervention in the private sector: Just like NBS, this includes the intervention of the government in the economy by supporting the provision of capital and participating in corporate governance in a direct way.

3. Type of state: Governments are qualitatively different in the general stances that they adopt towards the national economic life. For this reason, there are four types of states which are considered as follows:
   - *Regulatory state* refers to the state which determines and enforces the rules of the game, especially the protection of property rights. In these governments, there is no significant participation in economic activity except for the inherently public goods and services. USA could be an example of this type.
   - *Welfare state* refers to the emphasis of the support and promotion of the economic and social well-being of the citizens mainly by the state's redistribution of wealth. Therefore, the employment situation is desirable and stable, and the political relations are more cooperative or harmonious.
   - *Developmental state* refers to exerting basic control over the economy, by considering the long-term national interests as well as the involvement in the development of business sectors through industrial policies.
   - *Predatory state* refers to the states that are run by elites who monopolize power by using opaque decision making, weak institutions, and lack of market competition.

2.1.2.2. Financial Markets

Financial markets are considered as the chief element of any national institutional system through which capital is acquired and distributed. Generally, by allocating resources and creating liquidity for businesses and entrepreneurs, financial markets play a vital role in facilitating the smooth functioning of capitalist economies. Moreover, government can act as a provider of financial capital, especially in those countries where the government owned the factors of production or financial institutions (Fainshmidt et al., 2018). Referring Schneider (2009), when government and/or families take up the capital provider's role, they replace these markets and inhibit their development. In a word, if we want to have a more complete picture of the national institutional context, especially in developing economies, the financial role of family wealth and capital provided by the government should also be considered in addition to capital provided by equity markets, and banking systems as emphasized in Whitley (1999). In general, the role of financial markets consists of four items, equity market, credit market (banking systems), family wealth, and state provided capital, the first two items are common in both NBS and VIS (Fainshmidt et al., 2018).

2.1.2.3. Human Capital

According to Becker (1996), the concept of human capital is rooted in economic literature. This is neither physical capital nor financial capital and it is defined as the knowledge, skills, creativity, and health of a person. He believes that these three capitals are different comparing to other capitals, but their difference stems from the fact that a person cannot be separated from his skills, health, and values, while they can be separated from his assets as well as his properties.

Moreover, the relations of labor are important in how human capital is used. Also, they introduce a distinction regarding the coordination or non-coordination of organizations' strategic activities with the workforce. In organized and strong societies (usually through institutionalized legal arrangements that derive from long-term political and economic ideology), the time horizon of strategic investment is longer, also strategies and practices as well as human resources such as salaries and promotions are negotiated with the workforce (Fainshmidt et al., 2018). Based on Jackson and Deeg's (2008) insights, the significance of knowledge capital takes center stage at the national level as it shapes how organizations involve employees in productive activities. For example, in economies where knowledge capital is abundant, companies might invest in skills specific to the firm. Conversely, as highlighted by Schneider (2013), a deficiency in knowledge capital may drive investments in broader capabilities and even lead to the contraction of certain sectors. It's noteworthy that the majority of countries within the NBS framework tend to exhibit a high level of knowledge capital, owing to strong education systems and high literacy rates. These nations also boast well-developed healthcare services and longer life expectancies. Additionally, considering the foundational institutions discussed by Whitley, as mentioned earlier, there is a demonstrated coordination with labor in NBS.

2.1.2.4. Social Capital

Social capital refers to the positive product of human interaction. It is not possessed by an individual but appears in the potential between social network connections between individuals. Moreover, this can be used to describe the contribution of an organization's success that can be attributed to personal relationships and networks inside and outside the organization. It can also be used to describe personal relationships within a firm that help build trust and respect among employees and lead to increased company performance. It enables a group of people to work together effectively to achieve a common goal or objective. It allows a community or organization, such as a corporation or a non-profit organization, to function as a whole through shared trust and identity, norms, values, and interrelationships. As previous studies show, trust significantly shapes patterns of economic activity in countries (Knack and Keefer, 1997). The extent to which economic actors trust each other as well as institutions is an organizing principle that emphasizes behavior and coordination among companies (McEvily, Perrone, and Zaheer, 2003). Based on Kong (2015), and Wood and Frynas (2006), whenever there exists a lack of generalized trust, people and organizations count on informal networks which focus on extended clan or family ties as an organizing principle.

Trust levels in the countries classified by the NBS typologies stand out positively in comparison to other nations within the same region. Public trust, particularly in developing and emerging markets, tends to be lower due to prevalent corruption and inefficiencies. This is especially evident in developing economies where corruption is not only widespread but also arbitrary, as highlighted by Fainshmidt et al. (2018). However, it's essential to note that this isn't universally applicable, as prior research has revealed notable diversity in trust and corruption levels across these economies (e.g., Kong, 2015). For example, countries emphasizing economic equality may experience heightened trust regardless of their economic development level (Uslaner, 2007).

2.1.2.5. Corporate Governance

The role of corporate governance is mainly related to how firms are directed and controlled. Its purpose is to facilitate effective, entrepreneurial, and prudent management that can bring long-term success to the company. Ownership, in most countries in the world, is so much emphasized. This aspect of the national economic context is addressed directly in NBS typology. Therefore, ownership concentration is an important element of the institutional economic context because it shapes how owners, labor, and management interact with each other (Fainshmidt et al., 2018).

Moreover, the significance of wealthy family control extends to corporate governance in most parts of the world. Family business owners (family ownership) are concerned not only with financial returns, but also with the non-financial aspects of the firm, which are in line with the family's needs, like identity, the ability to exert family influence and continue the family dynasty (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, and Moyano Fuentes, 2007, p. 106).

According to Henisz's (2017) comparative analysis against alternative systems where the scope or nature of stakeholders is wider, certain institutional systems mainly involve the extended family and elites as the main stakeholders. Finally, Steier, Chua, and Chrisman (2009) mentioned primary unifying feature referred to the extended family which is regarded as a means of bridging organizational gaps. These are referred to family intervention. That is, they manage their businesses directly rather than relying on professional management. Therefore, management is much related to these families and indeed like some middle eastern countries, the government is regarded as an extension of the mentioned families.

2.1.2.6. Institutional Configurations in VIS

Using a qualitative methodology, Fainshmidt et al. (2018), described seven types of institutional configurations by considering 68 emerging and developing countries. These seven configurations are state-led, fragmented with fragile state, family-led, centralized tribe, emergent LME, collaborative agglomerations, and hierarchically coordinated systems.

The first configuration includes15 countries (refer to Table 5), including nations like Pakistan, Russia, Venezuela, China, Vietnam, and Indonesia. In these countries, civil liberties are relatively restricted, with Malaysia and India exhibiting more extensive individual and civil liberties within this typology. Across all these nations, the government actively and directly influences the economic structure of society. Political networks have a comprehensive role in coordinating economic activities and often monopolize and retain power. While family ownership and management exist, the predominant influence of the state results in close associations between these families and the government, reinforcing state dominance. Both private and public banks contribute financial capital in this scenario, leading to its classification as "State-

Led." This is the same as Whitley's concept of a "state-organized" National Business System (NBS), where the state actively participates in shaping the economy.

Table 4. List of countries under seven varieties of institutional systems (Source: Fainshmidt et al., 2018, p. 315)

State-Led	Fragmented with Fragile State	Family-Led	Centralized Tribe	Emergent LME	Collaborative Agglomerations	Hierarchically Coordinated
Argentina	Angola	Algeria	Bahrain	Botswana	Czech Republic	Bulgaria
Bangladesh	Cameroon	Azerbaijan	Iran	Chile	Estonia	Georgia
Belarus	D.R. Congo	Brazil	Kuwait	Hong Kong	Hungary	Jordan
China	Egypt	Colombia	Qatar	Israel	Latvia	Kazakhstan
India	Ethiopia	Mexico	Saudi Arabia	Namibia	Lithuania	Korea (South)
Indonesia	Ghana	Morocco	UAE	Singapore	Poland	Lebanon
Malaysia	Kenya	Nigeria		South Africa	Slovak Republic	Romania
Mongolia	Rwanda	Peru			Slovenia	Taiwan
Pakistan	Senegal	Tunisia				Turkey
Philippines	Sudan	Yemen				Ukraine
Russia	Tanzania					
Sri Lanka	Uganda					
Thailand						
Venezuela						
Vietnam						

The second configuration encompasses 12 nations namely both sub-Saharan Africa and the Middle East. Within these countries, there is a notable prevalence of both direct and indirect government intervention, accompanied by significant institutional gaps. Human, financial, and social capital are observed to be relatively low in this context, resembling Whitley's (1999) concept of a "fragmented business system." Companies operating within this system often organize their economic activities independently, relying on internally accumulated wealth and lacking coordination with the workforce. As such, this configuration could be named as "Fragmented with a Fragile State."

The third configuration, designated as Family (family-led), includes ten economies in North Africa, Central Asia, and Latin America. In this arrangement, wealthy and influential families have a central role in ownership, resource allocation and management. This is similar to Whitley’s “highly coordinated” business system even though, the role of the government is low, and the growth policies are more focused here. Also, in these economies trust is high, although the labor coordination is low.

Configuration 4 consists of six wealthy countries located in the Middle East. The key characteristic of them is the emphasis on public welfare. Most of them are still tribal strictly in nature, also they tend to look after themselves within the extended clan. Therefore, this is called "centralized tribe". According to an expert in these economies "the family is the state," thus the boundaries often blur.

The fifth configuration consists of seven economies with a market-oriented focus. In countries like Singapore, there is a certain level of government influence in organizing the creation of a regulatory state system. These countries show high levels of financial, social and knowledge capital. Notably, fast-developing economies such as Botswana and Namibia stand in stark contrast to other African countries that struggle with persistent institutional gaps. This system has been termed "emerging liberal market economies (LMEs)", which has similarities to liberal market economies such as the United States and the United Kingdom, as discussed by Hall and Suskis in 2001.

Configuration 6 includes eight economies in Eastern Europe, in which the government is mostly developed and has policies that focused on growth and investment in industrial sectors. In these economies, ownership is not so centralized, whereas it needs to be coordinated with the workforce. Also, banks are the main source of financial capital. In these countries, economies are generally more concentrated on growth and development. Thus, this is called “collaborative agglomerations”.

The seventh configuration, comprising ten countries across East Asia, the Middle East, Central Asia and Eastern Europe, follows a similar pattern to the previous one. In these countries, financial capital primarily originates from banks and the government plays a prominent role. Public trust is minimal, and while families seek to play a more effective role in corporate governance, their influence is relatively less than in other configurations. However, these countries show high levels of knowledge capital. A combination of low public trust, a lack of coordination with a high-quality workforce, and an overemphasis on coordination between centralized owners and state investment agencies characterizes this configuration as "hierarchical coordination."

2.1.3. Institutional Systems Differences between Iran and Türkiye

As presented in Table 6 below, Fainshmidt et al. (2018) classified Iran and Türkiye into centralized tribe and hierarchically coordinated institutional configurations. Centralized tribe refers to those societies that their emphasis is on the public welfare. The powerful families are both protectors of the main resources and a provider of safety network for the lower-level people existing in society. In the case of Iran, this applies regarding the religious elit, rather than specific families, which rules the country according to regilous rules and acts as a welfare state by controlling and allocating resources, particularly natural resources, among the different sections of the society. In this sense, it can labeled as a centralized tribe due to the prevalent tribal nature in many of these societies, where individuals tend to prioritize their own well-being within the extended clan. In contrast, a hierarchically coordinated system places significant importance on banking as the primary source of financial capital and boasts substantial levels of knowledge capital. The lower level of generalized trust and heightened lack of coordination, coupled with a high-quality workforce, indicate that coordination predominantly takes place among centralized owners, often family-based, and state investment agencies. In this system, the state has an active role, and it contains families that have powerful influence over corporate governance. In Table 6, the evaluations done by Fainshmidt et al. (2018) on Iran and Türkiye's institutional systems with respect to each of seven institutional dimensions are presented.

Table 6. A taxonomy of seven varieties of institutional systems in five regions (Source: Fainshmidt et al., 2018, p. 315)

Type of institutional system	**Iran (Centralized Tribe)**	**Türkiye (Hierarchically Coordinated)**
The state		
Direct dominance	High	Low
Indirect intervention	High	High
Type of state	Welfare	Developmental
Financial markets		
Equity markets	Low	Low
Credit markets	High	High
Family wealth	High	Low
State provided capital	High	Low
Human capital		
Coordination with labor	Low	Mixed
Knowledge capital	High	High
Social capital		
Generalized trust	Low	Low
Corporate governance		
Ownership concentration	High	High
Family ownership	High	Mixed
Family intervention	High	High

This table shows that both countries are similar in social capital and corporate governance (except the family ownership), whereas they are different in the role of the state as well as the financial markets. Referring to the human capital, they are the same in knowledge capital, but different in coordination with labor. Although this comparison gives an idea about the similarities and differences between Iran and Türkiye's insititutional systems, we will try to refine and updated this comparison in Section 4.1.

2.1.4. Associations between National Institutional Systems and the Characteristics of Main Economic Actors

In this section, we are discussing the relations between institutional systems and the features of main economic actors. In Table 7 below, Whitley's (1999) suggestions on the connections between institutional features and ownership coordination characteristics are depicted. On the top horizontal row there are business system characteristics. In the original table in Whitley (1999), nine features were named. However, as our study is limited to the characteristics of main economic actors, we only consider three of the features here, which are direct owner control, market owner control, and high ownership horizontal integration. The positive and negative signs in the table indicate whether the presence of these features is likely to encourage or inhibit the development of specific business-system characteristics. The explanation of this table is given below.

Table 7. Connections between institutional features and business-system characteristics (Source: Whitley, 1999, p. 56)

Institutional Features	Business System Characteristics		
	Direct Owner Control	Market Owner Control	High Ownership Horizontal Integration
The state			
Dominant, risk-sharing state			
Antagonistic to intermediaries	+	-	
Formal regulation of markets			-
Financial system			
Credit-based		-	-

Table 7. (continued) Connections between institutional features and business-system characteristics

Capital market based.	-	+	+
Skill development and control system Strong public collaborative training system			
Strong unions			-
Strong skill-based groupings			
Centralized bargaining by sectors			-
Trust and authority			
Low trust in formal institutions	+	-	
Paternalist authority relations	+	-	
Communitarian authority relations			-

Whitley (1999) proposes that a high level of dependence on the state promotes direct control, as owners manage political risks directly and may face challenges implementing agreements through third parties. The lack of transparency in state coordination makes it disadvantageous for remote owners to leave political negotiations to managers, necessitating their direct involvement. Also, in societies where there is low trust in formal institutions governing and the authority is generally paternalistic in nature, direct owner control is highly favored. This is due to the lack of robust mechanisms ensuring owners' trust in managers to act in their interests. In such environments, owners are unlikely to delegate control over their property to employees. Additionally, if authority is more personal and direct rather than formal and procedural, owners are expected to exercise direct control.

The presence of market-based forms of owner control is closely tied to the existence of liquid capital markets, where assets can be easily traded and managed as part of a portfolio. Conversely, these forms of control are unlikely to be widespread in economies dominated by a risk-sharing state due to associated political risks. Also, market-based forms of owner control thrive in an environment where trust in formal procedures is high and procedural authority is prevalent. However, such mechanisms are less likely in credit-based financial systems due to substantial interdependence and lock-in between financial asset owners/controllers and enterprise managers.

Encouraging horizontal diversification in ownership units is influenced by the nature of financial systems. Capital market-based systems encourage more horizontal diversification because firms in these systems can internalize risk management without being constrained by alliances with banks. In contrast, credit-based financial systems may prevent such diversification due to greater interdependence between banks and firms. The existence of formal market regulations, strong unions, centralized bargaining, and notions of social authority are recognized as factors that can limit unrelated diversification by limiting industry entry and exit and increasing interdependence among firms.

Referring to the above-mentioned explanations, it seems that these connections is not well established. For instance, although the dominant financial system in Türkiye has been banking systems, the main economic actors are horizontally and vertically integrated family-owned business groups. This contradicts Whitley's argument on the connection between financial system and horizontal integration. Connecting. Therefore, we rely on the institutional dimensions of VIS developed by Fainshmidt et al., (2018) and variations in the characteristics of the main economic actors studied by Whitley (1999) focusing on two countries, Iran and Türkiye. In other words, we are combining VIS and NBS perspectives in comparing the two countries.

CHAPTER 3: METHODOLOGY

This chapter provides information concerning the purpose of the research, its research model and design. It also describes the data collection process, including the sampling as well as the data sources that are used to reveal the differences between two countries. Lastly, we provide the measurements that are used in this thesis regarding the dependent and independent variables.

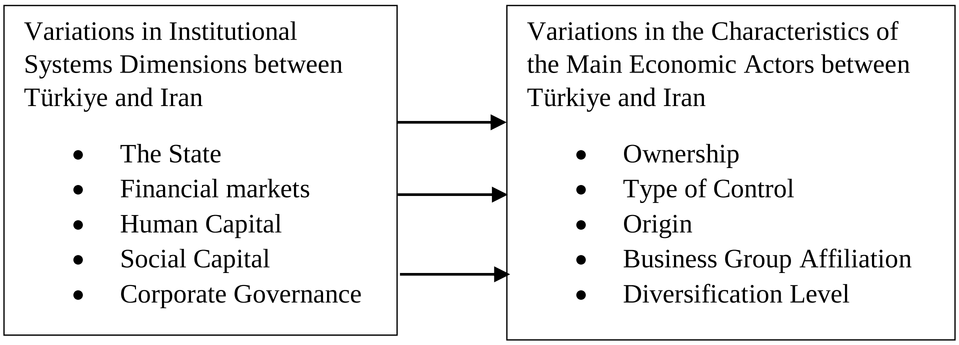
3.1. Purpose of the Research

The aim of this thesis is to reveal how and to what extent the institutional systems varieties in the role of the state, financial markets, human capital, social capital, and corporate governance lead to differences in the features of main economic actors between the two countries. Thus, the thesis involves two comparisons, one is to compare their institutional systems, the other is to compare their main economic actors. In the following section, there is a research model that is used throughout this research and there is a brief description about the main economic actors dimensions.

3.2. Research Model

In this research, as our purpose is to explain the differences in the characteristcs of the main economic actors between Iran and Türkiye with reference to the differences between their instituional systems, we propose the following model. On the left side of this figure, we rely on institutional systems dimensions stated by Fainshmidt et al., (2018) and the rights side is borrowed from Whitley (1999). The characteristics of the main economic actors considered in this research are: ownership (i.e., considering whether the majority of shares of a company are owned by the state or private entrepreneurs), type of control (i.e., whether a company is direct, alliance, or market control based), origin (i.e., whether owned by domestic or foreign actors), business group affiliation (i.e., whether a company is under, or affiliated with, a diversified business group or independent company), and diversification level (i.e., diversified relatedly or unrelatedly).

Table 8. The theoretical framework of the study



3.3. Research Design

According to Yin (2014), “A research design is a logical plan for getting from here to there, which may be defined here as an initial set of questions to be answered and a set of conclusions about these questions”. It is also added that “between ‘here’ and ‘there’ may be found a number of major steps, including the collection and analysis of relevant data”. In this research the institutional systems as well as the major economic actors of Iran and Türkiye are considered. Here, we implement qualitative research. According to Neuman (2014), in this kind of research, researchers confront a range of data and meanwhile they should be aware of new insights during the data collection process. Here, we follow a non-linear research path. It requires us to make successive passes through the stages. We may move forward, backward, and sideways before moving forward again. It is more of a spiral than a straight staircase. With each cycle, we may collect new data and gain new insights. This implies for our research that even if we start with a research model, the variables and their measurements are subject to change during the data collection and analysis process.

As we are comparing two countries, we use cross-national comparative research design. Comparative research is a broad term to refer to comparing any specific topic in two different contexts. When "cross-national" is added to the term "comparative research", the definition becomes more specific. Cross-national comparative research is conducted when countries are compared with respect to the same concepts with the aim of generalizing or gaining a better understanding of the studied phenomena (Pardo et al., 2009). Thus, researchers refer to cross-national research as a study, that its purpose is to compare the specific issues of the phenomena of two or more countries according to their different socio-cultural situations. On the other hand, according to

Neuman (2014), there is comparative historical research which compares different countries by focusing on one or more historical periods. This is often done by using some evidence, interviews, observations, documents, or the available statistics. The documents could be any books, newspapers, magazines, photographs, archives etc. It is noteworthy that this kind of research can be descriptive, exploratory, or even explanatory. But it is usually a descriptive kind of research. Therefore, our research is done by describing the political, economic, and institutional systems as well as considering the major economic actors of the two countries and lastly comparing them in detail. Although our study considers the historical background of the two countries, it is not truly historical comparative research because it is not focusing on specific historical periods.

3.4. Sampling

The reasons for choosing Türkiye and Iran as the case countries to compare are several. First, they are both developing countries, which suits the purpose of the study to contribute to the better understanding of business environments in less-studied developing countries. Secondly, and more importantly, although they have geographic and cultural commonalities, Iran and Türkiye have institutional systems distinct from each other. These obvious differences in their institutional systems enable us to explore the differences between their main economic actors.

Regarding the sampling of companies as the main economic actors from the two countries, we used two websites in Iran and Türkiye which provide the list of largest companies, namely IMI-100 and ISO 500 respectively, as the frame of sampling. We choose the top 50 companies for each country from the lists. In Iran, IMI-100 list which is prepared by Industrial Management Institute, contains a list of top companies in Iran which are updated each year. It should be noted that the most recently uploaded list refers to the year 2021. The ranking indicators in this are as follows: **Company size and growth indicators**: Sales, sales growth, sales per capita, value added, assets, asset growth, number of employees, employment growth.

- **Profitability and performance indicators**: Profitability, profit growth, return on sales, return on assets, return on equity, asset turnover, ownership ratio, share of non-current assets from total assets.

- **Productivity indicators:** Total productivity, total factor productivity, human power productivity, capital productivity
- **Export indicators:** Export, export per capita, export growth, export to sales ratio
- **Liquidity indicators:** Current ratio, the ratio of net funds from operations to sales, the ratio of net funds from operations to operating profit
- **Debt indicators:** Debt ratio, interest expense coverage ratio
- **Market indicators:** Market cap, market return on equity, P/E ratio, P/B ratio

In Türkiye, ISO 500 list is prepared by Istanbul Chamber of Industry (ISO) and involves 500 largest industrial firms every year. In ISO 500 list, companies are ranked by size (e.g., net sales, exports, number of employees) in addition to manufacturing (net) sales. However, the Türkiye's list contains manufacturing companies or industrial organizations only, excluding service companies like banks, insurance companies, healthcare organizations, etc. Therefore, the two lists do not match with each other since Iran's list contains banks and insurance companies. Like Iran, the recent uploaded list refers to the year 2021. We chose the companies from the top one (in the 1st ranking) to the one in the 50th ranking of the two lists, regardless of whether these companies are state-owned or private, foreign, or domestic, or even in what industry they work. You can see the sampled companies for each countries in the tables 4.5 and 4.6 of the next chapter.

3.5. Data Sources

In order to consider and compare the institutional systems in the two countries, we use data sources which are provided by UN, World Bank, WEF Global Competitiveness report, Heritage Foundation Economic Freedom, Turkish Statistical Institute, Human Development Index, and Global Health Security Index. In order to collect data for considering the major economic actors in the two countries, we relied on the listed companies' websites. For this study, we do not focus on a specific time or period, but we study countries cross-sectional way by gathering the most recent data available for both countries.

3.6. Measurement

Table 3.2. shows dimensions of institutional systems as independent variables and their indicators. The table is adapted from Fainshmidt et al. (2018, p.312), with the difference that some sources like UN, World bank, and WEF Global Competitiveness report have been updated. By employing the indicators described in Table 9, we explored the institutional systems differences between Iran and Türkiye.

Table 9. Measures and data analysis of institutional dimensions

Institutional Elements	Data Sources
Role of the State	
State direct dominance	● Assessing the amount of government ownership through direct dominance and examining the percentage of government spending in relation to GDP, based on World Bank data (2021) under the title of "General government final consumption expenditure"
State indirect intervention	● Examining whether the government intervenes in the private sector through regulation, political networks, financing and participation in corporate governance (referred to as indirect dominance), and using the Heritage Foundation's Index of Economic Freedom (2023) under the title of "2023 index of economic freedom", World Bank (2021, 2022, 2023) under the title of "World Bank open data" (searching by country, time, and title).
Type of state	● Assessing the government's overall stance on the economy, including regulatory, welfare, developmental and/or predatory aspects, as discussed by Carney and Witt (2014).
Role of Financial Markets	
Equity markets	● Investigating the primary sources of financial capital (such as banks, stock markets, family, and government) in both countries.
Credit markets	● An analysis of the primary sources of financial capital, including banks, stock markets, households and government, along with an assessment of the ratio of credit to the private sector to GDP based on World Bank open data (2021) under the title of "Domestic credit to private sector".
Family wealth	● Investigating the primary source of financial capital such as banks, stock markets, family and government.
State provided capital	● An examination of primary sources of financial capital, which may include banks, stock markets, family and government.

Table 9. (continued) Measures and data analysis of institutional dimensions

Role of Human Capital	
Coordination with labor	● Assessing the coordination of economic activities with organized labor by examining new rates of unionization-unionization (according to Hall and Jones, 2015) and the index of labor coordination laws presented by Butero et al. (2004), and World Bank (2022) under the title of “labor force, total”, Heritage Foundation's Index of Economic Freedom (2023) under the title of “2023 index of economic freedom”,
Knowledge capital	● Investigating the presence of high-quality knowledge capital in the economy by analyzing the human development index - specifically, education and health indicators (based on the “UN report”, 2022), Human Development Index (2021) under the title of “human capital country brief” , World Bank (2020, 2022) under the titile of “Economic Monitor managing economic uncertainties”. Global Health Security Index (2021) under the title of “2021 GHS index country profile”.
Role of Social Capital	
Generalized trust	● Examining the presence of a high level of public trust both in society and in institutions by examining the index of corruption and ethics in society (according to Zibaklam et al., 2019) and (Ozek, 2019).
Role of Corporate Governance	
Ownership concentration	● Investigating whether the ownership of critical organizations is moving towards dispersion or concentration.
Family ownership	● Investigating whether affluent families are the typical owners of pivotal organizations, as Fogel (2006) suggested.
Family intervention in management	● In the case of family businesses, check whether they are managed by the family or whether there is a professional approach, as reviewed by Öktem and Gökşen (2009).

The second part of our research is about the main economic actors. In Table 10, we mention about how the characteristics of the main economic actors are measured in this research. These measurements are considered in two levels, measurement at the company level and measurement at the national level and they are shown in two columns

Table 10. Measures and data analysis of the characteristics of main economic actors

Main Economic Actors	Measurement at the company level	Measurement at the national level
Ownership Type	Whether the majority of shares are owned by the state or private individuals, families, or companies	The ratio of the total number of companies that have state and private ownership (separately) to the total number of companies (50 companies).
Type of Control	The extent to which shares of the company are concentrated with single (direct) ownership structure, dispersed among few (alliance) or many (market) shareholders	The ratio of the total number of companies that have direct, alliance, and market-control (separately) to the total number of the companies.
Business Group Affiliation	Whether the company is affiliated with a business group that hierarchically coordinates it.	The ratio of the total number of companies that are affiliated and independent (separately) to the total number of the companies.
Origin	Whether the company's majority of shares are hold by domestic or foreign actors.	The ratio of the total number of companies that are domestic and foreign (separately) to the total number of companies.
Diversification	If the company is affiliated with a business group, the extent to which the companies controlled by the same ownership operate in different industries according to the four-tiered Global Industry Classification Standard (GICS), related or unrelated diversification.	The ratio of the number of business groups that are diversified relatedly or unrelatedly one (separately) to the total number of business groups with which the company is affiliated. It is not calculated for independent companies.

CHAPTER 4: FINDINGS

This chapter consists of a comparison between Iran and Türkiye with respect to their national institutional systems and the characteristics of their main economic actors. In the comparison of national institutional systems, we follow the dimensions described in the Fainshmidt et al.'s (2018) VIS perspective while we follow the ownership coordination dimension of the Whitley's (1999) NBS approach. The latter comparison specifically contains a comparison of the largest 50 companies from each country with respect to their time of founding, ownership (private, public), type of control (direct, alliance, market), origin (domestic, foreign, domestic-foreign partnership), business group affiliation (affiliated, independent), business lines, and diversification level.

4.1. Comparison of National Institutional Ssystems in Iran and Türkiye

Based on what was mentioned by Fainshmidt et al. (2018: 310), it is suggested a new contextual framework which is more comprehensive in terms of considering the role of the state and powerful families. Accordingly, there are five institutional dimensions of economic activity with their sub elements, namely, (1) the role of the state in the economy, (2) the role of financial markets, (3) the role of human capital, (4) the role of social capital, and (5) the role of corporate governance institutions. As we mentioned earlier, Fainshmidt et al. (2018) categorized Iran and Türkiye into centralized tribe and hierarchically coordinated institutional systems, respectively. However, their categorization is quite general and outdated and needs more updated and nuanced analysis that we will do in the following sections.

4.1.1. Role of the State

According to the mentioned type of institutional systems, Iran is labeled as "Centralized Tribe" business system. In these societies, there is an emphasis on influential families as custodians of essential resources.That is why in the economies like this country, "the family is the state." In Türkiye, there exists a developmental state and that takes a more active role in economic development. Based on Fainshmidt et al. (2018), its business system is named as "Hierarchically Coordinated." The role of the state dimension consists of three elements, (1) the state direct dominance, (2) the state indirect intervention, (3) type of state, that are explained regarding the two countries in the following sections.

4.1.1.1. State Direct Dominance

According to Rassam and Vakil (2020), significant part of the economy is controlled by the state and the quasi-private sector in Iran. This consisted of those with political ties in powerful circles within the deep state. The deep state in Iran is the Office of the Supreme Leader (Beit-e Rahbar), the intelligence and security services, the judiciary, a religious bureaucracy, the foundations (bonyads), and quasi-private entities and their subsidiaries such as Setad Ejrayi Farmane Hazrate Imam (Executive Headquarters of Imam's Directive), Economic Organization of Astan-e Qods-e Razavi (Imam Reza Shrine), IRGC Cooperative Foundation, and Bonyad-e Mostazafan. Privatization in Iran has given a large share of government-controlled assets to companies and businesses related to this deep state. The economic branches of the armed forces and foundations such as Astan-e Qods-e Razavi, Setad Ejrayi, the 15th Khordad Foundation, and even the Komite Emdad, among others, have a lot of control over the quasi-private sector. One of the key actors is the IRGC, that is not only Iran's main military force, but also is a key player in the economy and politics of Iran. This involvement dates to the end of Iran-Iraq war in 1989. It took part in projects of construction with the help of its engineering arm, Khatamol-Anbiya. Also, it is involved in the stock market that is concentrated on strategic industries like automotive, mining, telecommunication, and petrochemicals. According to Ghasseminejad et al., (2016), there is an estimation which is mentioned that IRGC's control over the economy is about 25–40% of the GDP and regarding Ghasseminejad-Jahanparvar (2021), IRGC controls more than 700 companies.

Based on Buğra (1994), Türkiye's political system is semi-authoritarian. Its economy has developed under a state-dependent business system that a powerful state controls and coordinates economic activities. However, it fosters special relationships rather than acting as a neutral mediator between social groups with conflicting interests (Özen and Akkemik, 2012). Therefore, based on Buğra (1994), building connections with the state has always been the main driver of organizational strategy and performance.

To evaluate the role of the government in both countries, a comparative analysis can be done by examining the ratio of government expenditures (especially government final consumption expenditures) to GDP). Government expenditures include the whole state current expenditures for purchases of goods and services plus the national defense and security expenses. Regarding the World Bank open data (2021), it shows that the Iran's expenditure is 14.2 percent of GDP (equal to 51,200,047.10 dollar, with annual growth 8.3 percent) in 2021, whereas the Turkish expenditure is 13.1 percent of GDP (equal to 106,960,610.91 dollar, with annual growth 2.6 percent). According to this data, the state has almost equal (14.2 vs 13.1) dominance in 2021.

4.1.1.2. State Indirect Intervention

For this element, we can refer to two data sources and give the data in detail. Firstly, we provide World Governance Indicators obtained from World Bank open data (2021) and show them in Table 11., then by using Heritage Foundation Economic Freedom Index (Index of economic freedom, 2023), more data are given in figures.

Table 11. World governance indicators and the comparisons between Iran and Türkiye (Source: World Bank Open data, 2021)

World Governance Indicators	Iran	Türkiye
Control of Corruption: Estimate	-1.1	-0.4
Control of Corruption: Percentile Rank	13.5	40.4
Government Effectiveness: Estimate	-0.9	-0.1
Government Effectiveness: Percentile Rank	18.3	49.5
Political Stability and Absence of Violence/Terrorism: Estimate	-1.6	-1.1

Table 11. (continued) World governance indicators and the comparisons between Iran and Türkiye

Political Stability and Absence of Violence/Terrorism: Percentile Rank	7.5	12.3
Regulatory Quality: Estimate	-1.6	-0.1
Regulatory Quality: Percentile Rank	4.8	49.0
Rule of Law: Estimate	-0.9	-0.4
Rule of Law: Percentile Rank	17.8	36.5
Voice and Accountability: Estimate	-1.5	-0.9
Voice and Accountability: Percentile Rank	9.2	23.7

According to World Bank data (World Governance Indicators, 2021), Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Here, the standard normal distribution ranges from about -2.5 to 2.5. Also, percentile rank shows the country's rank among all countries that are covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to highest rank. The data in this item shows that Türkiye is much better than Iran regarding corruption control.

Additionally, below we provide figures of corruption perception for both countries, their change of scores is from 2012 to 2022:

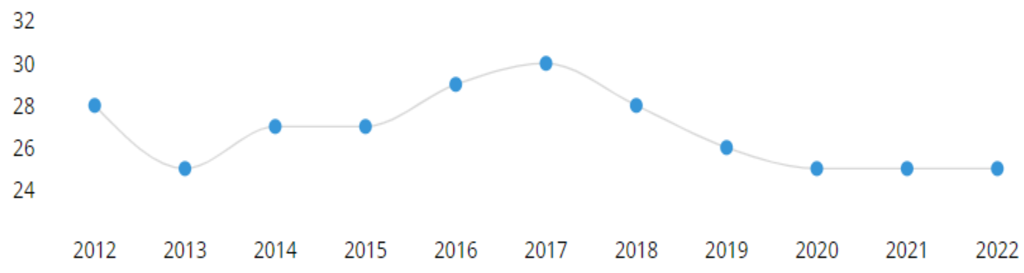


Figure 1. Corruption perception rate for Iran (2012-2022)

Iran’s score for this item is 25 out of 100 (means 100 is very clean and 0 is highly corrupt) and its rank is 147 out of 180. Whereas Türkiye’s score is 36 out of 100 and the rank is 101 out of 180. These data show that Türkiye’s condition in terms of corruption is better than Iran. (Based on Transparency international, the global coalition against corruption).

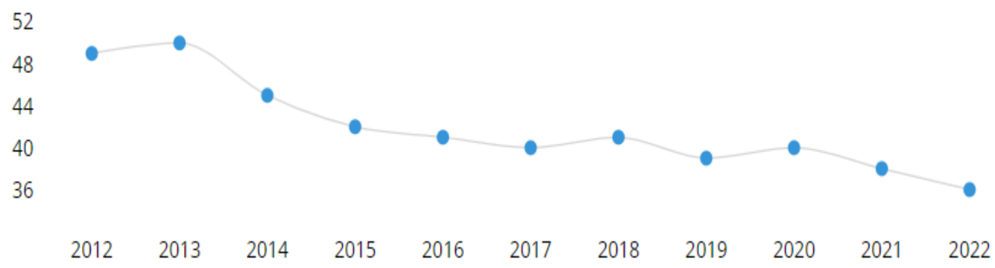


Figure 2. Corruption perception rate for Türkiye (2012-2022)

Referring to table 11, ‘Government Effectiveness’ captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (World Bank open data, 2021). The above-mentioned data illustrate that again Türkiye is better than Iran in terms of the government effectiveness, such as quality of public services, its degree of the independence from political pressures and so on.

Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism (World Bank open data, 2021). Still, in the item, both percentile rank and estimate data of Türkiye is better, comparing with Iran's information.

Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development (World Bank open data, 2021). As it is shown in the table, the estimate item for Iran is -1.6 and for Türkiye is -0.1, indicating that Türkiye is better than Iran in regulatory quality. The same is with their percentile rank, Türkiye's rank is 49.0, whereas Iran's rank is 4.8.

The last two cases are Rule of Law and Voice and Accountability. According to World Bank's given definition, the former captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence, and the latter captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. Again, in both cases, according to the figures in the table above, Turkish government is much better and has the higher rank than Iran. So, based on this information, we can say that in Iran there is higher indirect intervention of the state into economy than Türkiye.

For better understanding, we also provide following details from Heritage Foundation Economic Freedom Index (Index of economic freedom, 2023), comparing Iran and Türkiye in 12 items (based on data in 2022). Accordingly, Iran's economic freedom score is 42.2 in 2022. It is said that it ranks 14th among 14 countries in the Middle East/North Africa region, and its overall score is much lower than the global and regional average. State intervention undermines every category of economic freedom measured in this index. Corruption and defects in the legal framework weaken the rule of law. The government dictates production activities and derives most of its revenue from the oil sector. The restrictive regulatory environment has marginalized the private sector.

On the other hand, Türkiye's economic freedom score is 56.9. It ranks 41 out of 44 countries in the European region, and its overall score is lower than the global average. However, based on the data in Heritage Foundation (Index of economic freedom, 2023), its economy is one of the most dynamic developing markets in the region that despite the state involvement in the economy, its private sector is getting larger rapidly. Advancement toward economic freedom has been slowed mostly by institutional deficiency. Property rights are relatively well protected, but the judicial system is relatively ineffective in fighting corruption. In the following figures the comparison of these two countries in terms of 12 items are illustrated.

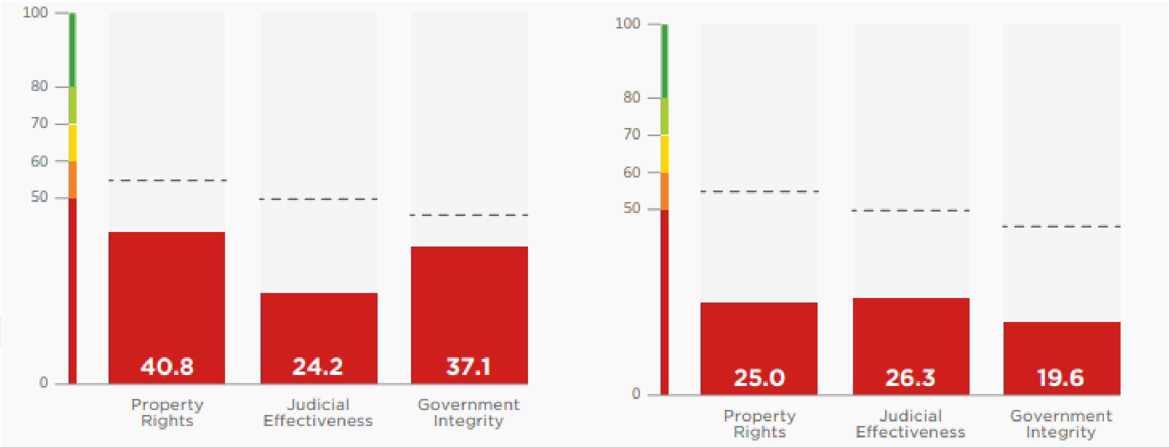


Figure 3. Rule of law (left side is related to Türkiye, right side is related to Iran) (Source: Heritage Foundation Economic Freedom Index, Index of economic freedom, 2023)

As it is obvious in these figures, all three scores (property rights, judicial effectiveness, and government integrity) are below the world average in both countries.

Figure 4. Government size (left side is related to Türkiye, right side is related to Iran) (Source: Heritage Foundation Economic Freedom Index, Index of economic freedom, 2023)

Based on the recent data, Türkiye’s top individual and corporate tax rates are, respectively, 40 percent and 23 percent, for Iran these rates are, respectively, 35 percent and 25 percent. Türkiye’s tax burden equals 23.9 percent of GDP, for Iran equals 6.6 percent of GDP. Türkiye’s three-year state spending and budget balance averages are, respectively, 33.6 percent and -4.6 percent of GDP, for Iran these averages are, respectively, 13.2 percent and -4.9 percent of GDP and finally Türkiye’s public debt equals 41.8 percent of GDP, and for Iran, this equals 42.4 percent of GDP.

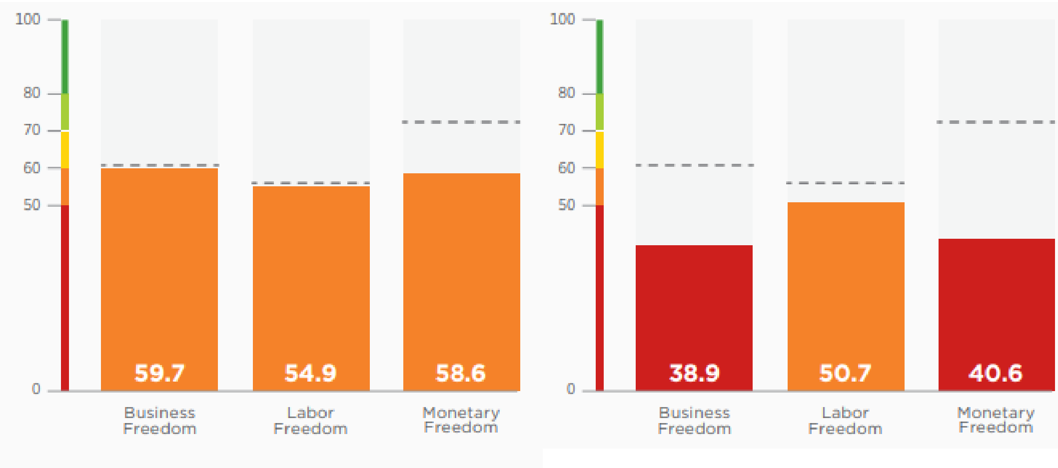


Figure 5. Regulatory efficiency (left side is related to Türkiye, right side is related to Iran) (Source: Heritage Foundation Economic Freedom Index, Index of economic freedom, 2023)

In Türkiye, it shows that the process of establishing private companies has become more time-consuming. Red tape and inefficient enforcement of regulations continue to hinder entrepreneurship. The informal sector is large, this is partly because of the tight labor market. Monetary stability is fragile, and inflation remains high, (the consumer price index in 2022 was 83.45% according to the Turkish Statistical Institute). About Iran, as it was mentioned earlier, the private sector continues to be limited by a restrictive and heavy regulatory environment. Employment regulations are confining, and the labor market remains stagnant. Financial solidity is weak and strict government controls distort the price level. The latest available inflation rate is 40.1%.

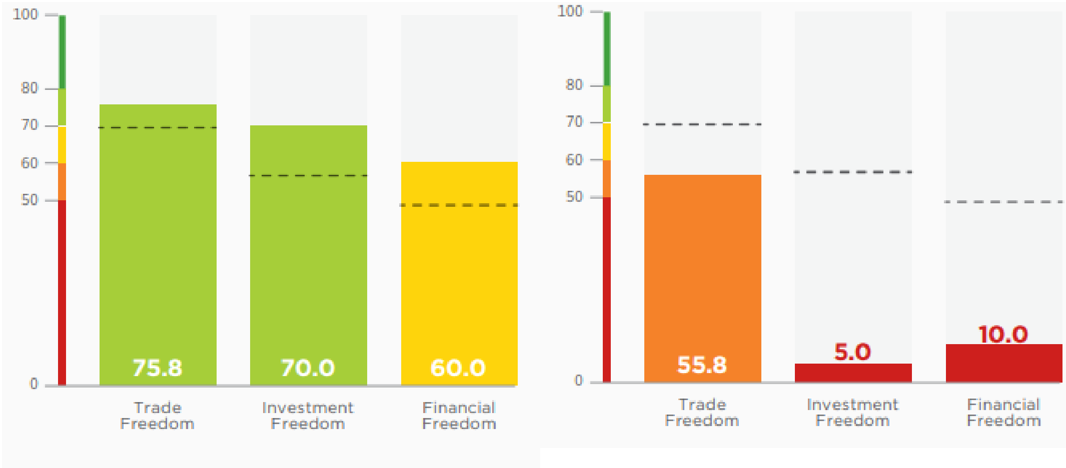


Figure 6. Open markets (left side is related to Türkiye, right side is related to Iran) (Source: Heritage Foundation Economic Freedom Index, Index of economic freedom, 2023)

In Türkiye, the average trade weighted tariff rate shows 9.4%, but Iran's rate is 12.1%. In Türkiye the non-tariff barriers limit trade freedom. Foreign investment is welcomed, despite the restrictions which remain in several sectors. Overall, its financial system has undergone rapid change and is now clearer and more competitive. In Iran's state continues to prevent economic development and reduced the flow of trade and investment. Its interventions and controls restrict businesses to access to finance. In Iran, in general, the state-owned commercial banks and specialized monetary institutions constitute most banking sector assets.

Generally, in recent years, the financial markets of the world have faced big fluctuations and uncertainties, and this uncertainty is a key factor in the pricing of financial assets. Based on World Bank data (World Bank open data, 2022), in Iran, consumer price inflation accelerated according to a combination of supply pressure and demand elasticity factors. This inflation in 2021/22, reached to above 35%. This growth came from rapid aggregate monetary growth, inflationary expectations as well as the rise of global commodity prices. At the same time, food prices and rental costs were the main drivers of high inflation, specifically increasing the pressure on the livelihoods of low-income households as these items form a large share of their consumption basket. Finally, monthly inflation in Iran peaked in June 2022 (12 percent, m/m), according to the phasing out of basic commodity import subsidies and global commodity price increases following the war in Ukraine. On the other hand, the suspension and continuation of nuclear negotiations has led to fluctuations in the currency market and inflationary expectations. Although, progress in the nuclear negotiations caused the rial to appreciate by 7 percent in January-March 2022. Also, the gap between the parallel market and the central bank's auction exchange rate (NIMA rate) narrowed, indicating a reduction in inflation expectations. However, between April and June 2022, the standstill in the nuclear talks led to a depreciation of the rial by around 12% and this decrease in the value of the rial against the dollar as well as the increase in global prices caused a rapid increase in import prices. Therefore, in Iran there are many uncertainties. According to the data of World Bank (World Bank open data, 2023), the economy in Türkiye grew only 5.6 percent in 2022. Value added growth was led by the services sector which was up 9.7 percent and industry that was up 3.3 percent. The Turkish Lira (TRY) lost 30% of its value in 2022 despite an estimate of $108 billion in indirect forex interventions by the Central Bank (CBRT). The macroeconomic conditions become increasingly challenging, and the consumer price inflation is at a 24-year high. Also, heterogeneous regulatory policy constraints have begun to slow credit growth and aligned lending rates. Moreover, its banking sector still has enough liquidity to cover short-term debts. Despite some fiscal support from the state and reducing debt to GDP levels as well as declining domestic bond yields due to the high risk of government securities, the state's borrowing costs remain high.

4.1.1.3. Type of State

According to Fainshmidt et al. (2018, p:315), Iran's type of state is welfare state. Carney and Witt (2014), have defined this term as:

> *"A welfare state is a concept of government in which the state plays a key role in the protection and promotion of the economic and social well-being of its citizens, primarily through the redistribution of funds by the state"*.

In other words, this term refers to a system in which the government plays an important role in providing social welfare as well as economic support to its citizens and it includes policies and programs which are aimed at improving people's welfare and social security. Regarding Iran, the mentioned economic support to the citizens can include subsidies for essential goods, healthcare services, education, and social safety nets. In Iran, the value added tax rate is not calculated based on the aggregation of duties and taxes. Instead, a flat rate of 9 percent will be applied to calculate VAT in 2023 and the future years. This change has been made with the aim of simplification and predictability in the calculation of value added tax. Surely, this rate is intended for the import of goods that are different from one another, for example the import rate of essential goods such as wheat, meat and sugar is equal to 1 percent. A rate of 3 percent has been charged for the import of vaccines and rare drugs. In addition, there are goods called special goods such as tobacco and soft drinks, which are harmful to health and have to pay much higher rates for value added tax. For instance, the VAT rate for domestically produced cigarettes is 25 percent and the VAT rate for imported cigarettes is 65 percent. In addition, there is a tax on employee salaries, which depends on the salary received by employees, for example, salaries below 10 million tomans are exempt from tax, and the highest tax rate (30 percent) applies to those people with salaries above 34 million tomans.

Fainshmidt et al. (2018) have considered Türkiye's state as a developmental kind of state. According to Carney and Witt (2014), the state here is more independent and has autonomous political power. Considering its power over the economy, government bodies have authority to organize economic activities by looking to the long-term national interests, and engaging in the development of business sector via industrial policy (Fainshmidt et al., 2018, p:310). Also Özen and Akkemik (2012) have suggested that although the Turkish state is still a developmental state, its autonomy and capacity to formulate and implement economic policies has been weakened over time by the influence of powerful business groups, and internal and external dependencies.

4.1.2. Role of the Financial Markets

These markets are often seen as key indicators and mechanisms in an institutional system. Also, their performance can provide precious understanding about economic policy as well as a broader economic outlook. This section consists of four elements, namely as: (1) equity markets, (2) credit markets, (3) family wealth, and (4) state provided capital. These are explained in detail below.

4.1.2.1. Equity Markets

In general, Iran’s financial markets are stock market, gold market, the foreign exchange market (mainly US dollars), and energy exchange market which has been introduced in Iran since 2012. In the energy exchange market, there is a possibility to sell both oil derivations and physical oil. The first three markets (i.e., the foreign exchange, gold, and stock markets) always affected by both global news and domestic policies which are adopted by the state and the central bank of Iran. But the oil market is affected by global events and follows a very different trend from other domestic financial markets in Iran. In Türkiye, financial markets categories are varied and wide. Each financial market available in Türkiye has its own set of trading risks that must be factored into Turkish financial markets trading strategies. These markets are stock markets, future markets, bond markets, forex markets, market for commodities, and market for cryptocurrencies. In the remainder of this part, there is some data regarding the stock market figures and information of the two countries.

The major stock exchange in Iran is called Tehran Stock Exchange (TSE), which is considered as one of the oldest stock exchanges in the Middle East (founded in 1967). In this stock market there are fluctuations in market capitalization. Foreign investors are interested in investing in this market but there are certain restrictions, such as less accessibility of this market compared to more developed markets. Moreover, there exist local regulations and government policies in this market. On the other hand, Türkiye’s market is called Istanbul Stock Exchange (Bursa İstanbul or BIST), which is a significant emerging market exchange and can provide a platform for equities, debt securities, and derivatives. This market in Türkiye shows growth in market capitalization and has attracted foreign investors. Therefore, this is more accessible to the foreign investors and has a more open approach compared to Iran, although in both it exists interest from these investors, but still the degree of foreign participation and the ease of investment may vary in these countries. In general, the capital market of Türkiye is considered more mature and has a longer history as well as having greater integration into global financial markets. But, overall, the economic conditions as well as geopolitical factors in these countries can mostly impact their respective capital markets.

4.1.2.2. Credit Markets

In this part, the credit to private sector to GDP is considered by the data of World Bank. This refers to the financial resources provided to the private sector by financial institutions, like loans, purchases of non-equity securities, and trade credits and other accounts receivable, that create repayment claims. The following figure (figure 7) shows the credit to the private sector of the two countries. Noted that the statistics given in the World Bank (Credit to the private sector, 2021) do not have the same ending years. Domestic credit to private sector (% of GDP) in Iran was 60.3 (highest value over the past 55 years) as of 2016 and its lowest value was 13 in 1962. The same in Türkiye in 2016 was 69.4 and according to the report in 2020, this is 75.16.

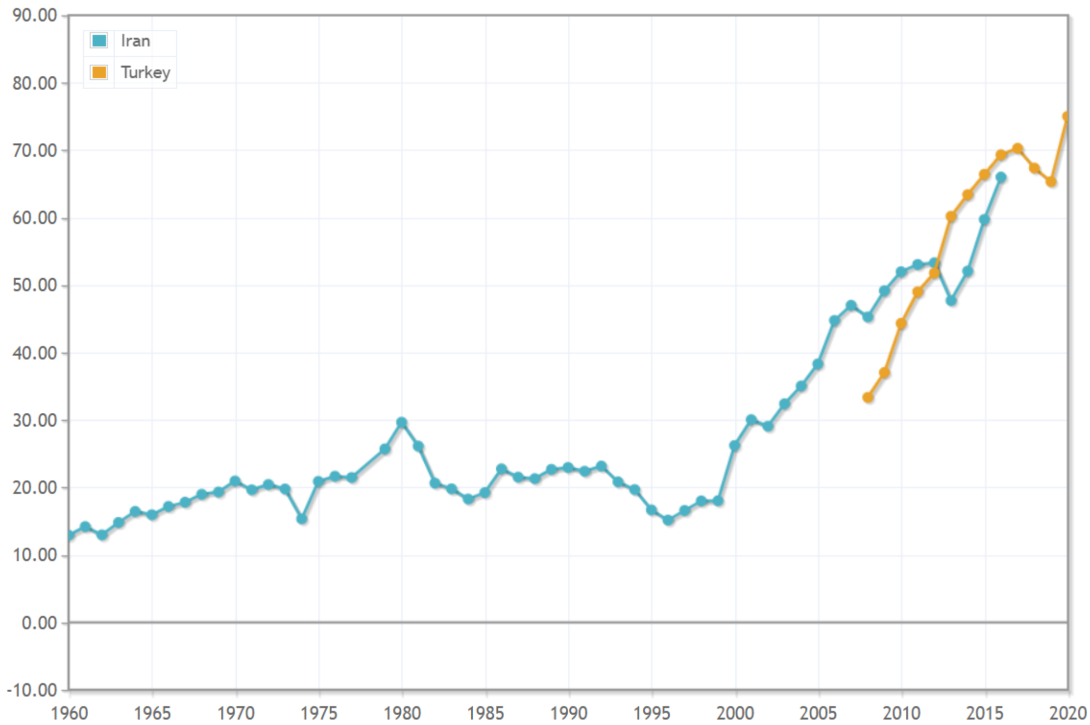


Figure 7. Credit to the private sector of both countries (% of GDP), Iran and Türkiye (Source: World Bank open data, 2021)

4.1.2.3. Family Wealth

According to Fainshmidt et al., (2018), in economies with less developed financial markets, companies tend to rely on domestic capital markets, which are often based on accumulated family wealth. In such cases, governments and family networks may substitute for financial markets and prevent their expansion. Based on the qualitative data of experts in the mentioned research (Fainshmidt et al., 2018, table 3, p:314) for both Iran and Türkiye it shows “No” in family wealth, meaning that family wealth is not a considerable financial source for economic activities in both countries. However, as we examine latter, given the greater number of family-owned large business groups is Türkiye, we can argue that family wealth has a greater role in establishing and expanding business activities in Türkiye as compared to Iran.

4.1.2.4. State Provided Capital

Firstly, here state capital is related to the capital for investment as well as development that it is provided from the state budget, capital provided by credit facilities which are guaranteed by the government, the capital which is provided by credit facilities for the reason of investing and developing the government and other government investment funds. According to Fainshmidt et al., (2018), this is in high level in Iran and low level in Türkiye. This high level of state provided capital is referred to the economic conditions and the weak financial markets. Based on some publicly available information, like Türkiye, the state banks in Iran also play a key role in financing private businesses.[2] This considered as broader economic policies that their aim is to encourage economic growth and development. Also, both states, for the reason of promoting entrepreneurship, stimulating economic activity, as well as addressing specific economic challenges, may provide financial assistance to the private businesses. Regarding the state companies, it is worth to mention that they have played an important role in economy of Iran throughout history and the percentage of state-owned companies is influenced by government policies and initiatives in the overall business landscape, while in Türkiye there exists a mixed economy with a significant private sector and the percentage of state-owned firms in the overall business landscape is influenced by government policies as well as privatization efforts. Moreover, in Iran both public and private investments play a key role. Public investments that are often channeled through government budgets and development programs, aim to support infrastructure, education, health care, and other key sectors

[2] For this part, it was needed to look at credits from state-owned banks to private business, government grants to private business, percentage of state-owned enterprises, public investments as compared to private investments and etc., However, the official websites of Central Bank of Iran and the related official websites provide only limited information. Therefore, due to this limited data availability, we have just relied on general information here.

and private investment contributes to economic growth and innovation, whereas in Türkiye there is a balance between public and private investments. Public investments often refer to focusing on critical infrastructure, healthcare, and education, while the private investments contribute to a variety of sectors like technology, manufacturing, and services. But overall, it is worth noting that the economic conditions and policies can change and these general points are subject to change based on the latest developments in Iran and Türkiye. For instance, regarding the investments in Iran, a decline in construction investment (i.e., 7.1 percent) made general investment stagnate in 2021-22. Also, it is said that sharp decline in gross capital formation, which has undermined Iran's potential GDP growth, is considered as a legacy of past years of sanctions and declining oil revenues. After reimposing US sanctions in 2018, real public investment fell at an annual rate of 20 percent. In this period, the growth rate of net investment was less than 1 percent, and new investments barely offset the cost of capital stock depreciation. On the other hand, the growth rate of net capital stock had worsened since 2014-15. This downward trend was more severe in capital accumulation for investment in both machinery and equipment, which had been continuously decreasing since 2018-2019 according to the influences of the sanctions on Iran's trade and foreign exchange reserves.

4.1.3. Role of Human Capital

Human capital is considered as a necessary element for economic growth and is defined as multi-dimensional and built cumulatively over the lifecycle. This dimension relates to the formation of knowledge (named as knowledge capital) and the organization of labor markets (named as coordination with labor) within a national institutional system (Fainshmidt et al., 2018).

4.1.3.1. Coordination with Labor

Generally, based on World Bank data (Labor Force, 2022) total number of labor force in Iran in 2022, was 28,819,421 whereas in Türkiye this rate shows higher, and it was 34,427,719. However, referring to Heritage foundation (Index of economic freedom, 2023), the recent rate of unemployment in Türkiye shows 13.1 percent and in Iran is 9.7 percent. The rate of labor freedom in Türkiye is 54.9 and in Iran is 50.7. However, according to Fainshmidt et al. (2018), coordination with labor is low in Iran and mixed in Türkiye. Firstly, in Iran, although workers theoretically have the right to form labor unions, in reality there is no trade union system in the country. Workers are represented by Labor House which is a government sponsored body that tries to challenge some government policies. In Iran, workers' right to strike is generally not respected by the state and strikes have often been faced with police action since 1979. Furthermore, the comprehensive labor law covers all labor relations in Iran, including the employment of domestic and foreign workers. for example, labor laws include after being fired by employer, the employee could file a suit against him/her and could request for returning to the workplace. It is illegal to employ personnel with consecutive six-month contracts and fire employees without proving a serious violation. According to the labor law, there are six situations that an employment agreement can be terminated, these includes: death of employee, retirement, permanent total disability, expiration of the employment agreement, fulfillment of specific task, and employee resignation. In Iran, there is the High Council of Technical Safety for the mandatory rules and the laws of technical safety as well as the Ministry of Health and Medical Education which is related to health and environment hygiene and the Ministry of labor and social affairs (named as Department of Inspection) that control the workplaces over the health issues. But still the employment regulations are restrictive in Iran and its labor market is stagnant. As was mentioned before, the financial solidity is weak and state controls distort the price level. Due to the bad economic conditions in Iran, many companies do not pay their employees' salaries on time, or they have not been paid for months. This has caused employee strikes and dissatisfaction among employees, who are often treated with violence. On the other hand, due to the high inflation and price in Iran, the increase in salaries announced by the government is not enough for many groups and has deprived them of the possibility of living comfortably. In Türkiye, the employment law states that new employees must complete a probationary period of up to two months, during which the worker has the option to leave the job without further notice. Regarding the payment and salary of the workforce, employees often have a monthly payment, but in exceptional cases, senior employees in a company may have additional benefits other than salary. Also, some of the workers are paid by the day in cash, but they may be subject to a different employment contract. The contract termination begins with a notice, as an example an employee who works for about 18 months in a company, must tell the employer about his/her decision in 4 weeks before (just like Iran). Also, this decision on termination of the agreement is for both parties. The employees' reasons could be health problems, cases where employers do not respect the terms of the contract, or the job is not what was agreed upon in the first place. On the other hand, employers can decide to fire a person and sign a work contract if they do not fulfill their duties and characteristics. Based on a website named bianet, bağımsız iletişim ağı, in Türkiye, according to data that are recently released by the Ministry of Labor and Social Security 2,421,940 out of 16,413,359 workers are unionized, indicating that more than 85 percent of registered employees lack union representation.

Also, it is said that there were 16,163,549 workers, whose union membership rate was 14.42%, at the beginning of the year. However, based on the recent data it is shown that the union membership rate has a bit increased to 14.76%, which is considered a slight growth in union membership. Unfortunately, there is no comparable data for Iran regarding this unionization rate.

4.1.3.2. Knowledge Capital

United Nations Development Program has provided the Human Development Index (HDI), which is used to quantify a country's average achievements in three important dimensions regarding human development that include long and healthy lives, knowledge, and a decent standard of living. This index was launched in 1990 and since then, it has been published every year, other than the years 2012 and 2020/21. This index is determined by several indicators, including life expectancy, literacy rate, rural population access to electricity, GDP per capita, export and import figures, murder rate, multidimensional poverty index, income inequality and internet availability. The measurement scale is from 0 to 1.0, where 1.0 represents the peak of human development. The Human Development Index (HDI) classifies countries into distinct levels: very high human development (0.8-1.0), high human development (0.7-0.79), medium human development (0.70-0.55), and low human development (below 0.55).

The most recent data dates to 2021. For Iran, the level of HDI shows 'High', the rate for 2021 is 0.774 (comparing it with: HDI 2020: 0.777, HDI 2019: 0.783, HDI 2010: 0.745, HDI 2000: 0.685) and the average annual HDI growth 1990-2021 shows 0.82. Whereas in Türkiye, the level of HDI is 'Very High', the rate is much better than Iran, it is 0.838 in 2021 (comparing it with: HDI 2020: 0.833, HDI 2019: 0.842, HDI 2010: 0.749, HDI 2000: 0.67) and the average annual HDI growth 1990-2021 shows 1.08.

In Iran, the employment and earnings are heavily dependent on education. As the participation rates and wages can increase constantly through education, the possibility of being employed does not. In this country, the literacy rate is high, although there exists a high unemployment rate. In Iran, most people are interested in continuing education to boost their chances of employment, while people with higher education are sometimes less likely to be employed. Based on last data in World Bank, the literacy rate in Iran in 2021 shows 88.74 percent. In the following table we provide data about participation and unemployment rates in Iran and Türkiye from the UN report (2022):

Table 12. Participation and unemployment rates in Iran and Türkiye (Source: the UN report, 2022)

	Year	**Participation Rate**	**Unemployment Rate**
Iran	2005	45.4	11.8
	2010	41.6	13.7
	2015	41.4	11.2
	2022	42.2	11.1
Türkiye	2005	46.4	10.6
	2010	48.1	10.7
	2015	51.2	10.2
	2022	51.1	14.0

Based on last data in World Bank (World Bank open data, 2020), literacy rate in Türkiye in 2019 was 96.74 percent. The life expectancy at birth is 76 in 2021 (the same item for Iran is 74 in 2021).

Iran’s medical equipment market is mature. Although US sanctions against this country do not include this equipment, the purchase of foreign medical and diagnostic products has been severely hampered after the unilateral cancelation of the nuclear deal and imposing financial sanctions, so it caused health problems in Iran. But it is very successful in training and educating the required human resources for the health system. So, compared to the last 30 years, it has transformed into a system where its specialists are fully sufficient for the country’s needs. Regarding the Global Health Security Index (GHS index country profile, 2021), Iran’s health care index score is 36.5 and its ranking is 90 out of 195 countries, whereas in Türkiye this index score is 50 and the ranking is 46 (out of 195). Therefore, it is obvious that Türkiye has advanced medical equipment and educated staff in the medical sector, and it is still progressing.

In addition, based on World bank data (2022), we provide the Human Capital Index (HCI) of the two countries. This is released in September 2020 and contains a set of indicators that are complementary to the HCI. This measures the amount of human capital that a child today can expect to achieve by the age of 18. In Iran, a person who has full education and perfect health since childhood, will have a 59 percent efficiency when he/she grows up. This is higher than the average for the Middle East, and North Africa (56 percent) as well as middle income countries (56 percent). Whereas in Türkiye, this rate is 65 percent. This is lower than the average for the Europe and Central Asia region (69 percent) but it is higher than the average for Upper Middle Income countries (56 percent).

In the following table we provide the HCI components for the two countries considered in World Bank data (2022):

Table 13. HCI components for Iran and Türkiye (Source: World bank open data, 2022)

HCI components	**Iran**	**Türkiye**
Probability of Survival to Age 5	**99 out of 100** children born in Islamic Republic of Iran survive to age 5.	**99 out of 100** children born in Türkiye survive to age 5.
Expected Years of School	Should complete **11.8 years** of school by her/his 18th birthday.	Should complete **12.1** years of school by her/his 18th birthday
Harmonized Test Scores	Students score **432** on a scale where 625 represents advanced attainment and 300 represents minimum attainment.	Students score **478** on a scale where 625 represents advanced attainment and 300 represents minimum attainment
Learning-adjusted Years of School	Factoring in what children actually learn, expected years of school is only **8.2 years**.	Factoring in what children actually learn, expected years of school is only **9.2 years.**
Adult Survival Rate	**93 percent** of 15-year-olds will survive until age 60.	**91 percent** of 15-year-olds will survive until age 60.
Fraction of Children Under 5 Not Stunted	Internationally comparable data on stunting are **not available** for Islamic Republic of Iran.	94 out of 100 children are not stunted. **6 out of 100** children are at risk of cognitive and physical limitations that can last a lifetime.

In both Iran and Türkiye, the HCI for girls is higher than for boys. This is shown in the following table.

Table 14. The comparison of HCI for boys and girls in Iran and Türkiye (Source: Human Capital Index, World Bank, 2020)

	Iran	**Türkiye**
HCI	Overall: 0.59 (Girls: 0.61 – Boys: 0.58)	Overall: 0.65 (Girls: 0.66 – Boys: 0.64)

These data shows that both Iran and Türkiye equivalently higher level of knowledge capital as also stated by Fainshmidt et al., (2018).

4.1.4. Social Capital (Generalized Trust)

This dimension is regarded as networks of relationships between those who live as well as work in specific communities and it enables the community to run effectively. It functions through interpersonal relations, shared understanding, norms, values, trust, cooperation, and interaction. The sub element of this section that is considered in both countries is ‘generalized trust’. According to Fainshmidt et al., (2018), the level of trust of economic actors in each other and institutions is an organizing principle that underlies the behavior and coordination between companies. Hence, in the absence of widespread trust, individuals and businesses tend to gravitate toward informal networks and prioritize extended clan and family connections.

The level of generalized trust in both countries, Iran, and Türkiye, is low (Fainshmidt et al., 2018). According to Zibakalam et al., (2020), in Iran, the most important historical causes of lack of generalized trust are the long history of tyranny and autocracy, the construction of vertical and authoritarian power, modernism and modernization without considering Iran's native culture, and unsuccessful historical efforts in the field of reforms in the political structure. Furthermore, the inappropriateness of the cultural construction of society, the flow of changing values, especially after the imposed war and the valorization of wealth, hypocrisy, and the political culture of avoiding participation are the most important causes and cultural roots of the lack of generalized trust in Iranian society. And lastly, the important social factors of the lack of formation and expansion of generalized trust in Iranian society include the following: lack of attention to the technological, human and social aspects of development, diverse population composition and the existence of intense ethnic rivalries, weakness in the ruling system, the existence of corruption in the body of power, the inappropriateness of the economic structure of the society, the lack of justice and fairness on the part of the legal and political institutions of the society, and the wide inequality and the low level of out-group social capital. Referring to Özek (2019), in general, generalized trust is considered as a cultural attitude about general optimism and faith in the goodwill of people. Based on studies, citizens are more open to cooperation and more active in political as well as social life in societies with high trust. But public trust in Türkiye is low. On average, only ten out of a hundred people think that most people can be trusted. In this country, pessimism, rather than optimism, in people is common. This widespread lack of trust caused people to ignore or reject potential opportunities to meet or collaborate with the assumption that others are not fulfilling their responsibilities. Its result will be the tendency of the most people living in Türkiye to limit their social relations with their family, spouse, friend, relative, acquaintance and/or fellow countryman.

In Türkiye's society, activities such as active participation of citizens in politics, citizen initiatives that set the political agenda, and effective non-governmental organizations are also limited.

4.1.5. Corporate Governance

This final dimension relates to how companies are controlled and managed and includes three elements. These elements are ownership concentration, family ownership, and family intervention, that are explained below by providing comparisons between the two countries.

4.1.5.1. Ownership Concentration

The level of ownership concentration in both countries, Iran, and Türkiye, is high (Fainshmidt et al., 2018). Based on Foroughi and Fooladi (2012), ownership structure of most companies which are admitted to the Tehran Stock Exchange is a centralized ownership. These are under the influence of the state and controlled as well as owned by state and institutional investors. The institutional investors that are also controlled by the government own more than half of the stock exchange's shares. Hence, the state officials have a key role on the board and have significant influence on decision-making. A high level of ownership concentration can create operational and financial risk and cause major shareholders to expropriate the company's resources for their own interests, so the benefits of ownership concentration, such as monitoring management and aligning their interests with the interests of shareholders, are compromised**.**

As for Türkiye, most of its large companies are family owned (Colpan, 2010). According to previous studies, most Turkish companies have a concentrated ownership structure with majority shareholders belonging to families. Usually, members of the founding family are both the chairman of the board and the CEO, which is different from examples in developed countries. Moreover, the pyramidal ownership structure, where one group or entrepreneur controls many companies, is also prevalent in Turkish companies. Moreover, in Türkiye the founding family members representative business groups basically with different institutional arrangements could control the whole business group by a holding company. For instance, the Koç family is controlling a major part of Beko Elektronik by having more than 50 percent in Arçelik. In addition to these shareholding relationships, interlocking offices are also used to gain effective control over many companies in groups. As an example, three board members of Beko Elektronik, Arçelik, and Koç holding are the same (Colpan, 2010). In the next part of this chapter, we are going to explain more about the companies' ownership concentration in each country.

4.1.5.2. Family Ownership

The level of family ownership in Iran and Türkiye considered as "Yes", based on Fainshmidt et al., (2018, p:314). However, Iran's family businesses were severely affected by nationalization after the revolution, which reduced both their size and their share in national production, but since then they have been able to survive in difficult circumstances. They represent a "capitalism from below" whose role has been somewhat neglected by the state, which has instead supported large public organizations after the revolution. In general, as a method of coordination, these businesses have played a key role in Iran by adapting to the lack of horizontal trust (trust in others) as well as vertical trust (trust in public institutions) since the revolution. These organizations were able to survive in such a low-trust environment through the support of family networks. In an environment characterized by lack of trust, it is considered as the most appropriate coordination mode with an emphasis on loyalty. Also, it is noteworthy that after the revolution, family businesses preferred not to have non-family shareholders. In Türkiye, based on Buğra (1994), family business groups (FBGs) are known as 'holding' company that forms the head of the group and the central office. There are many FBGs structured in this way, but still there exist numerous resemble independent family businesses that have probably adopted the mentioned label which was "holding", for normative and mimetic reasons. In addition, based on Berkman and Özen (2008), the family-controlled business groups or the holding companies are the main economic actors in Türkiye. They have developed by the help of government support policies rapidly. Also, it is said that these families could control their business groups by forming alliances with other families or foreign companies and by the help of complex or pyramidal ownership structures.

4.1.5.3. Family Intervention in Management

This element is considered as 'High' in both countries, based on Fainshmidt et al., (2018). This is related to the above-mentioned explanations, similarities, and comparisons between the two countries. Undoubtedly, the existing lack of trust as well as uncertainty among the people of these countries has effects on the high level of this intervention. According to Öktem and Gökşen (2009), there are recommendations for improving the frameworks of corporate governance in emerging Asian economies such as improved transparency, changes in board structure, capital markets developments, and the minority rights protection. In many of these kinds of emerging economies the FBGs are emerging as the dominant form of organization in majority of the Asian countries. Here, the Business groups are considered legally independent companies operating by social and economic ties. They are mostly owned and managed by one or a few families, although they are known as large size business groups. In these, Family controls the group in some several ways, like creating a central management unit, creating mutual shares and intertwined management among the group companies, having key management positions in the central management unit and as board members in the central management unit and affiliated companies.

4.2. Main Economic Actors in Iran and Türkiye

In the following section, we compare 50 large companies from each country in terms of their time of founding, ownership type, type of ownership control, company origin, business group affiliation, business lines, and diversification level. The Iranian companies are chosen from a list in Industrial Management Institute (IMI-100). The Turkish companies are selected from Istanbul Chamber of Industry's list (ISO 500). These lists are updated each year, and the last updated list goes back to 2021.

In the following tables the top 50 companies' details, including the following items are presented:

- **Name of the company** (The names of the top 50 companies in the mentioned lists)
- **Foundation year**: Here the time of founding is measured as the year in which the company start its operation.
- **Ownership type** is referred to whether the majority of shares are owned by the state or private entrepreneurs. In Iran there is another type as well, named as quasi-governmental companies, which means it is supported by the government but managed privately.
- **Controlling ownership** is referred to the name of owners and shareholders of the companies.
- **Type of control** is related to whether they are direct, alliance, or market control based. According to Whitley's (1999) ownership types, direct means control by individuals, families. Alliance means that a firm is owned and controlled by a limited number of shareholders, like a bank, the state, and a family. Market control means that a firm is owned by many shareholders because its majority shares are exchanged in the stock exchange market.
- **Business group**: is referred to whether the company is under, or affiliated with, a diversified business group or independent company.
- Origin (whether they are owned by foreigners or domestic owners)
- **Business lines** (contains different business lines in which the company operates)
- **Diversification** (which contains related diversification or unrelated diversification at the business group level if the company is affiliated with a business group. We measured the extent to which the business group, which the focal company is affiliated with, has businesses operating in different industries according to the four-tiered Global Industry Classification Standard, GICS).

Table 15. 50 Top companies of Iran (based on IMI-100)

Rank	Company Name	Year of Founding	Ownership Type	Controlling Ownership	Type of Control (Direct, Alliance, Market)	Business Group (Affiliated or Independent)	Origin	Business Lines	Diversification type at Business Group
1	Persian Gulf Petrochemical Industries Co.	2010	Private	Justice Stock, Iran National Petrochemical Industries Co.(Owned by 2 different companies[3] and partly by the state)	Alliance	Independent	Domestic	Petrochemical (Oil, Gas & Consumable Fuels industry)	-
2	Persian Gulf Star Oil Co.	2006	State	Iran's National Oil Products Refining & Distribution Co., Oil, Gas & Petrochemical Investment Co. (Owned by 2 different companies.[4])	Alliance	Affiliated (with National Iranian Oil Company)	Domestic	Gas condensate refinery	Related

[3] Oil industry pension fund investment company, Tammin Oil, Gas and Petrochemical Investment Company
[4] Sanat Naft Pension Fund and Indonesian SPC.

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

3	Bandar Abbas Oil Refining Co.	1992	State	Refah Bank, Parsian Oil and Gas Development Group	Alliance	Affiliated (with National Iranian Oil Refining and Distribution Company and National Iranian Oil Company	Domestic	Production of petroleum products	Related
4	Isfahan Mobarakeh Steel Co.	1980	Private	Iran Mines & Mineral Industries Development & Renovation Organization, Welfare Capital Development Co. (Owned by 15 different companies[5])	Alliance	Affiliated (with Iranian Mines and Mining Industries Development and Renovation Organization)	Domestic	Steel production complex	Related

[5] Tejarat Bank, Sadra Tamin Investment Company, Rural and Nomadic Social Insurance Fund, Rural and Nomadic Social Insurance Fund, Tehran Province Investment Company, Behsazan Tadbir Zangan Energy Company, Khorasan Razavi Province Investment Company, National Pension Fund, Saba Capital Development and Management Company, Fars Province Investment Company, Khuzestan Province Investment Company, Isfahan Province Investment Company.

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

5	Ghadir Investment Co.	1991	State	Social Security Organization of the Armed Forces	Alliance	Business group	Domestic	Oil and gas, petrochemical, Power generation and transmission, Industries and mines, Transportation services, Cement production, Construction, and Information technology	Unrelated
6	Mellat Bank	1979	Quasi-governmental	Retail shareholders, the state (Owned by 11 companies[6] and the state)	Alliance	Independent	Domestic	Banking	-

[6] Mellat Marketing Investment Fund, Provincial investment companies, The first financial intermediation investment fund, Mellat Financial Group Co., Fan Avaran Petrochemical Company, Saba Tamin Investment Company, Moein Atiye khahan Cooperative Company, Mehr Ayandeghan Financial Development Group Co., Shirin Asal Company

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

7	Parsian Oil and Gas Development Group Co.	2007	State	Ghadir Investment Co., Armed Forces Pension Fund	Alliance	Independent	Domestic	Investing in downstream oil and gas industries	-
8	Iran Khodro Co	1962	State	Its subsidiaries, and small shareholders, the state, and Cruise Manufacturing Industries	Alliance	Affiliated (With the Industrial Development and Renovation Organization of Iran)	Domestic	Production of car, minibus, bus, truck, and auto parts	Related
9	Refah Karegaran Bank	1960	State	Social Security Organization of Iran and its subsidiaries. (Consist of 9 different companies[7])	Alliance	Affiliated (with Social Security Organization of Iran)	Domestic	Banking	Related

[7]Work and supply company, Iran Home Construction Investment Company, Welfare and tourism company, Refah Gostar Social Security Company, Milad Salamat Social Security Company, Social Security Audit Institute, Social Security Real Estate Institute, Atiye Song Cultural and Art Institute, Management consulting company and providing machine services.

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

10	Pars Arian Investment Co	2005	Private	Hamghadam Trading Co., Arzeshafarinan Pasargad Co. (Owned by large and individual shareholders and 9 different companies[8])	Alliance	Business group	Domestic	Invests in financial services, mining, oil, gas and petrochemical, ICT, and construction industries	Unrelated.
11	National Iranian Copper Industries Co	1972	State	Organization for the Development and Renovation of Mines and Mineral Industries of Iran, Sadr Tamin and Justice Stock	Alliance	Affiliated (same as number 4)	Domestic	Copper production and extraction	Related

[8] Sam group Company, Pasargad Insurance Company, Individual, Saba Capital Development and Management Company, Kharazmi Capital Management Development Company, Pasargad Financial Group Housing Supply Company, Saman Tejarat Tadbir Iranian Company, Pasargad Human Capital Future Supply Company, Other legal shareholders numbering 245 shareholders, Other individual shareholders numbering 20,975 shareholders.

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

12	Nouri Petrochemical Co.	2000	Private	Persian Gulf Petrochemical Industries Co., Social Security Investment Co. (And 1 other company[9])	Alliance	Affiliated (with Persian Gulf Petrochemical Industries Company) (PGPIC)	Domestic	Petrochemical products, chemicals, gaseous liquids (Chemicals industry)	Related
13	Oil, Gas and Petrochemical Investment Company	2003	State	Social security investment company	Direct	Affiliated (National Iranian Oil Company)	Domestic	Oil and gas refining, chemical and petrochemical industries, and their investment & management	Related
14	Saderat Bank	1952	Quasi-governmental	Armed Forces Social Security Organization	Direct	Independent	Domestic	Banking	-

[9] National Pension Fund Investment Company. A part of the shares of Nouri Petrochemical Company are also traded on the Tehran Stock Exchange.

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

15	Gol Gohar Mining and Industrial Company	1969	Quasi-governmental	Social Security Organization	Direct	Affiliated (same as number 4)	Domestic	Metals & Mining industry	Related
16	Tejarat Bank	1979	Quasi-governmental	State, Iran Health Insurance Organization, Equity of Justice, Agricultural Bank (and 2 other companies[10])	Alliance	Independent	Domestic	Banking	-
17	Parsian Bank	2001	Private	Iran Khodro Investment Development Co., Tadbir Investment Co., (and 3 other companies[11])	Alliance	Independent	Domestic	Banking	-

[10] Privatization Organization, Tadbirgaran Employees of Tejarat Bank
[11] Samand Investment Company, Mehr Afarinan Doran Company, Tose-e Eghtesad Ayandeh sazan

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

18	Mapna Group Company	1992	State	Saba Electricity and Water Industries Investment Co., Edalat Group, Mapna Employees Investment Co. (and owned by other companies and natural and legal persons)	Alliance	Business Group	Domestic	Construction of power plants, infrastructure, gas pipelines, drilling and rail transportation, passenger plane engine repair	Unrelated
19	Pasargad bank	2005	Private	Pars Arian Investment Co., Saman Majd Investment Co. (and 4 other companies[12])	Alliance	Independent	Domestic	Banking	-
20	Saipa Co	1966	State	Tehran Stock Exchange and the state	Alliance	Affiliated (with Iran Khodro Industrial Group)	Domestic	Car and auto parts industry	Related

[12] Sam group company, Miladgstar Novavaran Company, Kharazmi Investment Company, Pasargad Financial Group Human Capital Future Assurance Company

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

21	Khoozestan Steel Company	1967	Quasi-governmental	Tose-e Eghtesadi Payandegan group, Edalat investing co., (and 3 other companies[13] and other shareholders)	Alliance	Affiliated (same as number 4)	Domestic	Iron and steel production	Related
22	Chadormello Mining and Industrial Company	1992	State	Omid Investment Management Co., Mines and Metals Development Investment Co., (and one other company[14] plus other real and legal shareholders).	Alliance	Affiliated (same as number 4)	Domestic	Mining and industrial sectors	Related

[13] National Pension Organization, Social Security Organization, Saman Majd investing company.
[14] Mines and Metals Development Investment Company

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

23	Pars Petrochemical Company	2010	State	Persian Gulf Petrochemical Industries, Bu Ali Sina Petrochemical & Taban Farda Petrochemical	Alliance	Affiliated (with Persian Gulf Petrochemical Industries Co.)	Domestic	Manufacturing engineering, trading, investment, educational & service companies	Related
24	Jam Petrochemical Company	2000	Private	National pension fund investment, national pension fund (and 6 other companies[15])	Alliance	Affiliated (with Persian Gulf Petrochemical Industries Co.)	Domestic	Production units of olefin, heavy & linear polyethylene, butadiene	Related
25	Islamic Republic of Iran Shipping Company	1967	State	National Pension Organization and Social Security Organization	Alliance	Affiliated (with the government & operates under the Ministry of Roads & Urban Development.)	Domestic	Shipping, sea transport	Related

[15] Tamin Oil, Gas and Petrochemical Investment Company, Edalat Stock Brokerage/ Provinces Investment Company, Iranian Investment Group, Villagers and Nomads Social Insurance Fund Institute, National Pension Fund Capital Value Management Group Company

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

26	Bandar Imam Petrochemical Company	1993	Private	Persian Gulf Petrochemical Industry Co., Edalat Stock Brokerage Co., and preferred shares	Alliance	Affiliated (with Persian Gulf Petrochemical Industries Co.)	Domestic	Production of chemicals, aromatics, polymers, and LPG	Related
27	Telecommunication Company of Iran	1971	Private	Islamic revolution guard’s corps and the state	Alliance	Independent	Domestic	Creation and operation of telecommunication networks	-
28	Maron Petrochemical Company	1998	Private	Social security investment, Saba Tamin investment (and 4 other companies[16] plus other real and legal shareholders)	Alliance	Affiliated (with National Petrochemical Company)	Domestic	Petrochemical (Oil, Gas & Consumable Fuels industry)	Related

[16] Villagers and Nomads Social Insurance Fund Institute, Ayandeh Sazan Refah Pardis, The revolving market of the Saba Gostar oil and gas Tamin fund, Central Insurance of the Islamic Republic of Iran

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

29	Eghtesad Novin Bank	2001	Private	Iran Construction Investment Co., Behshahr Industries Group Construction Co. (and 3 other companies[17])	Alliance	Independent	Domestic	Banking	-
30	Persian Gulf Mobin Energy Co	2000	Private	Persian Gulf Petrochemical Industries Co.	Direct	Affiliated (with Persian Gulf Petrochemical Industries Company)	Domestic	Producer of ancillary services, supplier of water, electricity, steam, oxygen, nitrogen and compressed air, and refiner of industrial effluents of petrochemical complexes in South Pars region	Related

[17] Behpakhsh Company, Youth Housing Supply Company, and Iran Behshahr Industries Group Investment Company

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

31	Lavan Oil Refining Company	1976	State	One of the subsidiaries of the Social Security Organization in Hormozgan province	Direct	Affiliated (with both National Iranian Oil Refining and Distribution Company and National Iranian Oil Company)	Domestic	Production of gas oil and light naphtha, fuel oil, and liquefied gas	Related
32	Iran Mobile Communications Company	1993	Private	Telecommunication Company of Iran	Direct	Affiliated (with Telecommunication Company of Iran)	Domestic	Mobile phone service provider	Related

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

33	Specialized parent company for the development of mines and mineral industries in the Middle East	2007	Private	Middle East based Co., Pars Arian Investment Co. (and 14 different companies[18])	Alliance	Independent	Domestic	Investment, exploration, extraction, and production of steel products	-
34	Tourism Bank	2010	Private	Tourism finance group	Direct	Independent	Domestic	Banking	-
35	Refah Capital Development Investment Company	2011	State	Refah-e Karegaran Bank, Bank Refah-e Karegaran Brokerage Co. (and 3 other companies[19])	Alliance	Business Group	Domestic	Investment company	Related

[18] Rahbord Sarmayeh Iranian Company, Arzesh Afarinan Pasargad Company, Tejarat Pishegan Mihan Negar Pars, Dana Gostar Caspian Company, Andiseh Tejarat Soroush Sahand Company, Pouya Andishan Sarzamine Mad Company, Sakhteman Poushesh Tamin Atiyeh Company, Tose-e Tejarat Gharb Iranian Company, Tose-e Modiriat Pars Hafez Company, No Andish Tese-e Matin Company, Saman Tejarat Tadbir Iranian, Ayandeh Negar Tose-e Khavarmianeh Company, Pasargad Insurance Company, Nasim Tejarat Farda Company.

[19] Tose-e Refah Pardis Construction Company, Iran construction project management company, Refah Sanat Pardis Trading Company

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

36	Bu Ali Sina Petrochemical Company	2004	Private	Persian Gulf Petrochemical Industries Co.	Direct	Affiliated (with Persian Gulf Petrochemical Industries Company)	Domestic	Production of paraxylene, benzene, naphtha, and gas liquids	Related
37	Aria Sasol Polymer Company	2002	Private	Pars Petrochemical Co., Pars Tamin Majd	Alliance	Independent	Domestic	Production of light polyethylene and medium and heavy polyethylene	-
38	Kaveh Pars Mining Industries Development Company	2006	State	Bonyad Mostazafan	Direct	Independent	Domestic	Investing in mineral industries, engineering, consulting, and trading services, and construction and transportation services.	-

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

39	Gol Gohar Iron and Steel Development Company	2012	State	Gol Gohar Mining and Industrial Co., Gol Gohar Investment and Development Co. (and 5 other companies[20])	Alliance	Affiliated (with the Gol Gohar Mining and Industrial Company)	Domestic	Iron and steel production	Related
40	Ofogh Kourosh chain stores company	2009	Private	Golrang Industrial Group Co., Golrang Industries Development Investment Co. (and 3 other companies[21])	Alliance	Independent	Domestic	Super Market, Chain stores, retail, Hypermarket	-
41	South Hormozgan Steel Company	1999	Private	Isfahan Mobarakeh Steel Company	Direct	Independent	Domestic	Production of carbon steels, iron, sponge iron, lime (Metals & Mining industry)	-

[20] Ghadir Iranian Iron and Steel Company, Pension Fund of Melli Bank Employees, Ghadir Industries and Mines Development Company, Mines and Metals Investment and Development Company, Omid Investment Management Company

[21] Golrang Pakhsh Development Company, Pakshu Chemical Manufacturing Company, First Golpakhsh Development Company

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

42	National Pension Fund Investment Company	1988	State	National Pension Organization	Direct	Business Group	Domestic	Management of pension funds, stock exchanges, investment management and asset management	Related
43	Shazand Petrochemical Company	1987	Private	National Development Group investment, Tamin Oil, Gas and Petrochemical Investment Co., (Tapico), National Pension Fund.	Alliance	Affiliated (with National Petrochemical Company)	Domestic	Production of polymer products and chemicals	Related

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

44	Pardis Petrochemical Company	2001	Private	Parsian Oil and Gas Industry Development Company, Petrochemical Trading Company (and 5 other companies[22] and the real shareholders)	Alliance	Affiliated (with Persian Gulf Petrochemical Industries Company)	Domestic	Manufacturer and supplier of ammonia and urea products	Related
45	Mines and Metals Development Investment Company	1995	Private	Mobarake Steel Co., Villagers and Nomads Social Insurance Fund Institute, Sadr Tamin Investment Co., (and 3 other companies[23])	Alliance	Independent	Domestic	Mine and metals industry	-

[22] Hamon Sepahan Investment Company, Saba Capital Development and Management Company
[23] Pasargad Bank Co, Melli Investment Company of Iran,Mellat Financial Group Co.

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

46	Zagros Petrochemical Company	2000	State	Parsian Oil and Gas Group, Taban Farda Petrochemical Group (and 3 other companies[24])	Alliance	Affiliated (with National Petrochemical Company)	Domestic	Production of methanol and steam	Related
47	South Kish Kaveh Steel Company	2006	State	Kaveh Pars Mining Industries Development Co., and Bonyad Mostazafan.	Alliance	Independent	Domestic	Production of intermediate steel products	-
48	Persian Gulf Bidboland Gas Refining Company	2010	Private	Persian Gulf Petrochemical Industries Co	Direct	Independent	Domestic	Gas production	-
49	Saman Bank	2002	Private	Real person (Mohammad & Vali Zarrabiye)	Direct	Independent	Domestic	Banking	-

[24]Pushine Chemical Industrial Group, Saderfar, Morvarid-e Eram industry

Table 15. (continued) 50 Top companies of Iran (based on IMI-100)

50	Shahid Tondgouyan Petrochemical Company	1998	Private	Persian Gulf Petrochemical Industries Co., Saba Karun Oil and Gas Co. (and 2 other companies[25] and other shareholders)	Alliance	Affiliated (with National Petrochemical Company)	Domestic	Production of polyethylene terephthalate in bottle and textile grades and terephthalic acid	Related

[25] Edalat shares Investment Companies, Bu Ali Sina Petrochemical Company

Regarding the above-mentioned details presented in the table, the year of foundation of the companies is the first item considered. The oldest company is Saderat Bank, with ranking of 14, founded in 1952 (71 years old). It is among the three banks that have changed from state to private, but in fact they are at the same time considered as state as well, so they are called as a quasi-governmental company. The youngest one is Gol Gohar Iron and Steel Development Company, with ranking of 39, founded in 2012 (11 years old). It is among the steel and iron industry. The average age of these 50 companies in Iran is calculated as 30.08 years old.
In the following explanations other items are considered which will be evaluated by percentage:

Regarding the ownership type, the private companies in the list are in the majority (50 percent). Noting that some private companies were state-owned before, but recently they have changed into private companies, like Persian Gulf Petrochemical Industries Co., Isfahan Mobarakeh Steel Co., Shazand Petrochemical Company, Pardis Petrochemical Company, and Mines and Metals Development Investment Company. 40 percent of the companies are state-owned, and 10 percent of the companies are quasi-governmental. As it was mentioned before, these kinds of company ownership refer to those that are supported by the government but managed privately.

In the companies listed above, there is only direct control and Alliance control. The percentage of Alliance control is higher than direct control (Alliance control percentage is 74 and direct control percentage is 26). This means that for many companies there exist several shareholders and only a minority of them is controlled by a single organization or holding.

Regarding the business group column which consists of affiliated (with a business group) or business group itself, and independent companies, the percentage of affiliated companies (52 percent) is higher than independent companies (38 percent) and those companies that are business group itself (10 percent). Among the independent companies we can mostly refer to the banks and about the affiliated companies we can mainly refer to petrochemical companies. Based on the gathered data, most petrochemical companies in Iran are affiliated with Persian Gulf Petrochemical Industries Co., which is in the first place of the table.

Referring to another item which is the origin of the companies, we can note that all the top 50 companies in Iran are regarded as domestic in terms of their origin and there are no foreign companies in this list. For this, it is worth mentioning some reasons. Firstly, especially in recent years there are various economic sanctions that are imposed by the United States and the European Union. This affects economic conditions, in that many foreign investment and trade with Iran are limited. On the other hand, the currency fluctuations and hardship of financial transactions is another challenge in this country. Also, there are many industries that are so important for the country, such as petrochemicals, oil and gas, and some heavy industries that are inherently under government control, therefore the state may limit the foreign companies' presence. Moreover, in some industries, there are strong local competitors that may dominate the market and may make it challenging for foreign investments to establish a significant presence.

Another item is referred to as the business line. Referring to the table, all the activities done by the companies are written. Surely, some of the companies have several business lines, which are called diversified, whereas some of them include only a single item. Therefore, the last item considered in the table is diversification type at Business Group in the top 50 companies in Iran. This contains two items, related diversification, or unrelated diversification at the business group level if the company is affiliated with a business group. So, here we only consider those companies that are business groups themselves or are affiliated companies. Here, the related diversification is calculated as 56 percent, and the unrelated diversification is 6 percent. The remainder of the companies which are considered as independent is 38 percent, that are not coded on the table.

In the next table, the top 50 companies in Türkiye are presented, based on ISO-500. These companies are among the internal, international, and foreign companies that have representatives in Türkiye. The type of companies is private and state. This also contains the eight items that are considered before about Iran. Looking at the table below, we can notice some differences between the countries. However, like the explanations in the previous part, there will be a detailed explanation about the information in the table

Table 16. 50 Top companies of Türkiye (based on ISO-500)

Rank	Company Name	Year of Founding	Ownership Type	Controlling Ownership	Type of Control (Direct, Alliance, Market)	Business Group (Affiliated or Independent)	Origin	Business Lines	Diversification type at Business Group
1	TÜPRAŞ-Türkiye Petrol Rafinerileri A.Ş.	1983	Private	Koç Holding	Direct	Affiliated (with Koç group)	Domestic	Petroleum products (Oil, Gas & Consumable Fuels industry & Chemicals industry)	Unrelated
2	Ford Automotive Sanayi A.Ş.	1959	Private	Koç holding, Ford Motor Company, publicly traded	Alliance	Affiliated (with both Ford Motor Company and Koç Holding)	Domestic (41%) + Foreign (41%)	Passenger vehicle, light commercial vehicle, heavy commercial (tractor)	Unrelated
3	Star Rafineri A.Ş.	2011	Private	SOCAR Türkiye Aegean Refinery (STAR Refinery)	Direct	Affiliated (with SOCAR, State Oil Company of Azerbaijan Republic)	Foreign	Petroleum refinery (crude oil refinery)	Related
4	Toyota Otomotiv Sanayi Türkiye A.Ş.	1990	Private	Toyota Motor Europe NV/SA (TME) & Mitsui & Co., Ltd.	Direct	Affiliated (with Toyota Group)	Foreign	Automotive industry	Related

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

5	İskenderun Demir ve Çelik A.Ş.	1970	Private	Erdemir (94.87%) and other shareholders (5.13%)	Direct	Affiliated (with Oyak Group)	Domestic	Produces hot rolled sheets, plates, and long products (billets and coils) (Metals & mining industry)	Unrelated
6	Ereğli Demir ve Çelik Fabrikaları T.A.Ş.	1960	Private	Erdemir	Direct	Affiliated (with Oyak Group)	Domestic	Steel industry, manufacturing, electrics-electronics, mechanical engineering, energy, heating equipment, shipbuilding, defense, and packaging industries.	Unrelated
7	Arçelik A.Ş.	1955	Private	Koç group, Burla group, Arçelik A.Ş, and Public	Direct	Affiliated (with Koç group)	Domestic	Production of white goods and technology (Household Durables industry)	Unrelated

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

8	Oyak-Renault Otomobil Fabrikaları A.Ş.	1969	Private	Renault SA group, the Turkish O yak group.	Alliance	Affiliated (with both Oyak group and Renault Co.)	Domestic (49%) + Foreign (51%)	Manufacture automobiles and automobile parts	Unrelated
9	TOFAŞ Türk Otomobil Fabrikası A.Ş.	1968	Private	Stellantis (37.8%), Koç Holding (37.8%) and other partners.	Alliance	Affiliated (with both Fiat Chrysler Automobiles and Koç Holding)	Domestic	Manufacture both passenger cars and light commercial vehicles	Unrelated
10	İçdaş Çelik Enerji Tersane ve Ulaşım Sanayi A.Ş	1969	Private	İÇDAŞ A. Ş	Direct	Business Group	Domestic	Producing construction steel and alloy steel, Ports, Logistics Firm, Shipyards and Energy Facilities	Unrelated
11	Çolakoğlu Metalurji A.Ş.	1945	Private	Çolakoğlu family	Direct	Affiliated (with Çolakoğlu group)	Domestic	Production of steel industry products, construction, energy	Unrelated

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

12	Hyundai Assan Otomotiv San. ve Tic. A.Ş.	1994	Private	Joint venture between Türkiye-based Kibar Holding & South Korea-based automobile company Hyundai Motor Co.).	Alliance	Affiliated (with both Hyundai Motor Company & Kibar Holding)	Domestic (30%) + Foreign (70%)	Automotive industry	Unrelated
13	Tosçelik Profil ve Sac Endüstrisi A.Ş.	1997	Private	Fuat Tosyal (Tosyali holding)	Direct	Affiliated (with Tosyali holding)	Domestic	Production of industrial pipes & box profiles	Related
14	PETKİM Petrokimya Holding A.Ş.	1965	Private	SOCAR, and public	Direct	Affiliated (with SOCAR)	Domestic	Produces petrochemical derivatives	Related
15	Mercedes-Benz Türk A.Ş.	1967	Private	Daimler AG	Direct	Affiliated (with Daimler AG)	Foreign	Automotive industry	Related
16	Aselsan Elektronik San. ve Tic. A.Ş.	1975	State	Turkish Armed Forces Foundation, publicly traded	Direct	Affiliated (with Turkish Armed Forces Foundation)	Domestic	Defense industry	Related
17	Vestel Beyaz Eşya San. ve Tic. A.Ş.	1984	Private	Zorlu Holding	Direct	Affiliated (with Vestel Group)	Domestic	Production & marketing in the information technologies, defense industry & electricity	Unrelated

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

18	BSH Ev Aletleri San. ve Tic. A.Ş.	1967	Private	Joint venture between Robert Bosch GmbH Stuttgart and Siemens AG Munich.	Alliance	Affiliated (with BSH Group)	Foreign	Production of home appliances	Related
19	Sasa Polyester Sanayi A.Ş.	1966	Private	Erdemoglu Holding	Direct	Affiliated (with Erdemoğlu and Sabancı Group)	Domestic	Production of fiber, filament, polyester, polyester-based polymers & intermediate	Unrelated
20	Yıldız Entegre Ağaç San. ve Tic. A.Ş.	1982	Private	Yıldız family	Direct	Affiliated (with Yıldız Holding Group)	Domestic	Produces MDF products	Unrelated
21	Türkiye Şişe ve Cam Fabrikaları A.Ş.	1934	Private	Türkiye İş Bankası, Efes Holding, Anadolu Hayat Emeklilik, and public	Alliance	Affiliated (with İş Bankası)	Domestic	Turkish glass industry	Unrelated
22	Borçelik Çelik San. Tic. A.Ş.	1990	Private	Borusan Holding and Arcelor Mittal partnership	Alliance	Affiliated (with Borusan Group)	Domestic	Produces hot-dip galvanized steel, cold-rolled steel and hot-rolled (pickled and oiled)	Related

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

23	KARDEMİR Karabük Demir Çelik San. ve Tic. A.Ş.	1937	State	Publicly owned, Karçel, Türkiye Wealth Fund, Public	Direct	Independent (Publicly owned)	Domestic	Iron & steel industry	-
24	Eti Bakır A.Ş.	1935	Private	Cengiz Holding	Direct	Affiliated (with Cengiz Holding)	Domestic	Mining & metallurgy industry	Unrelated
25	Vestel Elektronik San. ve Tic. A.Ş.	1984	Private	Zorlu Holding AŞ	Direct	Affiliated (with Zorlu Holding Group)	Domestic	Production of electronics & home appliances	Unrelated
26	Sarkuysan Elektrolitik Bakır San. ve Tic. A.Ş.	1972	Private	Sarda Dağıtım ve Ticaret	Direct	Affiliated (with Sarkuysan Group)	Domestic	Production of electrolytic copper products, copper tubes & bus bars	Unrelated
27	TUSAŞ-Türk Havacılık ve Uzay Sanayii A.Ş.	1973	State	Turkish Armed Forces Foundation Presidency of Defense Industries, Turkish Aeronautical Association	Alliance	Affiliated (with Turkish Armed Forces Foundation)	Domestic	Aerospace, Defense & telecommunications.	Related
28	Er-Bakır Elektrolitik	1981	Private	Erikoğlu Group	Direct	Affiliated (with Erikoğlu Group)	Domestic	Produces in electrolytic	Unrelated

	Bakır Mamulleri A. Ş							copper conductor	

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

29	Yücel Boru ve Profil Endüstrisi A.Ş.	1969	Private	YÜCEL group (Gökşen Mustafa)	Direct	Affiliated (with Yücel Group)	Domestic	Production of industrial tubes & profiles	Unrelated
30	Tatmetal Çelik San. ve Tic. A.Ş.	1986	Private	Akın TATOĞLU,	Direct	Affiliated (with Kibar Holding Group)	Domestic	Production of flat sheet, hot rolled pickled, cold rolled, galvanized, & painted flat steel.	Related
31	MMK Metalurji San. Tic. ve Liman İşletmeciliği A.Ş.	2010	Private	MMK Group PJSC (a Russian steel industry),	Direct	Affiliated with MMK group	Domestic	Production of hot rolled products, galvanized coated products, painted products, and painted aluminum products	Related
32	Aygaz A.Ş.	1961	Private	Koç holding, other shareholders, public	Direct	Affiliated (with Koç Group)	Domestic	Operating in the supply, storage, and filling of liquified petroleum gas	Unrelated
33	Türkiye Petrolleri Anonim Ortaklığı	1954	Private	Türkiye Wealth Fund	Direct	Affiliated the Wealth Fund	Domestic	Petrochemical industry	Related

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

34	Nadir Metal Rafineri San. ve Tic. A.Ş.	1993	Private	Nadir Refinery (Nadir Tütüncü)	Direct	Affiliated (with Nadir Metal Rafineri Group)	Domestic	Production of gold and silver & trades gold, silver, platinum, palladium, and rhodium.	Unrelated
35	Eti Maden İşletmeleri Genel Müdürlüğü	2004	State	Türkiye Wealth Fund	Direct	Affiliated (with Turkish Ministry of Energy and Natural Resources)	Domestic	Mining industry (mining of boron minerals)	Unrelated
36	İzmir Demir Çelik Sanayi A.Ş.	1975	Private	Şahin Şirketler Grubu Holding A.Ş. (Şahinler Holding)	Direct	Affiliated with Şahin Holding	Domestic	Production of construction iron and the rolling mill facilities and steel mill	Related
37	Türk Traktör ve Ziraat Makineleri A.Ş.	1955	Private	Koç Holding, CNH Österreich GmbH, Public	Alliance	Affiliated (with Koç Group)	Domestic	Industrial agriculture, machinery industry, automotive industry	Unrelated

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

38	Assan Alüminyum San. ve Tic. A.Ş.	1988	Private	Kibar Holding	Direct	Affiliated (with Kibar Holding Group)	Domestic	Producing flat rolled aluminum, serving many sectors packaging, distributor, construction, consumer durables, automotive & heating-cooling with roll, sheet, foil and painted aluminum products	Unrelated
39	Tosyalı Toyo Çelik A.Ş.	2015	Private	Tosyali Holding	Direct	Affiliated (with Tosyalı Holding)	Domestic	Produces advanced technology & high value-added flat steel.	Related
40	Unilever San. Ve Tic. T.A.Ş.	1930	Private	Mustafa Seçkin	Direct	Affiliated (with Uniliver)	Foreign	Production of products in beauty & wellbeing, personal care,	Related

								homecare, nutrition, & ice cream	

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

41	AKSA Akrilik Kimya Sanayii A.Ş.	1968	Private	Akkök Holding	Direct	Affiliated (with Akkök Group)	Domestic	Production of textile fibers	Related
42	Modern Karton San. ve Tic. A.Ş.	2015	Private	Eren Holding	Direct	Affiliated (with Eren Holding Group)	Domestic	Paper production industry	Related
43	Enerjisa Enerji Üretim A.Ş.	1995	Private	Sabancı holding	Direct	Affiliated (with Enerjisa Enerji A.Ş., that is a joint venture between the Turkish conglomerate Sabancı Holding and the German utility company E.ON.)	Domestic	Energy production	Unrelated
44	Kroman Çelik Sanayii A.Ş.	1950	Private	Yücel Group	Direct	Affiliated (with Kibar Holding Group)	Domestic	Operating in the iron, steel, and pipe industry (Metals & mining industry)	Unrelated

Table 16. (Continued) 50 Top companies of Türkiye (based on ISO-500)

45	Bosch San. ve Tic. A.Ş.	1910	Private	The Bosch Group	Direct	Affiliated (with BSH Group)	Foreign	Production of home appliances	Related
46	Diler Demir Çelik Endüstri ve Ticaret A.Ş.	1954	Private	Diler holding	Direct	Affiliated (with Diler Group)	Domestic	Steel products manufacturing	Unrelated
47	Kastamonu Entegre Ağaç San. ve Tic. A.Ş.	1969	Private	Hayat holding	Direct	Affiliated (with Hayat Holding Group)	Domestic	Production of raw and melamine faced MDF, particle board, laminate flooring, door panel etc.	Unrelated
48	Hayat Kimya Sanayi A.Ş.	1987	Private	Hayat holding	Direct	Affiliated (with Hayat Holding Group)	Domestic	Operates in the categories of home care, hygiene, and cleaning papers.	Unrelated

49	Eti Gıda San. ve Tic. A.Ş.	1961	Private	Kanatli family	Direct	Affiliated (with Yıldız Holding Group)	Domestic	Production in food sectors	Unrelated
50	Baştuğ Metalurji Sanayi A.Ş.	2008	Private	Baştuğ family	Direct	Affiliated (with Baştuğ Group)	Domestic	Serving in the iron and steel industry	Unrelated

Regarding the above-mentioned details presented in the table, the year of foundation of the companies is the first item to be considered here. The oldest company is referred to Bosch San. ve Tic. A.Ş., which is a foreign company in Türkiye, with a ranking of 45, founded in 1910 (113 years old). It is worth noting that the second oldest company is a foreign company as well. Unilever San. Ve Tic. T.A.Ş., with a ranking of 40, founded in 1930 (93 years old). Finally, the oldest domestic company is Türkiye Şişe ve Cam Fabrikaları A.Ş., founded in 1934 (89 years old), with the ranking of 21. The youngest companies are Tosyalı Toyo Çelik A.Ş. and Modern Karton San. ve Tic. A.Ş., both founded in 2015 (8 years old), with the ranking of 39 and 42, respectively. Lastly, an age average is 50.22 years old.

Other items are considered as below, which will be evaluated by percentage:

From the table above, it is shown that private companies in this list are in the majority. Among these companies there exist both private and family-owned companies. Of the 50 companies on the list, only 4 of them are state-owned companies (with a percentage of 8) and the rest are private (with the percentage of 92).

In the companies listed above, there is only direct control and alliance control. As it is shown, the percentage of direct control is higher than alliance control. This means that for many companies (41 out of 50, with 82 percent) are controlled by a single holding or organization and a minority (9 out of 50, with 18 percent) are controlled collaboratively and have more than one shareholder.

Also, it is shown that the percentage of affiliated companies is higher than independent companies. Most of the companies in the list are affiliated with a holding company. For most, these holding companies and the shareholder (stated in controlling ownership part) are the same, no matter if they are state-owned companies or private ones. Overall, there are 48 companies (out of 50, with 96 percent) that are considered affiliated, one company is considered as business group itself, and one company is independent one.

Furthermore, regarding the origin of the companies, from the table we can note that the majority of the companies are considered as domestic (41 out of 50). However, there are domestic plus foreign (3 out of 50) and foreign (6 out of 50) companies as well. It is worth noting that in the first category (domestic - foreign) the shares are either equal or the foreign share is more than the domestic one. And lastly 12% of these companies are foreign companies, which operate in Türkiye but are affiliated with the parent company outside of Türkiye.

Next item is referred to as business line. In this part all the activities done by the companies are mentioned. As stated before, some of the companies have several business lines, which are called as diversified and some of them include only a single item, called as concentrated. These are considered by percentage in the top 50 companies in Türkiye.

Finally, in the last column of the table, the diversification type at Business Group in the top 50 companies are shown. The calculated related diversification is 38 percent (19 companies), the unrelated diversification is 60 percent (30 companies), and only one of the companies that referred to independent ones, is not coded on the table.

At last, the following table (table 17) represents the comparisons of the items which were examined above regarding Iran and Türkiye.

Table 17. The general overview of the whole items in the two countries, Iran, and Türkiye

	Iran	Türkiye
Foundation Year (years old)		
Oldest Company	71	113
Youngest Company	11	8
Age Average	30.08	50.22
Ownership Type (%)		
State	40%	8%
Private	50%	92%
Quasi-governmental	10%	-
Type of Control (%)		
Direct	26%	82%
Alliance	74%	18%
Market	-	-
Business Group (%)		
Affiliated	52%	96%
Business group itself	10%	2%
Independent	38%	2%
Origin (%)		
Domestic	100%	82%

Table 17. (continued) The general overview of the whole items in the two countries, Iran, and Türkiye

Foreign-Domestic	-	6%
Foreign	-	12%
Type of Diversification at the affiliated Business Group levels (%)		
Related	56%	38%
Unrelated	6%	60%
Not coded (If it is an independent company)	38%	2%

As it is obvious, the age average of the founding companies in Türkiye is higher than Iran. In other words, Türkiye contains older companies comparing with Iran. The number of state companies in Türkiye is lower than Iran. It means most of the companies in Türkiye are family-owned businesses or holding companies, that are considered as private businesses. In Iran, there is another type of ownership that does not exist in Türkiye, namely quasi-governmental ownership. In that, companies are supported by the government. This means that in Iran, the state's control and direct interference in the businesses is much higher than in Türkiye. In Iran many of the companies have several shareholders, but in Türkiye the number of single shareholders is higher. This means that Türkiye's business is mostly done solely by the holding companies. As is shown, in both countries there is no market control. In Türkiye majority of the companies are affiliated with a holding company, and comparing with Iran, the percentage calculated here shows higher in Türkiye than in Iran. In Iran the whole companies are domestic companies (because of the reasons mentioned before), but in Türkiye apart from domestic ones, there are foreign-domestic and foreign companies as well, although the number of domestic companies in Türkiye is more than foreign ones. Finally, we face an obvious and great difference in the last item (diversification) between two countries. The percentage of unrelated diversification in Türkiye is higher than Iran. On the other hand, Iran has higher percentage in related diversification.

CHAPTER 5: DISCUSSIONS AND CONTRIBUTIONS

The data shows that both countries reveal similarities and differences in various aspects of their institutional systems and economic actors. Both Iran and Türkiye are the same in social capital and corporate governance (except the family ownership). Despite having similar levels of knowledge capital, they diverge in the coordination with labor, state intervention, and financial market efficiency. Examining government expenditure to GDP ratio, both countries exhibit nearly equal state dominance in 2021. However, Türkiye outperforms Iran in indicators of state indirect intervention, like corruption, government effectiveness, and political stability. The Heritage Foundation Economic Freedom Index further underscores Türkiye's superiority in regulatory efficiency, open markets, and overall economic freedom. In terms of family wealth's role in business activities, Türkiye appears more influenced by it than Iran. Labor markets also exhibit variations, with Türkiye having a higher labor force but Iran experiencing lower unemployment rates. Türkiye shows a more liberal labor environment, while Iran faces challenges due to restrictive employment regulations and economic instability. Notably, the HDI positions Türkiye as 'Very High' compared to Iran's 'High,' with Türkiye displaying a higher average annual growth rate. Furthermore, both countries encounter issues about social capital which are characterized by low levels of general trust. Iran attributes its trust deficit to historical, autocratic, and cultural factors, while Türkiye faces challenges due to pervasive pessimism affecting political participation. Strengthening public trust emerges as a crucial factor for enhancing social relations and collaborative efforts in both nations. Furthermore, we found that the main economic actors in Iran are relatively younger, more state-owned, controlled with the alliance of partners, less affiliated with business groups, are totally owned by domestic actors, and rather relatedly diversified. On the other hand, in Türkiye the main economic actors are rather private companies, controlled by owning families directly, affiliated with business groups which are usually diversified unrelatedly. In Türkiye, there are also higher percentage of foreign ownership.

In addition, it is worth to mention that with empirical research the differences were found between these two countries regarding their institutional systems and main economic actors. However, the empirical data do not tell us how these institutional differences explain the differences between the economic actors of the two countries.

Therefore, as researchers, we theoretically make a causal link between them by claiming that the differences can be partially explained by the institutional differences between the two countries. Regarding the role of the state, we can say that although both countries have high levels of state intervention, the nature of this intervention can differ. The state intervention is rather direct in Iran whereas it is indirect in Türkiye. In Iran, the quasi-governmental ownership and its historical factors can contribute to a higher degree of government control and its interference in businesses. Therefore, we observed the dominance of state-owned enterprises focused, or relatedly diversified in rather natural resource industries. Whereas in Türkiye, government intervention has affected the main economic actors by various economic policies that aim to support the growth of private businesses which are usually family-owned. Thus, the developmental state tradition in Türkiye that support the growth of private businesses through incentives and protectionist policies as well as favouritism has been the main reason for the family business groups grown through unrelated diversification. Behind these differences in the role of the state between the two countries lies the historical choices made by the ruling elite of the two countries. In Iran, the ruling elite particularly after the Islamic revolution in 1978 adopted a nationalist economic regime by nationalizing many domestic and foreign private companies in the previous regime whereas the ruling elite in Türkiye have adopted a mixed economic system where the state coordinate economic activities of private (domestic and foreign) enterprises.

Regarding the financial markets, we can say that the role and efficiency of financial markets also impact ownership structures. For instance, Iran's weak financial stability and limited financial markets, and dominance of state provided capital may contribute to centralized ownership structures that are held by state and institutional investors. Thus, we see here the strong effect of government-provided capital in shaping the ownership and control of business enterprises in Iran. Whereas in Türkiye, as there exist more developed and varied financial markets with private (domestic and foreign) banks and stock exchange markets, it may have facilitated the family-owned businesses the holding companies to diversify in different sectors, and becoming holding companies. Moreover, the existence of a more liberal labor environment and employment laws in Türkiye as opposed to a more restrictive Iranian labor regulations can encourage family-owned businesses and diversified ownership structures. In this regard, more liberal employment laws may help owning families enter or withdraw from industries to create and change business portfolios without much being restricted by labor laws.

In addition, the levels of trust in a society can influence the coordination of economic actors. In this case, both countries encounter some challenges in social capital with the low levels of general trust. The historical, cultural, and social factors of Iran contribute to a lack of trust. That finally influences family businesses' reliance on loyalty and networks. The challenges in trust in Türkiye, on the other hand, can impact cooperation and the active participation in social and political initiatives. Due to the low trust, we could not see much the examples of alliance control of companies in Türkiye. In Iran, we can see the alliance control, but this is usually alliances between governmental agencies or between the governmental agencies and private entrepreneurs. Given the low level of trust in Iran, this low trust issue seems to be solved by the tutelage of the state.

Regarding the above-mentioned findings and discussions, several contributions can be drawn from them in the field of comparative institutional analysis. For instance, referring to the research gap, we can say that the observations emphasize the need for further investigation into how diverse institutional systems contribute to the emergence of different organizational forms. Also, the methodological approach of this thesis provides a structured framework for the reason of analyzing the differences between the two countries and gives valuable insights into the role of institutions in shaping economic outcomes. Furthermore, combining the two frameworks, i.e., VIS and NBS, in this research leads to gaining a comprehensive understanding of the institutional context in both countries by examining factors like government, financial markets, human capital, social capital, and corporate governance. Moreover, the findings of this research contribute to our understanding of the unique socio-economic perspectives of both countries and provide valuable insights for the policy makers, researchers and practitioners. In addition to all of the mentioned contributions, we can point to the conclusion we made from this research which make theoretical contributions to the comparative institutionalist literature by extending the perspectives of NBS and VIS. It highlights the importance of paying attention not only to the direct and indirect interventions of the government in the economy, but also to the preferences of the political elite's ideological and economic system. So, this enhances our understanding of how institutional systems shape economic outcomes.

Finally, we can say that this comparative analysis between the two countries can fill a significant gap in the literature and provides valuable insights for practitioners involved in trade cooperation of these two countries.

Our research also reveal that NBS and VIS perspectives may have some missing points in explaining the connections between the institutional systems and the features of main economic actors. Our study indicate that the role of the state, financial system, social and human capital and corporate governance explain the ownership structure of main economic actors. However, they do not explain why there are almost completely state-owned companies and no foreign companies in Iran whereas there are overwhelmingly family-owned businesses and also foreign companies in Turkey. This difference might be attributed to the differences in ideologic, and accordingly economic system differences, i.e., the different choices made by the political elite. In Iran, the political elite developed a state-capitalism based on their anti-imperialist ideology whereas in Turkey, the political elite developed a liberal economic system which is collaborated with the world capitalistic system. This implies that VIS and NBS perspectives should be extended by including not only the direct and indirect interventions of the state in economy, but also main ideological and economic system preferences that shape the nature of these interventions. This is a theoretical contribution of our study to the comparative institiutionalist literature. Our study also contributes literature in empirical sense. Until this study, there has been no study to compare Iran and Türkiye in terms of their institutional systems and respective economic actors although these two countries have long historical, geographic, and cultural commonalities. Practitioners who will do business with the collaboration of the two countries can get insights from our research findings by better knowing the two countries.

CHAPTER 6: CONCLUSIONS AND IMPLICATIONS

While various studies have conducted comparative research to examine theoretical arguments of comparative institutional perspectives, there is a notable absence of comparative empirical research focusing on the specific dimensions of institutional systems and their repercussions. The connections between institutional systems and the features of business systems have received less attention, especially the oversight regarding how diverse institutional systems contribute to the emergence of different organizational forms. Whitley (1999) suggested that variations in institutions related to the state, financial systems, skill development, and control systems (such as education and labor relations systems), along with authority and trust relationships, lead to discrepancies in ownership coordination, impacting the nature of firms concerning ownership type, vertical integration, and horizontal integration. Consequently, some countries may have family-owned SMEs that are specialized in a single industry, while others may feature publicly owned conglomerates, family-owned diversified business groups, or state-owned enterprises as dominant economic actors. However, the mechanisms through which institutional dimensions give rise to these variations in economic actors are not thoroughly elucidated. That is why, the aim of this research is to compare two countries, Iran, and Türkiye, in terms of their institutional systems as well as major economic actors. In analysing their institutional systems, we relied basically on VIS approach of Fainshmidt et al. (2018), which provided a more approapriate framework in anlysing developing countries than NBS whereas we followed NBS approach in comparing the characteristics of main economic actors between the two countries.

In this research, our goal is to examine how and to what extent the institutional systems varieties in the five dimensions mentioned by Fainshmidt et al., (2018) lead to differences between the two countries in terms of their main economic actors. Thus, our research model involves analysis of differences between Iran and Türkiye with respect to both their institutional systems by using the five dimensions of VIS, and the characteristics of the main economic actors that are ownership, type of control, origin, business group affiliation, and diversification level. We used cross-national comparative research design. Regarding the sampling, there are two websites in Iran and Türkiye which provide the list of largest companies (both refer to the year 2021), namely IMI-100 and ISO 500 respectively. Regarding the data sources for the first part of our study aiming at the comparison of the institutional system in two countries, we relied on the data sources (by referring to the most recent data) provided by UN, World Bank, WEF Global Competitiveness report, Heritage Foundation Economic Freedom, Turkish Statistical Institute, Human Development Index, and Global Health Security Index. For the second part of the analysis that considers the major economic actors of the countries, we relied on the listed companies' websites. This comparison specifically contains a comparison of the largest 50 companies from each country with respect to their time of founding, ownership (private, public), type of control (direct, alliance, market), origin (domestic, foreign, domestic-foreign partnership), business group affiliation (affiliated, independent), business lines, and diversification (related or unrelated diversification) level. We selected a sample by choosing top 50 companies of the lists. In Türkiye, ISO 500 list is prepared by Istanbul Chamber of Industry (ISO) and involves 500 largest industrial firms every year. We chose the companies from the top one (in the 1st ranking) to the one in the 50th ranking of the two lists, regardless of whether these companies are state-owned or private, foreign, or domestic, or even in what industry they work.

In the comparison of national institutional system, Fainshmidt et al.'s (2018) classification of Iran in centralized tribe systems and Türkiye in hierarchically coordinated systems guided our analysis. In centralized institutional systems, the focus is on public welfare and powerful elite serve as guardians of key resources and provide a safety network for the lower-level members of society. These societies often maintain a tribal structure and prioritize their extended clan. In Iran, the economy is mainly relied on natural resources such as oil and natural gas. Thus, the distribution of the wealth gained from natural resources among people is very crucial to establish a legitimate political authority. This authority has been established around the Islamic theocracy which is guarded by religious political elite group. Since the revolution in 1978 which was held against the Western emperial powers, the regime nationalized many foreign and private business and controlled the economy. On the other hand, Türkiye has been integrated with the world capitalistic system since its establishment in 1923. It adopted a mixed economic system where the state supported the development of private businesses on the one hand, and established state economic enterprises on the other hand. However, Türkiye started to implement liberal economic system since the 1980, and many state economic enterprises were privatized and more multinational companies were welcomed. In Türkiye, banking system is a primary source of financial capital, and there is a significant presence of knowledge capital. The coordination primarily happens among centralized owners, often family-based, and state investment agencies. The state plays an active role, and influential families exert significant control over corporate governance. The system is characterized by decreased overall trust with increased coordination challenges with a high-quality workforce.

Regarding the findings of the research and as we stated in the Discussion section, the empirical research has identified disparities between these two nations concerning their institutional frameworks and primary economic players. However, while the empirical evidence highlights these distinctions, it does not explicitly elucidate how these institutional variances account for the disparities among the economic actors in the two countries. As researchers, we therefore endeavor to establish a theoretical causal connection between these factors, positing that the dissimilarities may be partially attributed to the contrasting institutional contexts of the two nations.

During doing this research, we came across some limitations. One of the main obstacles was the problem of accessing Iran's official websites from abroad. This limitation necessitated the use of proxies designed by Iran itself, which, despite being available, often did not allow access to many official websites. This significantly hinders the collection of accurate and up-to-date information and hinders the research process. Moreover, even when access was possible, the reliability of information obtained from certain websites was questionable. The variability and unreliability of the data further complicated the research effort, as it was important to rely on reliable sources to ensure the validity of the findings.

Furthermore, it is worth noting that, at first, our primary goal was to investigate business-government relations with a focus on private companies in Iran and Türkiye. But, we faced important challenges due to some limitations. The most important of all is obtaining comprehensive information on corporate shareholders in Iran. In other words, we need to find personal details about the shareholders of the companies, but lack of access to up-to-date or accurate stakeholder information on reliable websites prevented this aspect of the research from being effectively pursued. To sum up, these existing limitations in accessing reliable information from Iran have significantly limited the scope of the research and prevented the exploration of business-government relations and private companies in both countries. These challenges underscore the importance of considering broader context and constraints when conducting international research, particularly in areas where access to information may be limited or unreliable.

Practical implications for investing in Iran and Türkiye come from understanding the distinct organizational contexts that shape business environments. For instance, investors should consider the level and nature of government intervention, as it differs between direct control in Iran and indirect support of private businesses in Türkiye. Also, differences in financial market efficiency affect ownership structures, with Türkiye's developed financial markets enabling more diversified ownership compared to Iran's concentrated ownership patterns. In addition, labor market regulations and the level of trust in society also play a key role in investment decisions. Türkiye's more liberal work environment may provide advantages for businesses compared to Iran's restrictive employment regulations and low levels of public trust. Furthermore, investors should consider the historical, cultural, and social factors that affect business operations as well as trust dynamics in each country. Knowing these institutional differences can inform investment strategies, risk assessment and business decisions in these countries. Also, future research should examine more dimensions of their business systems to provide more comprehensive insights for investors and practitioners seeking to participate in these markets. Therefore, for future studies, we suggest expanding the comparison between Iran and Türkiye to the remaining characteristics of their business systems. In this study, we focused on the characteristics of main economic actors, in Whitley’s terms “ownership coordination”. Thus, in future studies, the variations in non-ownership coordination between two countries can be explained by their institutional differences. In such a study, it is crucial to understand the competition and collaboration patterns between competitors, between companies in the same value chain in the same sector, and between companies in different industries. Similarly, work management and employment relation can also be comparatively investigated and explained by the institutional differences between Iran and Türkiye.

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