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The Fight Against Covid-19 in Slovakia and Austria: Lessons for and from Türkiye [1*]

Slovakya ve Avusturya'da Covid-19 ile Mücadele: Türkiye için ve Türkiye'den Dersler

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Abstract

The COVID-19 Pandemic, which has necessitated a global struggle, started a period of uncertainty in countries. The current uncertain situation has precipitated discussions on which policies should be implemented in combating the Pandemic. Different policies have been implemented in different countries to slow and prevent the COVID-19 epidemic. While evaluating the effectiveness of national policies, drawing lessons from successful examples, and adopting them have become critical. On the other hand, policies can also be reviewed through policy failures. Within this study's scope, a case study was conducted on Austria and Slovakia, which have both been successful in Central Europe in combating the Pandemic. Some of the lessons from these examples will contribute to Türkiye's fight against the Pandemic. Thus, policy recommendations that can be adopted in Türkiye have been scrutinized. In this context, Austria's, Slovakia's, and Türkiye's policies against COVID-19 were evaluated within the framework of different policy areas, and policy proposals were sought to be developed on Türkiye's behalf. Firstly, the theoretical framework was discussed in this study through policy transfer and lesson-drawing. Then, Austria's and Slovakia's anti-COVID-19 policies were examined, and some recommendations were developed for Türkiye. This study reveals that lesson-drawing in the Pandemic process will provide countries with efficient and functional. In this way, policy practices were examined, try to provide policy recommendations for and from Türkiye. The schools selected within the scope of the study were not evaluated in a wide range of areas from health investments, transportation, socio-cultural activities to economy, education to security.

Keywords: *Policy Transfer, Comparative Public Policy, COVID-19, Pandemic, Lesson-Drawing.*

JEL Codes: *I18, R50, I30*

INTRODUCTION

Throughout human history, different infectious diseases have become a public health problem in different times. Many of these have also affected people in different countries. The COVID-19 virus, which emerged in China at the end of 2019, spread worldwide in a short time. Due to the severe increase in the number of Covid-19 cases and deaths, the World Health Organization has declared a global pandemic. Many states have taken various measures to contain and mitigate the spread of the Pandemic.

The COVID-19 crisis caused 133,820,210 cases and 2,903,997 deaths worldwide by 8 April 2021 (WHO, 2021). The COVID-19 virus, which causes mass deaths worldwide, has profoundly affected social and economic life. Because of the virus, daily life has changed worldwide; the mask, social distance, and hygiene have made it the main motto of people's daily lives. As part of the fight against the virus, people were closed to their homes with partial or complete restriction, and economic activity was significantly restricted. For this reason, many people have been unemployed, or their income has decreased.

Governments had to develop new policies as part of the fight against COVID-19. In this context, governments have also taken different measures to combat the COVID-19 virus within the country's borders (Fouda et al., 2020: 510). In this context, new policies have been implemented in education, trade, economy, social life, health, and security. Educational processes have been transformed into distance education, and efforts have been made to conduct education through established TV channels, websites, and mobile applications. LMSs were quickly established in higher education, or their capacities increased, and infrastructures were renewed by reaching agreements with international companies. While digitalization of public services accelerated, innovative applications such as data visualizations and interactive maps tried to provide disease tracking, transmission rate reduction, isolation control, and control of public spaces. Social policies have also been implemented in cooperation with the central government, local governments, and voluntary organizations (Babaoğlu and Erdoğan, 2021; Karasoy and Babaoğlu, 2020; Babaoğlu and Kulaç, 2020; Ozer, 2020: 1126-1128). In the study, Slovakia, Austria and Türkiye's fight against coronavirus is discussed in a comparative way.

1. THE METHODOLOGY OF THE STUDY

The Pandemic is undoubtedly a health problem. On the other hand, it is necessary to talk about issues related to the health system and many commercial, political, and economic dimensions from a policy point of view. Therefore, it is not possible to explain the Pandemic only by the number of cases or vaccination rates, but instead, the measures taken by countries, their success and the relationship of this success with domestic factors should be questioned. (Capano et al., 2020: 287). Türkiye is a unique model in this respect. Türkiye has a population as large as Germany, but on the other hand, it has a larger GDP than Austria and Slovakia (WorldBank, 2021). Capano et al. (2020) stated that economically less developed countries have low success rates in fighting the Pandemic, while developed countries can quickly extinguish the Pandemic. Nevertheless, looking at the level of development and the sub-policy headings and the capacity to implement these policies are effective. For example, although Türkiye had problems in the supply of vaccines at the first stage, it successfully implemented vaccines after delivery and quickly became one of the most vaccinated countries (OWD, 2021).

In this study, the coronavirus policies of Slovakia and Austria, two Central European countries, were discussed. Among the most important factors underlying the fact that the Pandemic is observed differently in various countries, undoubtedly, parameters such as countries' health systems, the budget allocated to health, and the rate of public use of health opportunities can be considered. In this context, Slovakia was one of the countries with the lowest case numbers of the virus in the first periods in the European Union countries when the study began. However, the Slovak government has implemented the first practice worldwide, putting all citizens in antigen testing together. However, Slovak GNP contracted by 3.9% annually in 2020, making it one of the most significant declines in Europe.

Throughout the Pandemic, Austria has established policies like Türkiye's through its pandemic science board and social policy studies conducted by voluntary organizations. However, as the first European country to lift restrictions, it also experienced a rapid disease spread. Although it has experienced many cases and high death rates, Austria has not experienced a significant health crisis, such as Italy, Spain, or the United Kingdom. Thanks to early intervention strategies, Austria has managed to keep the mortality rate from Covid-19 low compared to other European countries (Simon et al., 2021: 2). For these reasons, Austria has also emerged as an example that should be examined compared to Türkiye.

Sharing the country's experience fighting the Pandemic is an essential contribution to learning lessons in public policy. This study aimed to draw lessons through comparisons by examining the policies of Slovakia and Austria against COVID-19 and Türkiye's policies. As part of this study, a comparison was made by evaluating the policy of Austria, Slovakia, and Türkiye against COVID-19. Furthermore, the lessons obtained from Türkiye and extracted for Türkiye were questioned between these countries. It should be noted that the analysis and assessments that will be conducted when the Pandemic is ongoing are evaluated based on policies that are valid until March 2021.

1.1. Policy transfer and Lesson-drawing

Policy transfer uses policies implemented by one government for another (Dolowitz, 2017: 35). Policy transfer refers to how actors borrow other countries' policies or institutions for policy development (Dolowitz and Marsh, 1996: 344; 357). With the concept of policy transfer, an essential tool in Comparative Public Policy, different countries' policies can be examined. A policy transfer approach is a valuable tool in its role as a facilitator in determining future policies. (Evans and Davies, 1999; Mossberger and Wolman, 2003). Dolowitz and Marsh (1996; 2000) described policy transfer as the transfer of structures or processes in a particular time and location to be used or not. Dolowitz (2003) states that policy transfer offers policymakers the opportunity to step away from the policy-making-implementation-evaluation process and transfer successful policies.

The concepts of "lesson-drawing" and "policy transfer" are different but intertwined. It is challenging to define lesson-drawing and policy transfer concepts separately from other policymaking forms (Rose, 1993: ix – x). While lesson-drawing offers the opportunity to examine how and from whom policymakers can benefit in the policymaking process, "policy transfer" explains the reasons and origins of transferred policies (James and Lodge, 2003: 179-191). Lesson-drawing refers to political actors or decision-makers in countries that adopt different policies to

their administrational level (Dolowitz and Marsh, 1996: 344). In other words, in drawing lessons, policymakers are trying to find a solution to an urgent problem in their country, and it refers to the process of countries learning lessons and seeking answers to their problems by looking at the policy practices implemented in another country (Rose, 1993: 19-20). Grin and Loeber (2007: 203) state that policymakers can initiate more successful policies and improve their practices by focusing on lesson-drawing tools.

In this context, policies and practices that can be transferred to combat COVID-19 have been examined within Austria and Slovakia as successful Central European examples.

2. COMBATING THE COVID-19 PANDEMIC IN AUSTRIA

Since the 1980s, Austria has not faced the threat of infectious disease as serious as COVID-19. During the advent of HIV in the 1980s, there was serious problem occurred. However, during the COVID-19 crisis, everyone in the country was influenced by the epidemic (Kreidl et al., 2020: 651). The first COVID-19 case in Austria was detected on February 25, 2020. Before this date, there were reports in the media that people suspected of having COVID-19 were tested, but their results were negative. After the first case was detected, various measures were taken by the government to protect public health. The first measures Austria took against the COVID-19 outbreak are as follows (Moshammer et al., 2020: 2):

- Quarantine measures were taken.
- Legal regulations were made to restrict social life.
- Schools, restaurants, and shops were closed to restrict social mobility.
- Conferences were cancelled for a certain period.
- Information on the country's total number of cases was to be published in daily reports.

Austria's health system has the total capacity to combat a health crisis (Pellert et al., 2020: 1). At the beginning of the COVID-19 Pandemic, Austria experienced a shortage of protective equipment and supplies for healthcare professionals, particularly COVID-19 diagnostic kits, ventilators, and hygienic masks (Keskin, 2020). These problems were resolved over time. Furthermore, finally, in April 2021, it is planned to vaccinate the rest of the population. Besides, a coronavirus advisory board has been established to advise the Minister of Health (https://www.ris.bka.gv.at/). Austria has used the "Stopp Corona" application during the COVID-19 Pandemic. Stopp Corona has been defined as a technological and open-source person tracing mobile application that helps combat the COVID-19 Pandemic (Busvine, 2020; Khaleghi et al., 2020: 237; Mbunge, 2020: 1633).

The restrictions were lifted on April 14, 2020, when the number of cases was reduced by taking precautions and applying restrictions (Müller, 2020: 354). First, shops and restaurants were opened, and schools could open. Austria courted controversy as the first European country to lift restrictions. After these stretches, it was announced that the second wave began on September 13, 2020 (Wintle, 2020). In the same period, vaccination efforts were carried out to limit the spread of the disease. According to the Austrian government's plan, persons older than 65 years of age were to be vaccinated first. In the second phase, health care professionals and other vulnerable persons in care centres and nursing homes will be vaccinated. The "COVID-19 Civil Society Initiatives" platform, established within the Austrian Federal Ministry of Social Affairs,

connected people in need of social support with benefactors throughout the global Pandemic. With volunteers' contributions, individuals in need of assistance were determined, and their requirements were fulfilled. People in need of social and financial support, including the elderly, children, women, and people with mental health issues, had their needs met thanks to this assistance (Spear et al., 2020: 386).

As a further measure, schools and universities were closed with a preventive policy on March 16, 2020, and the distance education model was adopted (Ebner et al., 2020: 1-3). The lack of internet access for all students, digital skills, cybersecurity, and infrastructure issues is among education topics. While the average of OECD countries benefiting from information and communication technologies in education is 53%, this rate is 33% in Austria (OECD, 2020). In Austria, the government has implemented various policies to support students and teachers. A needs assessment for distance education was conducted, and students who did not have access in May 2020 were given computers and tablets on loan until the end of the year. Distance education guidance principles have also been established to provide orientation support for school administrators and teachers (Tengler, Schrammel and Brandhofer, 2020: 7608). On April 14, 2020, measures began to be relaxed, allowing small grocery stores and garden supply shops to open. By May 1, 2020, all stores, shopping centers and hairdressers could open. It was also decided to reopen restaurants, hotels, and other businesses in the service sector (Fechner, 2020).

The government has helped maintain liquidity by helping businesses and companies with economic packages. A €7 billion emergency aid package has been launched to support short-term work and small and medium-sized businesses in this process. Moreover, €15 million in emergency assistance has been invested in supporting industries affected explicitly by the COVID-19 outbreak. Furthermore, a fund for micro-entrepreneurs has been established, and grant support has been provided (Fechner, 2020). For at least three months, free digital services for small and medium-sized businesses that need to work from home or run businesses have also been offered (Bundesministerium für Digitalisierung und Wirtschaftsstandort-Austria, 2020). In addition to this, efforts have been made to strengthen fragile supply chains and the food and pharmaceutical industries.

Economic policies implemented despite the PPandemic's adverse effects caused an estimated additional cost of €20 billion and a specific decrease in GDP growth (Dorn et al., 2020: 3). Conversely, under the assumption that vaccine and medical studies will succeed, it is estimated that a general recovery in the Austrian economy will occur for the years 2021-2022, and a rapid return to pre-pandemic levels is expected (Fenz et al., 2020: 213). In Austria, the health crisis has been tried to be controlled within the framework of the governance approach in combating COVID-19 (Desson et al., 2020: 415). Austria's struggle against COVID-19, health and economy-based sub-policy titles came to the fore. Then, Slovakia's COVID-19 policies were discussed.

3. COVID-19 AND POLICY PRACTICES IN SLOVAKIA

Slovakia has been one of the most prosperous countries in Europe in the fight against COVID-19. The first COVID-19 case in the country was recorded on March 6, 2020. This date nearly coincides with the WHO's declaration of a global pandemic on March 11. Since March 6, 2020, the Slovakian government has implemented measures and practices in many areas such as curfews, transportation restrictions, the transition to distance education, postponement of sporting events, economic measures, and social assistance, all within the scope of combating COVID-19. These

can be briefly listed as follows (Krizan, 2020: 2-8; Law No. 355/2007, FRA, 2020: 2-13; Podnikajte, 2020; Ministry of Health Care, 2020; Taxand, 2020; Korona.gov.sk, 2020; Nemec, 2020):

- As part of the fight against coronavirus, the entire army has been mobilized throughout the country.
- Masks are required to be worn everywhere except in residences. Social distancing rules have been implemented, and people have been asked to stand at least two meters away from each other in crowded areas and queues.
- Citizens have been advised to limit their contact with people.
- The sale of respirators to the public is prohibited.
- All citizens returning to Slovakia from abroad are required to take COVID-19 tests, and those whose test results are positive must be quarantined at facilities specified by the Ministry of Interior.
- A mandatory 14-day home quarantine has been imposed since March 13, 2020, for people returning from abroad, including those living in shared households and permanent or temporary residence in the Republic of Slovakia. (FRA, 2020: 2).
- Shopping centres and large stores have been closed since March 16, 2020.
- Mandatory hand disinfection and use of disposable gloves and masks were introduced at store entrances.
- Border crossings are closed. Transport outside the country is allowed only in limited and essential cases.
- The Ministry of Foreign Affairs of Slovakia has selected twenty countries and closely monitors their developments and COVID-19 measures. This issue is of great importance in terms of policy transfer and lesson drawing.

Slovakia followed an incremental strategy in fighting against the virus immediately after the COVID-19 Pandemic emerged in China. As a first step, it carefully followed the Pandemic and completed its preliminary preparations. As a second step, strict quarantine practices were enacted to prevent or delay the virus's entry into the country. In the third stage, a roadmap was determined to control the epidemic's spread, diagnose, and treat patients, and manage the process. In the fourth stage, isolation, social distance, security, and economic support measures were implemented. In the early stages of the Pandemic, Slovakia became the most prosperous country in Europe with these measures (Donicava, 2020: 729; Walker and Smith, 2020).

On February 27, the Security Council took the first concrete anti-pandemic measures, increasing border controls and blocking border crossings at Slovak airports, especially at the Austrian border. Also, a crisis committee was established within the Ministry of Health (Krizan, 2020: 3). On February 28, a thermal scan became a requirement for all passengers arriving in Slovakia by air. On March 7, in the capital Bratislava, an in-depth sterilization process of public transit was undertaken. On March 8 and 9, primary and secondary schools in Bratislava and secondary schools in Trnava and Košice were closed (Bahna et al., 2020: 1-5). On March 15, a health emergency was declared; wearing face masks in public areas was mandatory. On March 16, a state of emergency was declared (Donicava, 2020: 729). On March 18, international railway

stations were closed. On March 25, face masks were made mandatory in all indoor and outdoor areas. Planned operations and other non-urgent treatments in the health care sector were delayed. Restrictions on freedom of movement were introduced during the Easter holiday of April 8 to 14 (Euromil, 2020). With the decrease in virus cases on April 21, preparations for the "new normal life" transition were started in Slovakia, and the first phase of quarantine removal steps started (Nemec, 2020). Between 6 March to May 15, 2020, the number of people diagnosed with COVID-19 in Slovakia was 1,480, with only 27 deaths. While 135,902 people were tested, 1,131 patients recovered. From March through September, the country's number of daily infections rarely rose above 100 (Holt, 2020: 1386). Slovakia achieved this success despite large-scale demonstrations and a government crisis (Karadağ, 2018). With the decrease of virus cases on April 21, preparations for a new normal life transition were started in Slovakia, and the first phase of quarantine removal steps began (Nemec, 2020). In this term, the positive antigen test rate in Slovakia was 3.51%, and the positive PCR test rate was 20.49%. Although Slovakia has three times more beds and resources per capita than the United Kingdom (Slovakia produces the most ventilators per capita), the country's health system was in danger of collapsing in the second wave due to a lack of health investment in the past decade (Bi-team, 2020).

A state of emergency was declared again in the country on October 1, and new restrictions entered into force. Under the state of emergency, citizens are restricted from travel within the country, and a travel ban has been imposed on countries with high epidemic levels (Holt, 2020: 1386; Krizan, 2020). Sporting and cultural activities, family gatherings, and religious rituals were banned throughout the country, while ceremonies such as funerals, baptisms and weddings took place without a celebration or banquet afterwards (Pavelka et al., 2020). In Slovakia, restaurants only serve customers outdoors or as takeaways. Fitness centers, wellness centers, water parks, pools and saunas have been closed. Slovakia also requires a negative test result from everyone entering the country (Geržová et al., 2020: 5-34). Despite the measures taken in Slovakia, the number of cases increased and in October, Slovakia tested everyone over the age of 10. From October to November 1, 2020, support teams consisting of more than forty thousand paramedics, soldiers, police, administrative officers, and volunteers were deployed to implement COVID-19 Tests (News18, 2020).

Slovak authorities have decided to use antigen tests instead of PCR tests, which are less reliable but produce in 15 minutes. Although the test is free and voluntary, the government has stated that it will apply a 10-day home quarantine, including a ban on working for those who do not take the test (Euronews, 2020; Pavelka et al., 2020). On the first day, 2,581,013 people were tested, and 25,850 people were optimistic. On the second day, approximately 1,040,000 citizens participated in the test campaign, and 12,509 tested positive. The Slovak Medical Association criticized the government for "blackmailing" the public and wasting resources (Canşen, 2020). Various campaigns have been organized throughout the country to increase Slovakia's measures, ensure that citizens support them, and minimize the economic, social, and psychological problems that arise due to isolation (Nemec, 2020). In addition to promotional campaigns, the government has prepared flyers, billboards, posters, and spot films that have been shown on TV channels to inform the public about the necessary measures (Korona.gov.sk, 2020).

To prevent the spread of COVID-19 and decrease transmission, all educational institutions from kindergarten to universities were closed and moved to distance education (Mikušková and

Verešová, 2020: 884; IOM, 2021). On March 25, the Ministry of Education, in cooperation with the third sector, established a "crisis" website to disseminate information, recommendations, and guidelines on distance education and provide digital education content to all students (Szabo, 2020). Teachers have started to offer distance education in various ways, such as video communication platforms like Zoom, MS Teams and Moodle learning management systems (LMSs) (Čiefová, 2020: 1-5). Technological tools have also been used in Slovakia's fight against COVID-19. In this context, the ZostanZdravy mobile application was prepared and offered in the service of citizens. This application aims to inform and guide citizens about COVID-19 to minimize the epidemic's risks and prevent its spread (ZostanZdravy, 2021).

In Slovakia, a 10% contraction in GDP has occurred during the COVID-19 outbreak (Kufelová and Raková, 2020: 1). While the Slovakian economy's contraction was 3.7% in the first quarter of 2020, the contraction rate was 12.1% in the second quarter, when the impact of COVID-19 was most felt. Since the financial crisis of 2009, the economy has shrunk for the first time in ten years (Ministry of Trade, 2020). Because of this challenging economic situation, the Slovakian government is covering 80% of businesses' salaries. Also, the government is providing a bank guarantee of €500 million to merchants and citizens. The state covers 55% of the gross salary of parents who care for quarantined employees and family members for the entire period (Khanec and Martišková, 2020, Iuslaboris, 2020). Additionally, municipalities have distributed food to people who need assistance.

Looking at Slovakia's struggle against Covid-19, it is seen that it comes to the fore in the fields of health and economic policy. It has similar and differentiated policies with Austria, which is discussed within the scope of the study. It is noteworthy that Slovakia requested emergency medical assistance from the European Union on 17 February 2021. Slovakia, whose occupancy rates in hospitals and intensive care rose on related dates, demanded professional staff such as doctors and carers (Demirkan, 2021). In the continuation of the study, Türkiye's struggle with COVID-19 will be discussed, and an attempt to determine which courses of action can be transferred from Austria and Slovakia will be made.

4. FIGHT AGAINST THE PANDEMIC: THE TURKISH EXPERIENCE

Many countries have taken similar measures along WHO guidelines to combat the global COVID-19 Pandemic. Social distancing, masks, dissemination of hygiene measures, social isolation, and curfews are examples of such measures. Türkiye has also implemented many similar measures considering WHO guidelines. Bakir (2020: 424) stressed that the presidential system in Türkiye has a positive impact on the ability to act quickly at the point of fighting COVID-19. Capano et al. (2020: 302) also state that Türkiye has undergone a successful policy implementation process due to its capacity to combat crises such as the refugee crisis caused by the civil war in Syria.

Like all countries, Türkiye has developed new policies in many areas, such as health, education, economy, and social support, to combat COVID-19. Türkiye, which is noted for its advanced health sector capacity, first tried to deter the virus's entry into the country and took restrictive measures with restrictions and isolations during this period. Meanwhile, the Science Board established under the Ministry of Health has developed data-driven policy recommendations and has advised the government (Babaoğlu, 2021; Kulaç and Babaoğlu, 2020). City hospitals have played an essential role in combating COVID-19 through their contributions in diagnosing

coronavirus, isolating patients, and conducting the necessary tests. Ankara City Hospital has become a center of the fight against COVID-19. Thanks to intensive care bed capacity, Türkiye has never experienced a health system crisis like Italy or Spain (Ahsan and Babaoğlu, 2020). Approximately 30% of the Turkish population has been tested. Relative to population, the number of cases is approximately 3% to 8% among those tested. The ratio of coronavirus-related deaths to the number of cases is 1% (MoH-Türkiye, 20/02/2021). With the "city hospitals" built before and during the Pandemic, no serious bed problems have been encountered in Türkiye, and the health system has successfully handled the process. New hospitals were built during this period, appropriate tools were provided, and local ventilators were produced and used in intensive care. Through human trials in ongoing vaccine studies, Türkiye has performed successful process management in a medical sense (Ahsan and Babaoglu, 2020).

According to OECD estimates, while the Turkish economy was expected to grow by more than 3% before the Pandemic, Türkiye's economic activity will fall by between 20% and 25% during the COVID-19 period. According to IMF forecasts, the Turkish economy will shrink by approximately 5% in 2020 (Deloitte, 2020: 5; STM, 2020: 4-5). On March 18, 2020, the Turkish government announced a new economic relief package worth 260 billion TRY ($38.3 billion) called the Economic Stability Shield (ILO, 2020). Special credit rates, tax exceptions, premium supports, and incentives were provided for small and medium-sized enterprises in this program. (Escarus, 2020: 107-108).

5. DISCUSSION

As Bakir (2020) and Capano et al. (2020) stated, there is a direct relationship between the COVID-19 combating policy success and countries' political and administrative systems. Some similarities and differences are noticeable when examining the systems of countries. Austria, which has a parliamentary system, and Türkiye have similarities in the direct election of the head of state by the people, which is not found in parliamentary systems. In Austria, this system emerged due to the desire to strengthen the head of state in response to the political crisis in 1929, and in Türkiye, a similar development occurred in 2007, and the electoral system changed (Bakırcı, 2013: 1181-1190). In Türkiye, which switched to a semi-presidential system in 2007, the presidential system started in Türkiye with the president's election on 24 June 2018 (Çınar, 2018). In the Republic of Slovakia, an executive power consists of a head of state elected by the citizens and a government headed by the prime minister responsible to the parliament (Marušiak, 2017: 114-115, 127). Countries ' data on the Pandemic are also examined, and all three countries' data on confirmed coronavirus cases, death rate and daily updates are listed below (See Table 1).

Table 1. Coronavirus tracking table in Türkiye, Austria, and Slovakia.

Country	Population	Confirmed Cases Rate		Total Cases	Cases Reported in the Last 24 Hours	Total Deaths	Deaths - Reported in the Last 24 Hours
Türkiye	85.033.013	62‰		5,235,978	7,656	47,271	137
Austria	9,006,398	71‰		640,162	570	10,334	6

Slovakia	5,459,642	71‰		389,690	102	12,339	4

(WHO (2021b), https://Covid19.who.int/table / WorldoMeters (2021) https://www.worldometers.info/world-population/population-by-country/ Last update: (31.05.2021)

In Slovakia, it was observed that the health system was strained during the second wave period. Slovakia is notable in terms of economic policies. In Slovakia, it is required to cover 80% of employees' salaries in enterprises and 55% of the gross salaries of quarantined employees and parents who provide care for family members for the entire period. Also, the bulk payments mentioned above have been an essential support for businesses. Türkiye has also developed flexible working wages, an unemployment fund, and turnover support for businesses. However, compared to Slovakia, it can be argued that economic support in Türkiye remains lower. According to IMF data, Austria spends 11.7% of its GNP on Covid-19 aid. When evaluated within the EU, Austria ranks second behind Greece (13.7%) and Germany (11%). As of 31 March 2021, 34 billion Euros of Coronavirus aid has been provided by Austria through various assistance tools such as short-term work, fixed-cost subsidies, victimization funds, guarantees, tax deferrals and discounts.

There are also lessons that Türkiye can draw from different countries during this period. Although digitalization steps have been taken, there have been problems using public services due to the digital divide. Digitalization is also one of the highlights to combat the Covid-19 Pandemic. During this period, a digital transformation occurs from the point of view of both citizens and governments. On the one hand, during this period of opportunity, digital capacity increases, and on the other hand, digital tools help combat the epidemic (Kronblad and Pregmark, 2021: 108; Soong-Chul, 2021: 155). The digitization initiative program for SMEs implemented by Austria is a critical implementation in this respect (Gümüşlü, 2020: 22). Considering that there are 3.5 million SMEs in Türkiye, the transfer of this Austrian policy and its implementation by drawing lessons specific to Türkiye will turn the gloomy economic picture created by COVID-19 into a positive one. The transition to distance education has been challenging for all three countries. Digital infrastructure capacity in Austria is below the OECD average. During COVID-19, telemedicine experiences became standard in all three countries. In this process, remote access to medical services has been expanded to reduce physical contact (Donicova, 2020: 730).

In contrast, Slovakia implemented training activities with private sector support and coercive measures for TV channels. Overall, Türkiye has conducted this process successfully. It can be claimed that a successful education policy has been put forward in many aspects via the EBA TV channel and mobile applications developed, websites, on-duty teacher application in schools, and sharing the technical infrastructure of different public institutions. However, there have been differences among students globally due to the digital divide, inadequate technical infrastructure in rural areas, and family-related education. It has been observed that Türkiye and Austria have made similar efforts under the heading of social policies. Vefa (Fidelity) social support groups established in Türkiye and the "COVID-19 Civil Society Initiatives platform" in Austria are like

volunteerism and coordination. In Slovakia, it has been found that local governments serve disadvantaged groups in their homes, distribute food, and set up mobile support lines. In Türkiye, both provincial organizations and local governments have successfully implemented such assistance. The implementation of sterilization measures in all of Slovakia's public transit is an important step. Public transit in Türkiye's cities is under the control of local governments, and different practices have been observed during the Pandemic. It has been observed that while large municipalities have implemented successful programs, small municipalities have failed to make the necessary efforts due to budget constraints.

It is claimed that the public strictly complies with restrictions on time and attendee numbers imposed at events in Slovakia. In the first wave of the Pandemic, Slovakia has been the only country in Europe to declare a state of emergency with its measures. From the first COVID-19 case in March 2020 and through to September 2020, the daily number of infections in the country rarely exceeded 100. Slovakia was also the first country to conduct mass testing and has been a critical model country in diagnosing, detecting, and preventing transmission. In Türkiye, the possibility of effective control is limited due to the expansive geography.

For this reason, it is believed that these time and attendee restrictions were not fully enforced in rural areas. In some areas, there have been increases in the number of cases caused by such control problems. Furthermore, Slovakia's general application of antigen testing on October 31 and November 1, 2020, was an essential step in detecting pandemic cases and control. Türkiye experienced difficulties obtaining tests and implementing detection and tracing measures, particularly at the epidemic's beginning. With the arrival of test kits produced in Türkiye, a rapid detection phase began. Türkiye performed partial standard tests in May and June, but these widespread testing efforts were later terminated. With a population of approximately 85 million, it is not easy to conduct mass testing in Türkiye. Seemingly, there are lessons to be learned from the Slovakian example. It can also be argued that Slovakia made an essential gain in the prevention of contamination with the start of mask distribution in the first stage. Türkiye has also provided masks and hygiene supplies for itself and many other countries during the Pandemic. Conversely, problems with distributing free masks for citizens and organizational problems have been observed due to the large geography and crowded population. For this reason, Türkiye ended free mask distribution soon after its implementation.

Table 2. Combating against Coronavirus Pandemic in Austria, Slovakia, and Türkiye.

Topic			
	Austria	**Slovakia**	**Türkiye**
First case	The first case was seen on February 25, 2020.	The first case was seen on March 6, 2020.	The first case was seen on March 11, 2020.
First reaction	Closing borders of the country	Closing borders of the country	Closing borders of the country
Isolation decisions	It has implemented long-term quarantine measures. It has implemented domestic and international travel restrictions.	It has implemented long-term quarantine measures. The State of Emergency has been declared. It has implemented domestic and international travel restrictions.	It has implemented short-term quarantine measures. It has implemented domestic and international travel restrictions.

Education Policy	F2F education was suspended, and distance education started. Students were given computers and tablets on loan until the end of the year.	F2F education was suspended, and distance education started.	F2F education was suspended, and distance education started. EBA TV channel has been established for distance education. Free tablet computers were given to the students by the central government and local governments.
Helping actors for decision-making process	COVID-19 Science Board was established.	A Crisis Committee has been established.	COVID-19 Science Board was established.
Antigen Testing	Antigen tests have been done on the entire population.	Citizens over the age of 10 has been tested for antigens	Only the applicants in the hospitals were tested.
Social Policy	A platform has been created to bring together people who need social support needy.	The government covered 55% of the gross salaries. The municipalities supplied the food needs of quarantined people.	Aid distribution and meeting the needs were ensured with Vefa Social Support Groups. The municipalities supplied the food needs of quarantined people.
Economic Measures	Short-term work allowance. Support payments has been made for small and medium-sized businesses. A support package has announced for industrial production.	It has covered 80% of the salaries of the employees of the enterprises that have been closed by force. Various supports are provided. A total of 500 million Euros of bank guarantee has been provided to merchants and citizens.	Short-term work allowance. Credit priority has been given to SMEs and companies that need cash and have collateral deficits. 100 Billion Turkish Liras (10 million Euros) resources were transferred.
Case tracing	Stopp Corona mobile app was used	ZostanZdravy mobile app was used	Hayat Eve Sığar (Life Fits Home) mobile app was used.
Vaccination	The first vaccine started on December 27, 2020. Pfizer-Biontech vaccine has been chosen.	The first vaccine started on December 27, 2020. Pfizer-Biontech vaccine has been chosen.	The first vaccine started on January 14, 2021. Sinovac and Pfizer-Biontech have been chosen.
Lesson-drawing	Counselling with the EU.	Counselling with the EU. Moreover, 20 countries were selected and monitored for lesson drawing.	Bilateral cooperations

It has been observed that the measures taken by countries regarding the COVID-19 Pandemic are similar. For example, countries have prepared support packages to eliminate the economic problems caused by the Pandemic. Importance has been given to face masks, social distancing, and hygiene issues. Schools and universities were placed on hiatus, and the distance education model was adopted. Many stores and shopping malls have been closed across the country. There have also been problems mask supply and concentrating of distance education systems, particularly at the beginning of the Pandemic. Furthermore, there have been periods when local governments have been unable or uncoordinated in implementing the central government's decisions. Here, it was observed that Türkiye is disadvantaged by its more expansive geography.

On the other hand, Slovakia has chosen 20 countries to monitor and transfer the combating COVID-19, and it is an essential step for policy formulation. Austria and Türkiye have bilateral dialogue and cooperation with many countries in this period, but they did not prefer to formulate such a monitoring system.

Besides the international collaborations, new national policy actors have been discovered during the Pandemic. Scientific Councils and the crisis committee have been effective for combating policies. These units develop policies and recommendations, monitor treatment processes and vaccination studies, and share data with the public. Each country's health ministry supervises more technical issues, such as hospital administration and laboratory studies. The most important factor affecting success in combating such a crisis is working in coordination. In this context, it is seen that the administrative units, non-governmental organizations, and citizens are working in coordination in all three countries. None of the countries in the study has neglected issues such as the economy, agriculture, health, education, or social policy, and the continuation of public services and windows of opportunity for digitalization has been implemented with coordination. The Coronavirus Scientific Advisory Board established in Türkiye has made significant contributions in determining health policies in the fight against the epidemic. The Social Sciences Advisory Board was also established, and this board has advised on the Pandemic's social issues. Like Türkiye's Coronavirus Scientific Advisory Board, Austria has established a scientific board, and this board makes recommendations regarding the fight against COVID-19. Also, Slovakia has established a crisis committee, which has a similar attribution.

CONCLUSION

This study discussed the policies of Slovakia, Austria, and Türkiye against COVID-19. Because of the ongoing nature of the Pandemic, the measures have continually changed during this review. It should be noted that the measures within this framework were valid during the preparation of this study. The measures of the three countries covered in the study have been compared within the framework of the COVID-19 Pandemic. Countries' administrative system has different effects on its fight against the Pandemic. In this context, Türkiye's leading actors in this fight are the President, the Minister of Health, and the Scientific Advisory Board. In Slovakia and Austria, governed by a parliamentary system, Prime Ministers have also taken an active role in combating the Pandemic. On the other hand, unlike the other two countries, Slovakia has twice declared a State of Emergency during the Pandemic.

When these three countries are examined, all three have implemented similar protocols in the treatment of COVID-19. However, it appears that Slovakia differs in the number and method of tests. The practice of mass testing is remarkable. It is seen that the health infrastructure is Türkiye's most substantial aspect of the fight against the Pandemic. City hospitals in Türkiye, which were established before and during the Pandemic, have played an important role in charting its progress. In Slovakia and Austria, hospital capacities have been a significant problem during the Pandemic. Slovakia has already requested assistance from the European Union, stating that it could not cope with the increase in cases as of February.

Furthermore, Austria provided doctor and nurse support to Slovakia in response to this request. All three countries developed mobile apps to track the cases. In Türkiye, the Ministry of Health has developed a mobile application (life-fits home), and an attempt has been made to follow up citizens in isolation with the application. It was also attempted to prevent patients' entrance to

crowded public spaces by using codes generated through the application at access to public areas (Yıldız, 2020).

Due to limitations of mobility in the daily life and curfews would cause stagnation in the market economy. Moreover, restrictions taken due to COVID-19 will affect the economies of these countries negatively. Also, it could wait for a destructive effect on the world economies, as the Great Depression did in 1929. Austria and Slovakia, as members of the European Union, could be more advantaged because of the support of the European Union. They can fight against the economic effects of the Pandemic more easily. Although the COVID-19 Pandemic is on the agenda with its negative consequences worldwide, it has also acted as a trigger for digitalization processes. The environment in which public administrations are required to perform numerous public services has changed radically, forcing public managers to adapt their conventional management methods to the new circumstances innovatively. In an environment in which information no longer holds any prognostic value due to the quickly transformed conditions in which different stakeholders have ever more complex motives and interests that are also continually changing and conflicting. This description also applies to or will be more critical in any future waves of the COVID-19 Pandemic and the post-COVID-19 era. Public institutions and organizations have had to adapt to new administrative techniques and methods to cope with the problems that have arisen in the Pandemic's changing situation. While governments made more successful efforts in the first wave of the COVID-19 epidemic, the measures taken in the second wave did not have the same effect (Klimovský and Nemec, 2021: 2). This result is that citizens are tired of restrictions, there are early openings due to economic reasons, and the delay in the supply of vaccines has been effective.

COVID-19 has provided significant windows of opportunity for this radical transformation in the public sector. Digital transformation practices, which continued at different speeds in different countries until 2020, accelerated during the Pandemic. The rates of digitalization in services and policies increased exponentially compared to the past. This study will help lesson-drawing and provide recommendations by addressing the policies and practices implemented in three countries. Countries should be prepared for similar crises in the future by adapting their technologies, accordingly, strengthening their health infrastructure, and giving priority to projects that will increase solidarity throughout the country. These factors will most likely play an essential role in combating against the possible future epidemics. Finally, Turkey, which is larger than other countries in terms of both area and population, did not lag behind European countries with the work they did during the coronavirus period, and even managed these areas better during the pandemic period with projects and applications developed in many centres.

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The Construction of the Curriculum with Political Study from the Perspective of the Holistic Governance [1*]

Bütüncül Yönetişim Perspektifinden Siyaset Çalışmaları Müfredatın İnşası

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Abstract

Curriculum with political study is the major institutional innovation of China's ideological and political education reform in the new era. As the transboundary affairs, the curriculum with political study faces the fragmentation problems in cognitio subject, resources and participation. Based on the theory of holistic governance, the curriculum with political study should establish four mechanisms of trust, integration, coordination and participation in order to share the values and resources of the political education and to improve the ability of the political education among all the Chinese universities.

Keywords: *Curriculum with political study; Fragmentation; Holistic governance*

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INTRODUCTION

In 2016 the Chinese president put forward that the classroom should be taken as the main platform to teaching the professional and political knowledge simultaneously. In 2019 the Chinese president emphasized again that explicit and recessive education should be integrated. The ideological and political education resources should be explored in all other courses so that ideological and political education can be conducted by all teachers among all the education fields. In 2020 the Chinese Ministry of the Education issued the guidelines on the curriculum with political study of the high education and required that all disciplines among all universities should conduct the ideological and political education in order to make the curriculum with political study as the consensus among all universities. The university not only undertakes the important role of teaching students about professional knowledge but also the important mission of teaching them about the ideological value. The university curriculum has been affected by the social institutions and rooted in the specific social culture. Therefore, the university curriculum is designed by the specific social leadership groups and works for them. Apparently, the university education has a special guidance for the ideology and is the process of recognition, transformation and reproduction of the specific social culture. In China the curriculum with political study has become the important way to implement the political education, maintain the socialist institution and spread the socialist ideology. At present the curriculum with political study has been the key direction of the Chinese ideological and political education reform among all the universities. They take it as the important way to finish the fundamental task of cultivating people and the basic requirement to promote the all-round development of students including virtue, intelligence, physique, beauty and labor. However, as a transboundary public affair, the curriculum with political study has already beyond the duty of the single university, the single department and the single teacher. In the process of the construction of the curriculum with political study, there will be fragmentation problems such as mutual repulsion and mutual distrust among executors, unclear responsibility, unsmooth communication, unshared resources and so on. As a systemic project, the construction of the curriculum with political study should establish a learning community through the common design in order to form the open, shared, interactive and cooperative system (Wu, 2020: 2). At present, the construction of the curriculum with political study needs to take the holistic governance theory as the guideline which emphasizes the trust, the integration and the coordination. The holistic governance theory can deal with the fragmentation problems in the construction of the curriculum with political study so that Chinese high education will finish the task of cultivating the personnel with both the professional ability and good virtues.

1.THE HOLISTIC GOVERNANCE THEORY: THE GUIDELINE OF THE CONSTRUCTION OF THE CURRICULUM WITH POLITICAL STUDY

The holistic governance is the remedy for the new public administration. As the weakness of the traditional public administration and the fragmented problem produced by the new public administration the holistic governance became popular around the world in 1980s (Ling, 2002: 4). The British government put endeavor to achieve the democratic value through the way of consultation, coordination and integration according to the theory of the holistic governance (Perry et al., 2002: 37). The holistic governance emphasizes the whole situation not the part

(Bogdanor, 2005 1). Dunleavy summarizes the new public administration into three parts including decentralization, competition and incentive. However, as the digital era is approaching, the new public administration begins with some new changes. Firstly, the information system has played a more important role in the governments. The government has increasing demand for the personnel of the information technology. Secondly, the information technology has made a major impact on the government structure. The hierarchy of the government has become flatter. Thirdly, the information technology changes the government's task. The priority of the government task is to search for the various information about the postindustrial society in order to make a decision efficiently. Fourthly, the information technology and the public policy have the same transformation. The computer companies work for the government, which buys most services from the computer companies. The information technology is the dominant force for the development of the holistic governance. The information technology requires that the governance should change from the fragmentation to the integration. Dunleavy thinks that new public administration has been outdated because it can't satisfy the demands of the information era. The holistic governance has made a huge impact on the government since its birth. For example, the British government put forward the idea of the cooperative government. The British government's reform lead to the fragmentation so that the departments of the government were very hard to work together. The decision system of the government became more and more complicated and weakened the ability of solving the problems. That's why the British government took advantage of the holistic governance to improve its governance ability. Especially the information technology is good at the integration of the public services, the cooperation of the public policy and the digitization of the government operation. The new public administration aims to break down the traditional bureaucracy, but the holistic governance relies on the traditional bureaucracy. It aims at improving the bureaucracy through the information technology. The information technology links the huge government departments and makes it possible to supply the public services for the people in a faster, better and cheaper way.

Since the holistic governance theory has arisen, it has made a great guiding value in many public fields. As the representative scholar, Perri Six explains that the holistic governance theory has taken the public demand as the governance direction, the information technology as the governance base, the trust, integration and coordination as the governance mechanism, the structure, function, information and resource as the governance task in order to push forward the public affairs from decentralization to concentration, from section to entirety, from fragmentation to integration (Zhu, 2008: 10). The holistic governance theory has the following characteristics: Firstly, the holistic governance takes the cooperation as the fundamental idea. Especially today more and more public affairs are hard to deal with without the cooperation. In order to increase the public interest, we have to encourage multiple actors including the ordinary people to participate the public affairs governance. The holistic governance based on the cooperation mind-set aims at playing the collaborative advantage of the multiple actors including the governments, the social organizations and the people though equal communication, honest dialogue and shared resources in order to form the benign interaction between the government administration and the public participation (Shı & Zhou, 2014: 5). Secondly, the holistic governance takes the integration as the core mechanism. Perri Six explains that there are four

ways to solve the fragmentation problems including tolerance system, separation and adaptation, interexchange and interdependence, compromise and amalgamation (Six, 2004: 13). The conflicts of institution, interest, value and behaviour can be solved through the integration mechanism. Therefore, all related organizations will establish the trust and the cooperation in order to achieve the goal of the holistic governance. Thirdly, the holistic governance takes the seamless supply of the public service as the reform goal. The governments put the public demand as the governance priority and satisfy their demand through holistic governance (Zeng & Wei, 2010: 1). In brief the holistic governance aims to correct the departmentalism which focuses on the single department task in order to achieve the whole goal of the public demand rather not the department goal. As Perri Six states, if different departments act as their own will and lack of the communication, coordination and cooperation, the policy goal will not be achieved. Therefore, it will lead to the fragmented governments (Six et al., 2002: 33).

The holistic governance theory not only provides the scientific solution for the holistic supply of the public service but also gives the right direction for the holistic construction of the curriculum with political study. Because the construction of the curriculum with political study happens in the Chinese educational bureaucracy with intersected governmental levels, divided governmental functions and separate governmental departments. Under the circumstance of the multi governmental levels in the vertical direction and the multi governmental departments in the horizontal direction the construction of the curriculum with political study has to face many fragmentation problems. Perri Six explains that the opposite side of the holistic governance is the fragmentation such as problem transfer, mutual conflict, repeated construction, acting as one's own will, lack of communication and so on (Six, 2002: 48). As the political task under the modern bureaucracy, the construction of the curriculum with political study also faces the same problem of the fragmentation including the task transfer to the designated curriculum, the interest conflict among the actors, the repeated use of the curriculum resource, multi executors acting as their own will, lack of communication among related departments. These fragmentation problems block the way the construction of the curriculum with political study which is hard to achieve the holistic goal. However, all these fragmentation problems can be dealt with by the holistic governance theory. The holistic governance theory can mainly break through the bondage of the individualism paradigm and take the collectivism as the guideline to integrate the stakeholders together closely and push forward the holistic distribution of the scarce education resource. According to the guideline of the holistic governance theory the construction of the curriculum with political study will produce the maximum effect of political education so that Chinese universities students can have both the professional ability and good virtues. In a word the holistic governance theory based on the mechanism of the trust, the integration and the coordination could provide the important theoretical guideline and valuable inspiration for the construction of the curriculum with political study.

2. FRAGMENTATION: THE PROBLEM OF THE CONSTRUCTION OF THE CURRICULUM WITH POLITICAL STUDY

Because of the deep effectiveness of the education institution environment, the high education bureaucracy and the teaching management tradition, the main subjects of the construction of the curriculum with political study are facing the conflicts of value, behaviour, interest and goal so that the construction of the curriculum with political study is in the state of very low efficiency,

low quality, waste of resources, weak creative capacity and unbalance of the supply and the demand. At present shareholders seldom communicate, coordinate and cooperate with each other so that the holistic goal of the Construction of the Curriculum with Political Study can't be achieved. In detail to say there are four problems of the fragmentation including cognition fragmentation, subjective cognition, resource cognition and participation cognition.

(1) Value Conflict and the Cognition Fragmentation

The curriculum with political study is a new concept of the ideological and political education, which means that the political study should be integrated into the curriculum. This new education model emphasizes the knowledge teaching in the process of the spread of the right value and value leading in the process of the knowledge teaching (Qıu, 2017: 7). The curriculum with political study mainly take the curriculum as a way to dig out the ideological and political factors and impart ideological and political value. There is a great variety of perspectives to define competence which may lead to the risk of confusion among experts, responsible for the design of educational programs based on training and competence development (Andronache, 2015: 180). However, in Chinese traditional education the curriculum and the political ideology are separate and have their own teaching system and method. The former mainly takes up the duty of the professional knowledge and the latter mainly takes up the duty of the political value. The university teachers take the knowledge teaching and capability training as the single goal and neglect the function of the ideological and political education in the curriculum. In the short term the university teachers feel very hard to accept the concept of the curriculum with political study and realize the importance of the same direction of the professional knowledge and the political value. Few university teachers do not change their old concept yet and still think that the ideological and political education belongs to the duty of the political teachers, student assistants and university managers. They don't have motion and creativity to enforce the policy of the curriculum with political study. Especially under the deep impact of the modern utilitarianism, high education should impart the practical knowledge which can be used directly in work and train the personnel who can make profits for the company. As American famous educationist Dewey said, "the education mainly goal to get a meaningful life is being abandoned by people (Nussbaum, 2010: 2)." The curriculum with political study is the breaking up reform of the ideological and political education and is the remedy way to change the utilitarian education mindset. Moreover, as the discipline has more and more branches, the ideological and political education has become the scientific knowledge with the characteristics of the profession, the theory and the philosophy so that the other teachers except for the ideological and political teachers has a great challenge to put the political knowledge into their curriculums. Especially the university teachers have never accepted the professional and systemic training on the ideological and political education so that most university teachers don't understand the meaning of the ideological and political knowledge. Without the deep and right cognition of the curriculum with political study, many university teachers move the ideological and political knowledge to the class directly in order to finish the assessment task. In that case the construction of the curriculum with political study faces the following problems as the separation of the ideological and political knowledge with the curriculum, unclear goal of the curriculum with political study, unreasonable way of the curriculum with political study and the repeated content of the curriculum with political study so that the attraction of the curriculum with political study is reduced strongly. The low quality of the curriculum with political study not only weaken the

education effect on the university students but also dampen the enthusiasm of the university teachers so that they slack off in the construction of the curriculum with political study. Therefore, the priority of the construction of the curriculum with political study is to remedy the cognitive bias and form the consensus of the curriculum with political study in order to have a strong value foundation.

(2) Behaviour Conflict and the Subject Fragmentation

The subject fragmentation means that the key related actors separate and compete with each other because of the lack of the cooperative consciousness. There are four participants in the construction of the curriculum with political study including the education administration, the universities, the schools and the teachers. There is a complicated relationship among them. In the process of the implementation of the policy from its design to its assessment the participants actually form the unequal relationship. The teachers are the lowest people who accept the order from the school. The latter accepts the order from the university. Under the control state these subjects are not willing to cooperate with each other so that the subject fragmentation arises. According to the causes there are three types of the subject fragmentation. The first one is independent model. Under the circumstances of the independent operation of the university, as the main subject of the ideological and political education, all universities draw up and implement the construction program of the curriculum with political study on their own resources. At present the universities have developed the self-construction model which operates independently so that the construction quality of the curriculum with political study is not balanced around the country. The second one is the assigning model. According to the up-down direction of the policy operation the construction of the curriculum with political study faces the transfer of the task to the lower level until the designated person who takes on all the tasks on one's own in the end. Although the assigning model can motivate the designated teacher, it reduces the passion of all other teachers. Without the pressure of the related task other teachers have no motivation to implement the curriculum with political study so that the original goal that all teachers participate the construction of the curriculum with political study is hard to achieve. The third one is competitive model. In the Chinese modern bureaucracy with five levels the lower organization have to get trust and compliment of the upper leadership through the competition. The ideological and political education is the important assessment index of the university department to make a competitive relationship among all universities. So the universities tend to choose the competition rather than the cooperation in the process of constructing the curriculum with political study and strengthen the seriousness of the fragmentation problem of the curriculum with political study. In a word, the subjects or participants take the curriculum with political study as the administrative task assigned from the Ministry of Education. All universities try to deal with the assessment of the education administration instead of carrying out the political education according to the request of the curriculum with political study. Therefore, all universities have to finish the task by relying on their own resources and are not willing to share good experience with other universities. There are few cooperation activities among and inner universities so that the holistic effectiveness of the construction of the curriculum with political study is in a lower state.

(3) Interest Conflict and the Resource Fragmentation

The construction of the curriculum with political study is the integration between the professional knowledge and the political knowledge. The university teachers should master both the theoretical knowledge and the ideological and political knowledge, which has a high request for the ideological and political resources. In China many professional knowledge usually comes from the western countries. They have few Chinese ideologies so that many university teachers have to spend great effort to develop the ideological resources in their teaching classes. The ideological and political resources with high quality not only comes from the good textbooks. Moreover, they are the intelligent products through the professional design and can be integrated into the professional knowledge skilfully. Therefore, the ideological and political resources with high quality can play an important role in linking the knowledge, capability and value. Because the organizations often compete with each other, the ideological and political resources with high quality are hard to be shared and usually scattered in the different governments, universities and non-profit organizations. Firstly, they are shared in a low level among the universities. Comparing with the ordinary universities, the top universities in the ideological and political education have always kept the leading advantage in the moral education and developed many special and useful ideological and political resources creatively. But these resources are not open to the other universities and hard to play the leading role as the top universities. That is why it can't help enhance the holistic level of the construction of the curriculum with political study. Secondly, they are shared in a low level between the university and the local organization. Many local organization collects stories on the traditional culture, heart moving heroes and outstanding modern examples. These excellent ideological and political resources can be used by the university to establish a moral education brand and make moral education impressive for the university students. For example, the Huaiyin Institute of Technology takes advantage of the local history resources and designs the new curriculum in name of excellent Huaian. It organizes the following schools of humanities, foreign languages, architecture, computer sciences and transportation to show the spirit of the premier Enlai Zhou, the famous cuisine of Huai and Yang, the history culture of water transport and the literature of the journey to the west so that the university students have a better understanding of the local historic and cultural heritage and especially learn from the spirit for the people. Finally, they are shared in a low level inside the university. As the main platform of the ideological and political education, the school of Marxism only cares about their own teaching task and do not set up cooperative relationship with other schools. Meanwhile the school of the social science and the school of the natural science lack of the interaction on exploring the ideological and political resources so that it's hard to form the comprehensive curriculum which combine the humanity spirit and technology development. In short, the development and share of the resources of the curriculum with political study can reduce the cost of the curriculum design only by the single teacher and enhance the supply quality of the curriculum resources.

(4) Goal Conflict and the Participation Fragmentation

The students' participation is the fundamental measurement of the quality of the curriculum with political study. At the heart of our curriculum is the student experience, which is often ignored in favour of the views of institutional management (Chadha, 2022: 38). If the teachers can't make the political values into the students' mindset, it's hard to achieve the final goals of curriculum reform with political study. However, under the pressure of the assessment most universities take the good example of the curriculum as the primary task of the construction of the curriculum

with political study and neglect the importance of the class as the main channel of the curriculum with political study. The final effect of the construction of the curriculum with political study depends on the interaction and the participation between teachers and students. It has two mechanisms including the up-down leading mechanism and the down-up absorbing mechanism. These two mechanisms should go the same way so that the curriculum with political study can get a better effect. From the view of the up-down leading mechanism the university teachers should not only deepen the understanding of the ideological and political value but also master the accurate information of the students' mental health. Only according to the students' mental health can the university teachers make a clear and right goal in teaching the curriculum with political study. However, some teachers don't make a good teaching goal consistent with the demand of the students' mental health. They just teach the ideological and political knowledge parallel with the professional knowledge. From the view of the down-up absorbing mechanism, the university students should play a more active role in making a dialogue and communication with their teachers in order to study the mainstream values and deepen the understanding of the ideological and political knowledge. Only the university students get a deep inspiration from the ideological and political values can they enforce them in the actual life. At present the students still lack of the interaction with their teachers and participation in the curriculum with political study so that they have no interest in the ideological and political knowledge. Under the absence of the leading and absorbing mechanisms the construction of the curriculum with political study has to face the formalistic challenge.

3. THE HOLISTIC SOLUTIONS OF THE CONSTRUCTION OF THE CURRICULUM WITH POLITICAL STUDY

Curriculum design is a systematic process that organizes planned learning experiences by defining and connecting the important components that can affect students' learning achievements (Wu, 2021: 19). The theory of holistic governance is the foundation of the reform of the curriculum with political study in new era and provides the solutions for the fragmentation of the construction of the curriculum with political study. The holistic governance focuses on the systematic design and the holistic operation of the reform of the curriculum with political study. It should transfer from the decentralization to the concentration, from the part to the whole, from the fragmentation to the integration. Based on the guidance of the theory of the holistic governance this paper puts the mechanisms of trust, cooperation and integration into the holistic solutions of the curriculum with political study. Based on the interaction of the curriculum with political study this paper puts one more mechanism into it. Therefore, there are four mechanisms in the new holistic solutions which can shape the systematic and cooperative construction in order to share the ideological and political values among the teachers and the students, allocate the ideological and political resources among the university, the governments and the social organizations and enhance the teachers' ability of the curriculum with political study. In that case the students will have a better mental health and a patriotic spirit.

(1) The Construction of the Trust Mechanism to Highlight the Ideological and Political Value

The construction of the curriculum with political study is a creative and challenging reform of the Chinese ideological and political education. On the one hand, the traditional discipline has to change its own system and absorb the political value in order to mix the professional knowledge

and the ideological knowledge together. On the other hand, the curriculum with political study is not the simple mixture between the curriculum and the politics but the deep combination and complement of these two kinds of knowledge. The trust mechanism among multiple actors is the important value guarantee to create the interaction among the shareholders of the construction of the curriculum with political study. Chinese universities should encourage the teachers to participate in the curriculum with political study actively and establish the concept of the integration of the knowledge, the capability and the virtue in order to show the shaping function of the curriculum with political study. Firstly, the university should set up the trust mechanism based on the consensus. The common vision can enhance the trust among the organization members. It's the fundamental task of the Chinese education to educate students with the patriotic spirit and the good virtue, which are the education concepts all Chinese teachers must adhere to. Chinese teachers should realize that the contemporary students are facing the risk of the loss of the political faith, the lack of the dream, the weakness of the moral consciousness, the distortion of the value and the short of the social responsibility. At present Chinese university teachers should take on the responsibility of ethical and political education and implement the ideological and political education actively in order to promote the development of the students in virtue, intelligence, physical education, beauty and labour. Secondly the university should set up the trust mechanism based on the mutual benefit. As an extra reform the construction of the curriculum with political study has to add an extra burden on the teachers including the time, the energy and the creativity cost. In this case the university should provide the good conditions for the teachers such as the special training, the typical program and the reward policy in order to reduce the cost of their work and enhance their enthusiasm for participation. With the support from the university the teachers will be happy to learn the ideological and political knowledge, diligent to explore the ideological and political knowledge and good at teaching the ideological and political knowledge. Thirdly, the university should set up the trust mechanism based on the responsibility. According to the request of the Ministry of Education, the construction of the curriculum with political study will be taken as the important measure indicator of the discipline and the development of the university. In this regard the university should take it as a way to measure the teachers' performance and give the teachers' rewards in order to motivate them to implement the policy of the curriculum with political study.

(2) The Construction of the Coordination Mechanism to Implement the Curriculum with Political Study Collectively

Chinese education system has a unique characteristic of bureaucracy, which has different divisions in the horizontal direction and levels in the vertical direction. The national education policy usually involves so many different departments and needs their cooperation. But without the leadership of the Ministry of Education these different departments are hard to work together. We need urgently the coordination mechanism to establish the trans boundary act network to ensure the efficient communication among them. The effective coordination mechanism is the key part of the holistic governance and the important way to maintain the friendly relationship among the government, the university and the teachers. Clearly stated goals and tasks, a supportive atmosphere and feelings of cohesion stimulated the collaboration process (Jonker, 2019: 61). There are three parts in the coordination mechanism of the construction of the curriculum with political study. Firstly, the university should coordinate with other universities across the country. In the case of the independent administration of the university the Ministry

of Education or the provincial department of education should encourage the universities to interact with each other. They should establish the guidance center of the construction of the curriculum with political study, hold high level forum for the construction of the curriculum with political study, create one to one cooperative program in the construction of the curriculum with political study and promote the typical experience of the construction of the curriculum with political study in order to provide the maximum support. Secondly, the university should encourage the coordination between the different departments. The fragmentation has a close relationship with the independent bureaucracy of the university. The traditional bureaucracy has been seen as the ideal organization in the modern industrial society, but it focuses on the division of the work and neglect the holistic part of the organization. In order to solve the problem of the fragmentation of the bureaucracy such as task bargaining, unclear responsibility and many managers the university should make a systematic arrangement on the construction of the curriculum with political study. The university should establish the work framework with the communist party as the leading centre, the departments as the clear division, the school as the responsible subject and the teacher as the active participant. Thirdly, the university should strengthen the coordination among the teachers. The teachers' tacit and explicit knowledge was mutually transformed during collaborative curriculum design (Xiaofang & Jocelyn, 2023: 118). Because of the lack of the experience many universities explore the effect rules of the construction of the curriculum with political study through the typical program. However, the typical program only transfers more teaching resources to the single designated teacher and reduces the enthusiasm of the other teachers. In this case the construction of the curriculum with political study should transfer from the program model to platform model and from individual model to team model in order to put the profession platform as the basic unit. Under the condition of the platform model the teaching team can dig out the ideological and political resources in the majors and search for the same direction of the ideological and political education. Therefore, the teachers will integrate the ideological and political factors into the teaching process creatively in order to produce the comprehensive personnel with professional and practical capabilities.

(3) The Integration Mechanism to Share the Curriculum Resources with Political Study

The resources of the curriculum with political study are the fundamental project of the construction of the ideological and political education, which determine the quality of the ideological and political education. From the whole country of the ideological and political education for the university students the construction of the curriculum with political study should break through the single curriculum, the single university and the single region in order to establish the curriculum resources shared by all the universities and give a strong support for the national ideological and political education. The integration mechanism is aims to achieve the holistic allocation of the scattered curriculum resources. As the middle level implementing the policy from the central government to the local teachers, the universities should play a integrative role inner and outer campus. In the holistic solutions the integration mechanism comprises two stages of resource development and resource allocation. At the stage of resource development all related universities will transfer from competition to cooperation. They will invite the typical university to introduce the reform experience and learn from their good teaching methods. Meanwhile all relevant universities also will emphasize the cooperation with the local social organizations in order to dig out the local excellent ideological and political resources and create a special brand of the curriculum with political study. Moreover, all relevant

universities will take the construction of the curriculum with political study as the main task of all related departments including teaching, personnel, student affairs, propaganda and so on. They will push forward the cooperation between the social disciplines and the natural disciplines in order to develop the curriculum resources with the traditional culture, modern humanity and scientific spirit together. In the stage of resource allocation all relevant universities will implement the whole membership model which takes the school as the base, the discipline as the carrier, the teacher as the main force in order to replace the designation model which focuses on the single teacher, the single curriculum and the single lesson. All schools inside the university will work together to provide the comprehensive, systematic and multiple curriculum resources for the students so that the curriculum with political study can have a clear goal and a cooperative effect in case of the repeated construction of the ideological and political resources. In a word through the construction of the integration mechanism the university can enhance the attractiveness, quality and scientific level of the curriculum with political study.

(4) The Construction of the Participation Mechanism to Establish the Interactive Network

As past research has shown, students benefit when curricula are relevant to their many cultural connections (Coenraad, 2022: 31). As the important institution the construction of the curriculum with political study should create the win-win outcome for the teachers and the students so that it becomes the policy emphasized by the university steadily and plays an important role in value guidance consistently. At the same time the win-win outcome can strengthen the teachers' capability of the ideological and political education and motivate the students to learn the political knowledge so that the new reform will achieve two goals in the teachers' teaching quality and the students' mental health. The construction of the curriculum with political study depends on the interaction between the teachers and the students. The Ministry of Education states that the teachers are the key force in the construction of the curriculum with political study in all respects. Firstly, the university teachers should make a clear cognition of the difference between the ideological and political curriculum and the curriculum with political study. Compare with the former the curriculum with political study has its own indirect, micro and narrative characteristics. The curriculum with political study doesn't illustrate the macro, systemic and abstract ideological and political knowledge, but it imparts the right political ideology for the university students in the way of philosophy, inspiration and attraction. Firstly, the university teachers should try to integrate the political ideology into the curriculum according to the ideological and political values. Secondly, they should try to enhance their teaching ability in curriculum with political study. From the perspective of the teaching content the university teachers should consider the relationship among the professional knowledge, scientific theory and national development in order to enlarge the ideology and the comprehension of the professional knowledge. From the perspective of the teaching method the university teachers should take use of the multiple ways through the circumstance, the discussion and the rolling-over in order to enhance the sense of the interest of the teaching process. From the perspective of the teaching vibe the university teachers should set up the cognitive, social and psychological emotion environment in order to strengthen the infectivity of the teaching effect. Finally, the university teachers should change the one-way teaching model and develop the new teaching mindset which takes the students as the priority in order to enhance the attractiveness of the teaching practice and satisfy the students' demand for the healthy development. Meanwhile they also should establish the participation channels for the students to express their views so that the

students can have right evaluations for their cognition of the political and social values. In addition, the university teachers should keep close communication with students through questionnaires, dialogues and network in order to master their mental status and guide them to work for the country and the society.

CONCLUSION

The theory of the holistic governance is a rising governmental theory in western countries, which aims to solve the problem of the fragmentation in governmental governance. The holistic governance emphasizes the cooperative governance among multiple stakeholders and is used in many public fields (Gao et al., 2013: 2). The high education in China also has the same problem of the fragmentation as the western countries. Because of the lack of the coordination and the cooperation the ideological and political education among the universities can't achieve its goals. In China the ideological and political education plays the priority role in high education and ensures the right direction of the education so that the university students will have the sense of patriotism and social responsibility. As the part of the ideological and political education the curriculum with political study also need the theory of the holistic governance as the guideline to establish the mechanisms of the integration, coordination, trust and participation. Through the mechanism of the trust the university teachers will share the common value of political education and absorb the political value into their teaching. Through the mechanism of the integration the outstanding resources of the ideological and political education can be used by all different universities and enhance the curriculum quality with political study. Through the mechanism of the coordination the related shareholders will work together and share the information and experience about the ideological and political education so that all the universities can make progress in students' virtue education. Through the mechanism of the participation the university teachers and students will interact with each other and strengthen the understanding of the political knowledge. Holistic governance adheres to the systematic mind-set and tries to achieve the optimization of the system through these four mechanisms (Six et al., 2002: 145). Based on the guideline of the holistic governance the construction of the curriculum with political study will improve Chinese ideological and political education for the university students. However, it will take long time because any reform of the organization culture needs patience (March & Olsen, 1983: 2).

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Development in Energy Policies in Türkiye and Investigation of Primary Energy Supply Within NUTS 1 Regions [1*]

Türkiye'de Enerji Politikalarındaki Gelişmeler ve Birincil Enerji Arzının Düzey 1 Bölgeleri Kapsamında İncelenmesi

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Abstract

Energy is a vital issue, which is directly related to development. As of 2021, Türkiye is foreign dependent at a rate of 70% in energy. Therefore, energy imports constitute a tremendous economic charge for Türkiye. For this reason, within the scope of this research, energy policies and the process of Türkiye in energy are discussed.

First, the policies developed regarding energy policies in eleven development plans were examined. Then, by focusing on the recent past, fundamental economic indicators and energy indicators in Türkiye's NUTS1 regions, a regional analysis was carried out. Finally, the regions' energy installed capacities, energy consumption, and production data are emphasized and maps were made.

"How is the energy sources distribution in NUTS1 regions in Türkiye?" and "What kind of path has been followed in the last 20 years on renewable energy, and what is the latest situation?" questions were answered in this study.

When all the data and policies are examined, it is concluded that each region has different potentials, the energy production-consumption balance cannot be achieved in the regions, and the increased energy imports due to the weakness in production have a negative impact on national development.

Keywords: *Energy Resources, Energy Consumption, Energy Policies, Regional Plan.*

JEL Codes: *O, Q, R*

INTRODUCTION

Energy is an irreplaceable subject in human life. All people's basic needs, such as nutrition, shelter, heating, and lighting require it. For countries, energy is the basis of progress in technology and industry to meet social needs and development. For this reason, nations aim to strengthen their energy resources locally. Independence in energy and ensuring energy security are essential requirements for an independent economy. The energy issue impacts political, economic, and environmental factors. Therefore, development and energy are directly related. When the literature is examined, it is seen that many studies are proving that there is a bidirectional causality between energy and development in many studies. For this reason, it is not wrong to say that the more a country wants to develop and develop, the more its energy needs increase.

Today, Türkiye is a country that is 70% foreign-dependent in energy. Since it is a developing country, investments in technology and industrial growth increase the need for power. The increase in energy needs brings with it the necessity of accessing clean, reliable, and cheap energy. Energy resources exist in nature in two forms: fossil and renewable resources. During the 20th century, the rapid and excessive consumption of fossil resources brought along many environmental problems. Renewable energy sources are the most critical issue in the 21st century since fossil resources are exhaustible, and the damage they cause to the environment and the policies that countries have developed to ensure energy independence. Furthermore, fossil resources are not evenly distributed around the world, so many countries import resources such as natural gas and oil. This situation means a significant charge for the economy of energy-importing countries. In addition, carbon emissions that occur during the use of fossil fuels are also the trigger of global warming and climate change. Considering all these conditions, we can understand why countries energy policies have changed.

In this study, which presents a review of Türkiye, first, to examine the relationship between energy and development, the change in the policies developed on energy in all development plans and related reports since its establishment have been reviewed.

Literature research and the policies of developed European countries have made integrated spatial energy plans. In this way, it is planned to establish urban energy systems, develop the existing potentials of the regions, create positive energy zones, and maximize energy efficiency. Based on integrated spatial energy plans, installed capacity and energy production/consumption data are examined in the second part of this study to understand the current situation in NUTS1 regions in Türkiye.

1. ENERGY POLICIES IN TURKIYE

1.1. Early Republican Period Energy Policies In 1923-1960

Energy-related policies and strategies are related to developments in the economy. With the establishment of the Republic of Türkiye, the Izmir Economy Congress was held in the same year. The prevailing view on energy in the decisions taken economically in this congress is to meet the energy needs with domestic resources, especially coal, except for mandatory situations. These decisions formed the basis of the energy policies adopted until the 1950s. Since it is a process where the industry is moderate, energy is mainly consumed for heating and lighting purposes in residences.

In 1926, petroleum law was legislated, and with this law, all oil exploration rights within the country's borders were given directly to the government. Thus, the state has taken its first steps towards becoming an actor in the energy field. One of the duties of the Industry and Mining Bank of Türkiye, which was established in the same year, was determined to provide loans to Turkish industrialists and miners. (Çetinkaya, 2019).

The main subject of the Industry Incentive Law enacted in 1927 is to provide various exemptions, concessions, and incentives to enterprises that will make industrial investments in every field. Until the 1930s, the state's perspective on the economy and investments and its policies were regulated according to liberal economic rules. Until the adoption of the principle of statism, which would dominate after this date, this law remained in force for about 15 years with various changes (Ökçün, 1975). The republic's first years when electricity was available only in some economically backward provinces the annual electricity consumption per capita was 5KWh (Yurtoğlu, 2017). Electricity production was emphasized. Still, the lack of operation and capital made it necessary to establish production activities with foreign capital partnerships, Ankara, Urfa, Adana, Konya, Malatya, Bursa, Mersin, Balıkesir, and Gaziantep. Concessionary electricity companies were established in provinces such as Tekirdağ, Edirne, İzmir, Antalya, and Trabzon. (Çetinkaya, 2019)

During the economic depression in 1930, statist policies were dominant in Türkiye. It was aimed at protecting coal, which was the essential energy source of Türkiye for that period, from foreign competition and to providing its energy consumption with domestic resources. In this period, the share of mining and energy investments in total investments is almost 27%. Etibank / MTA (Mineral Research and Exploration) and other national energy companies were established in 1935. Many international companies have established to implement energy policies developed with the principle of statism (Çetinkaya, 2019). From the end of 1930 until the middle of 1940, these companies were bought by the state, and their authorities were transferred to the municipalities. The period between 1940 and 1950 is the period that coincides with the years of the Second World War. For this reason, in this period, as in the rest of the world, economic shrinkage was experienced in Türkiye as well, electricity consumption decreased, and the reflections of statist policies were seen more intensely.

After 1950, it transitioned to a multi-party and economically more liberal term. In this period, urbanization, industrialization, and economic growth were accelerated (Demir, 1980). Energy consumption in Türkiye increased by an average of 4,3 percent per year from 1950 to 1960 (State Planning Organization, 1963).

1.2. Planned Development and Statist Policies Period Energy Policies In 1961-1980

With the preparation of the First Development Plan in 1963, an economic process was started in which planned, and statist policies were developed. We see that three development plans were prepared between 1960 and 1980. When we look at the targets and strategies developed on energy in the development plans, it is stated that the energy and water facilities are under the state's rule.

Considering the energy policies produced in this period it was aimed at using energy resources effectively and minimizing production costs. Savings in energy was encouraged, pricing was determined according to the cost, and the local-imported quality of energy prices and the quality of local resource use was emphasized. In this period of industrialization and urbanization, the primary energy supply issue has gained more importance. The Turkish Electricity Authority

(TEK) was established in 1970. With the national growth, increasing urban population, and industrial growth, energy consumption demands have also increased. Therefore, the search for local resources has increased to increase the supply against this situation. The fact that energy consumption increases during periods of economic revival and decreases during periods of stagnation reveal the relationship between economic growth and energy. (State Planning Organization, 1973)

After the establishment of the Turkish Atomic Energy Agency (TAEK) in 1956 within the scope of uranium and thorium energy resources research in the context of nuclear energy, the Çekmece Nuclear Research Training Centre (ÇNAEM) was established in Istanbul in 1962, and the Nuclear Research Center in Ankara in 1967. However, Türkiye has no government policy on nuclear energy. They are seen as promising as domestic production and export may be questioned when the uranium and thorium reserves are used. (State Planning Organization, 1968).

1.3. Energy Policies in The Liberalization Period In 1981-2000

In this period, it was stated that there needed to be more in the energy sector, rural-urban inter-regional, and intra-regional imbalances brought about by rapid urbanization. It is aimed to eliminate these deficiencies and follow the balanced development method. The domestic demand for primary energy supply has increased by an average of 16.4% per year. Oil investments account for 40.9%, and coal investments for 59.1%. For the first time, nuclear energy is mentioned in the fourth development plan. Considering the development potential of nuclear energy, it has been stated that exploration and investigation studies will be initiated to determine the presence of radioactive mineral resources in the country. The General Secretarial of the Atomic Energy Commission, established in 1956 with Law No. 6821, was restructured in 1982 with Law No. 2690 under TAEK under the Prime Ministry (State Planning Organization, 1985).

After 1985, it is predicted that energy production will increase by an average of 7.7% per year. It is aimed to provide this increase due to lignite and natural gas. When the shares of resources in primary energy production are analyzed, it is estimated that lignite production, which was 9.8% at the beginning of the V. Plan period, will approach 38% at the end. The share of hydraulic energy will rise to 20%. The percentage of crude oil will decrease.

It has been stated that the energy sector will have a structure that supports economic development and that investments for energy purposes will continue to be emphasized. Furthermore, it has been mentioned that non-public resources will be used in the exploration and production of energy raw materials, and private sector and foreign capital initiatives will be supported in this regard. (Tunç, Türüt Aşık, & Akbostancı, 2009). For the first time in the V. Development Plan, under the subject of giving priority to reliable and cheap energy sources. The initiatives related to alternative energy sources were supported, and the preparation of the Energy Master Plan was mentioned for the first time in this plan period. The primary purpose is to provide reliable, cheap, and quality energy for all user, on-site and on time, to support economic and social development. The tendency to import resources has increased due to the need for a more and higher quality of local resources.

In this period, it was aimed to commission hydroelectric power plants and a thermal power plant based on imported coal, and this target was achieved. It was emphasized that a comprehensive

study is required to determine the long-term position of natural gas imports, new natural gas pipelines, city distribution networks and connection line investments, and the place of natural gas in Türkiye's general energy balance. It was stated that to reduce environmental pollution in energy production, technology transfer and Research and Development studies in accordance with the characteristics of both existing and new facilities will be emphasized, and R&D programs will be supported to benefit from the potential of renewable alternative energy sources (State Planning Organization, 1990)

In the 1990s, energy import rates increased to 49%. Build-operate-transfer models were introduced to establish the power plant, creating financial difficulties. In this period, domestic oil supply reached 20% of the total share, and joint production initiatives were made in the field of oil abroad. Establishing a reliable and low-cost energy supply system in the long term has been seen as an essential requirement. In this direction, it has been stated that necessary projects will be initiated for the development of domestic energy resources, the increase in its share in consumption over time, and the supply of imported resources (State Planning Organization, 1996).

When foreign expansion and liberal policies were adopted, it is seen that energy imports have increased by moving away from being statist and self-sufficient statist policies. While natural gas imports started, alternative energy sources were discussed for the first time, and R&D studies started to be carried out. As a result, the primary energy supply increased in this period, especially from the hydraulic energy source.

1.4. Energy Policies in The Sustainable Policies Period After 2001

In this period, it has been stated that necessary measures will be taken to meet the energy demand reliably and continuously at low cost in 2000 and beyond. The energy sector will be liberalized, and arrangements will be continued to ensure the participation of the private sector. In this context, build-operate and build-operate-transfer models began to exist, subject to regulations preventing them from leading to anti-competitive practices. It was deemed necessary to make the energy sector market competitive and to carry out regulatory audits in this context. (State Planning Organization, 2001) As of 2014, development plans indicated that energy imports constitute ¼ of the total imports. Therefore, it is necessary to reduce external dependence on energy. Alternative energy policies should create. Over time, the share of the private sector in the energy market has increased. For this purpose, renewable energy production continued to be supported to increase energy supply security. Domestic coal resources were opened to the private sector for electricity generation, studies on the construction of nuclear power plants were started, regulations were made to increase energy efficiency, and various programs were put into practice. As the 2023 target, it has been stated that the energy is to be provided continuously, with high quality, sustainable, safe, and bearable costs (Ministry of Development, 2013).

It is remarked that cooperation projects in the fields of transportation, communication, and energy will be given importance and especially the projects related to the Baku-Ceyhan Oil Pipeline and the Caspian transit Turkmen Natural Gas to European countries via Türkiye will bring Türkiye to the position of a country where the most critical energy transmission lines of the region intersect. R&D studies on the search for raw materials for geothermal and nuclear energy continued in this period. Baku-Tbilisi 26 Ceyhan Main Export Pipeline project was completed in 2006. With the agreement made with the Russian Federation, the Samsun-Ankara Natural Gas

Transmission Line was completed, and gas purchases from this line began in 2003. (State Planning Organization, 2006)

Moreover, an agreement was signed with the Russian Federation to construct the Akkuyu Nuclear Power Plant (NGS). In addition, an agreement was signed with Japan for the establishment of a second NPP in Sinop. Furthermore, a bilateral cooperation agreement was signed with the United Arab Emirates (UAE) to utilize Afsin-Elbistan lignite deposits in electricity generation. A bilateral intergovernmental agreement was signed with Azerbaijan to realize of the Trans-Anatolian Natural Gas Pipeline (TANAP) project. Thus, an active role will be assumed in the sale and transmission of gas to Europe. (Republic of Türkiye Ministry of National Defense, 2023)

A sustainable development approach is aimed to consume energy at a minimum amount and cost, and thus supply, which will support economic and social development, destroy the environment at a minimum level. In 2001, the Energy Markets Supervision Agency was established. To increase the share of renewable energy sources in electricity generation, Law No. 5346 on the Use of Renewable Energy Resources for Electricity Generation was enacted during this period. However, the share of imported products in electricity production continues to be high and is seen as a risk factor in supply security. With the Energy Efficiency Law, regulations that encourage and oblige the efficient use of energy have been introduced. The Energy Efficiency Strategy Document published in 2012 aims to reduce energy intensity by at least 20 percent by 2023. (Republic of Türkiye Presidency of Strategy and Budget, 2019)

- Inclusion of the nuclear power plant in the energy supply portfolio,
- Activation of Nuclear Technical Support Joint Stock Company,
- Increasing the use of lignite reserves in electrical energy production following environmental standards, supporting R&D projects related to clean coal technologies.
- Increasing the total underground natural gas storage capacity by completing the Tuz Lake Underground Natural Gas Storage Project and the Northern Marmara Natural Gas Storage Expansion Project,
- Increasing the share of renewable energy resources in production, realizing plans and investments in this direction,
- promoting energy efficiency, spreading more efficient and self-powered buildings,
- Completion of Tortum – Georgia energy transmission line project,
- Energy Market Operations Inc. (EPİAŞ) to continue activities effectively for the development of electricity and natural gas trading platforms with new market products,
- Completion of Turkish Stream Onshore Section-1 Natural Gas Pipeline Project,

Conducting studies on developing the National Smart Grid Management System (National SCADA) for use in energy SEEs are the energy policies for 2019-2023.

2. CHANGE OF PRIMARY ENERGY SUPPLY IN TURKIYE

Energy is a crucial factor and one of the fundamental requirements of countries' economic and social development. The presence of energy in the world has become an indicator of the level of

development. The state of having an energy source and the amount of energy production affect growth directly. Developing countries import energy; therefore, it is a prominent issue for them to be able to provide their energy needs to make their development sustainable.

The increasing population of the country since 1923, sectoral diversification, and the developing country's economy increased energy consumption (Figure 2.1). In addition, the energy supply is also increasing with the growing population, the country's economy, and the development of the industry and services sectors.

In this study, in which the alteration of primary energy supply in terms of quantity and type over the years and the energy policies developed from 1923 to the present are discussed in the context of development plans, it is seen that urbanization, industrialization, development goals, and energy have a direct relationship.

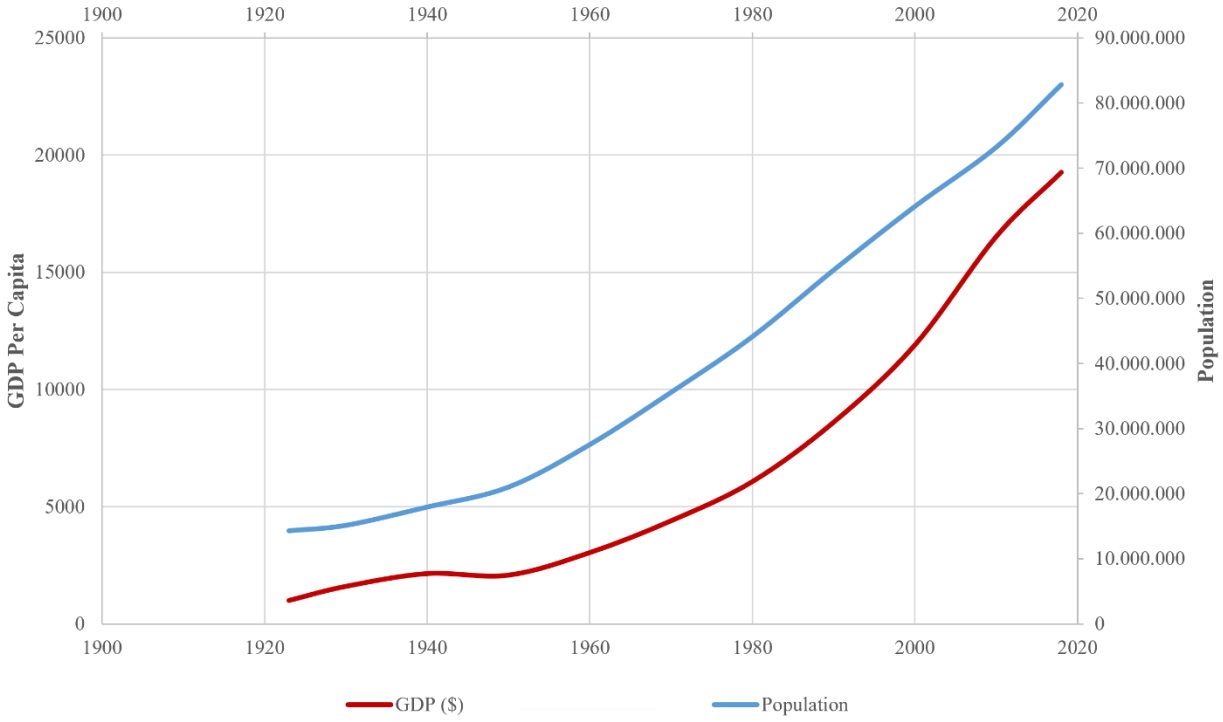

Figure 2. 1. Alteration of Türkiye's Population and GDP Per Capita from 1923 to 2020 (Source: www.ourworldindata.com)

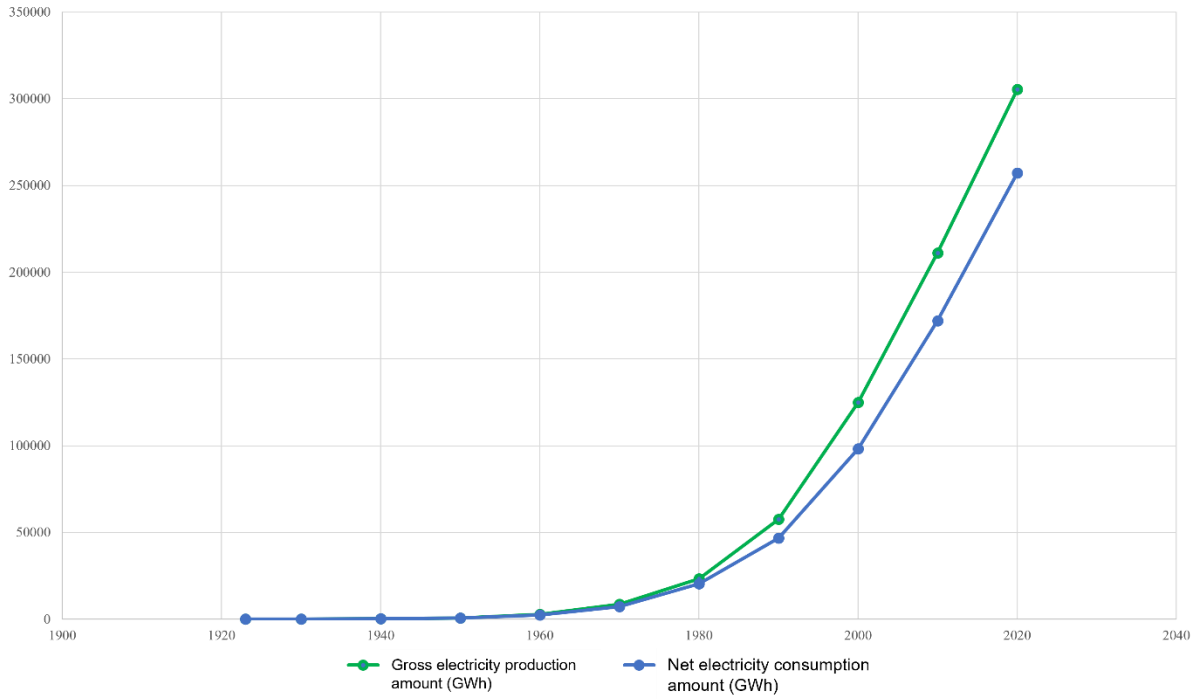

Figure 2. 2. 1923-2020 Amount of Electricity Consumption (Source: TEIAS- TEDAS)

It has been stated that during the Early Republican Period, coal, lignite, and non-commercial energy sources were used intensively from conventional energy sources in the development plans. Since the 1950s, with the increase in urbanization and industrialization, petroleum reserves were explored, and then oil imports were made. With the start of economic growth and development, it is seen that the energy demand has increased intensely, and the country's resources are not enough to meet this demand, so energy imports inevitably increase. As can be seen in Figure 2.2, the amount of energy production and consumption has increased rapidly, especially after 1980. In the 1980s, liberal policies and the globalization process started in Türkiye. With the country's globalization, upward momentum is seen in economic growth, and economic growth is the most crucial reason for the increase in energy demand. Other reasons for the increase in energy demand; are high birth rates (population growth), higher living standards, industrialization, and a rise in the rate of the young population (Öztürk, Yılancı, & Atalay, 2007). Urbanization and the increase and diversification of machinery and vehicles with new technological improvements are the factors that change consumption habits and increase energy demand (Gürbüz, 2009).

As in the entire world, the energy demand in Türkiye is increasing rapidly. Industrialization and urbanization gained upward momentum in this period. According to British Petroleum World Energy Outlook Statistics, conventional resources such as coal and oil were used intensively in Türkiye until 1980. After 1980, natural gas usage started, and thus the tendency towards oil and coal decreased.

Today, 18.6% of Türkiye's total imports in 2021 are seen to be energy imports, and 70.7% of Türkiye's primary energy supply consists of imported energy resources (TEIAS, 2022). Fluctuations in energy prices also trigger inflation, unemployment, economic recession, and

recession in Türkiye. According to EUROSTAT 2020 data, Türkiye's dependence on foreign energy is 71%. This rate is given as 58% on average in European countries.

In the last 20 years between 2000 and 2020, Türkiye's total energy supply has increased by 85.3%, while oil has risen by 25.4%; coal is 77.3%; natural gas is 219.8%; sh hydraulic energy is 152.8%; geothermal, solar and wind increased by 1386%. By contrast with the total share of bioenergy, wood, and waste decreased by 52.2%. Crude oil and natural gas resources have the largest share in Türkiye's energy imports (MMO, 2022). It is observed that the use of alternative energy sources in energy supply started to increase, especially after 2015 (Figure 2.3).

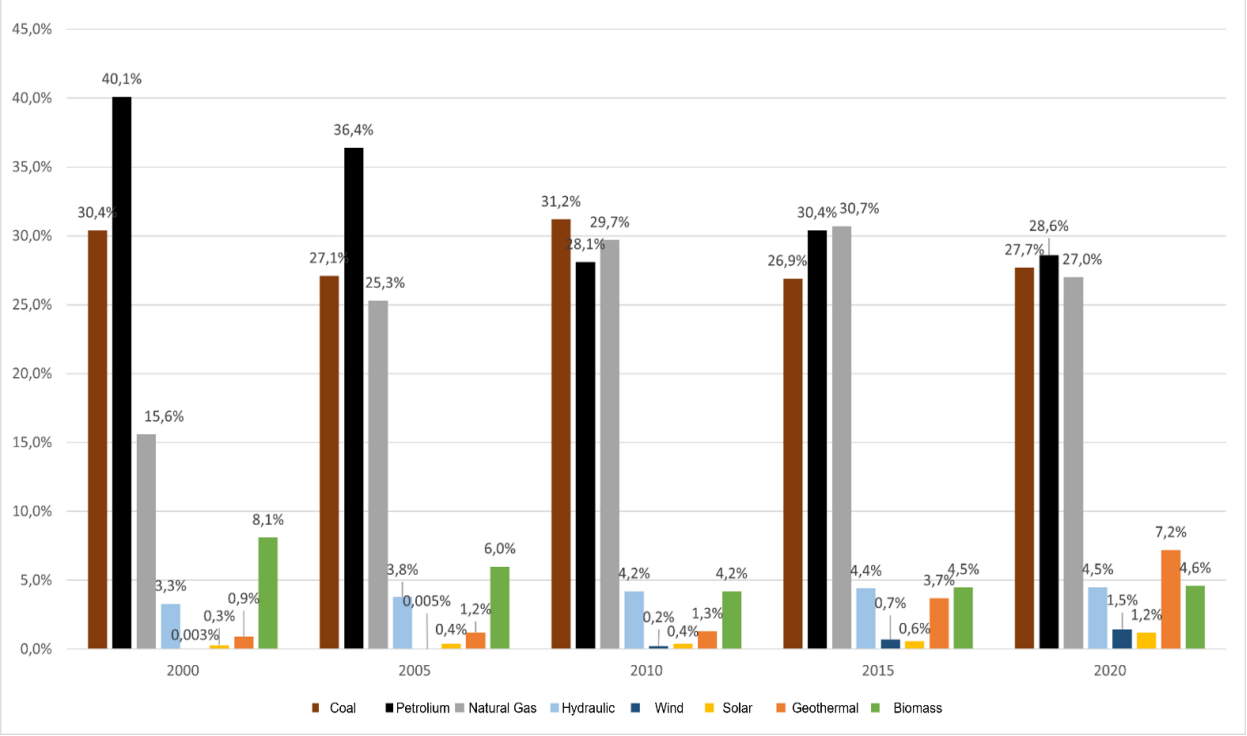

Figure 2. 3. Share of Energy Resources in Türkiye's Primary Energy Supply (Source: Ministry of Energy and Natural Resources)

While the total energy production in Türkiye, was 26.46 MTEP in 2000, it increased by only 17.67 MTEP (66.9%) in 20 years. While Türkiye's total primary energy production has risen by 17.67 MTEP in 20 years, 7.9 MTEP of this increase has been realized in the last five years, of which solar, wind, and geothermal energy production. On the other hand, in the 20 years between 2000 and 2020, total energy production increased by 66.9%, while energy supply increased by 85.3%. As a result, the total primary energy supply increased from 79,428 thousand TEP to 147,168 thousand TEP. (MMO, 2022).

Considering the ratio of total energy production to cover the total energy supply, it is seen that it has decreased from 33% to 29.8% in the last 20 years. The rate of foreign dependence on energy, which was 67% in 2000, increased to 76% in 2015. With the increase in the tendency to use renewable energy sources after 2015, national production increased, and thus, the dependence rate on energy decreased to 70% in 2020. (Ministry of Energy and Natural Resources , 2022), (MMO, 2022)

2.1. Main Indicators of NUTS 1 Regions in Türkiye

The classification of regional statistical units emerges as a criterion Türkiye must fulfill in the European Union membership process. The application aims to determine the regional policy framework, the socioeconomic analysis of the regions, and the production of regional statistical data comparable at the European Level (Council of Ministers, 2002). While creating the three-stage regional system, 81 provinces were defined as Level 3, and "Neighboring provinces that are similar in economic, social and geographical terms, taking into account their regional development plans and population sizes" were determined as Level 2 (26 units) and Level 1 (12 units). (Sadıoğlu, Dede, & Goçoğlu, 2020)

Within the scope of this study, first, the population of the regions and the per capita GDP values at Level 1, and then the energy consumption data of the installed power capacities were evaluated.

As seen in the literature review, the bilateral or unilateral causality relationship between countries' development levels, economic development status (which many studies have considered as GDP of countries), and energy production/consumption values has been revealed by many studies. For this reason, in this study, population size, population density, area size, and GDP per capita values, which are the main indicators for each of the NUTS 1 regions, were examined. Then, the energy data were taken into consideration, and an evaluation was made for the regions. Thus, the current situation of the regions for 2020 is presented.

In the map in Figure 3.4, the population density of 12 regions at Level 1 in Türkiye is marked with colors. TR1 Istanbul region has been the most densely populated area with 2,894 persons/km². TR1 region is followed by TR4 Region with 167 persons/km². In third place is TR3, which included İzmir and its surroundings with 118 persons/km². The population density decreases eastward in the country. 44% of the total population, almost half, live in the TR1, TR3, and TR6 regions, but these three regions only cover 21% of the country in the area.

When the GDP per capita in the regions is examined, it is seen that only TR1, TR3, and TR5 out of 12 regions have 67% of the total GDP (Table 3.1). In terms of area size, these regions have only 23% of the country. The area sizes, populations, population densities, GDP, and GDP per capita values of the regions are shown in Table 2.1.

Table 2. 1. NUTS 1 Regions Main Indicators (Source: TUIK, 2020)

	SURFACE (km²)	POPULATION 2020	POPULATION INTENSITY (Per/km²)	GDP 2020 (TL)	GDP PER CAPITA (TL)	GDP PER CAPITA ($)
TR1	5.343	15.462.452	2.894	1.517.323.616	₺97.950	$13.914
TR2	41.280	3.632.398	88	237.727.696	₺65.722	$9.336
TR3	90.456	10.689.115	118	631.233.668	₺59.250	$8.416
TR4	49.404	8.235.816	167	587.116.362	₺71.771	$10.195
TR5	73.126	8.168.261	112	607.034.808	₺74.515	$10.585
TR6	89.983	10.759.218	121	486.606.355	₺45.505	$6.464
TR7	91.709	4.088.228	45	186.752.399	₺45.750	$6.499
TR8	73.946	4.638.622	63	192.219.982	₺41.316	$5.869

TR9	37.551	2.677.584	71	111.030.662	₺41.369	$5.876
TRA	71.035	2.192.453	31	78.440.604	₺35.716	$5.073
TRB	78.458	3.951.294	50	125.260.838	₺31.785	$4.515
TRC	75.938	9.118.921	120	286.136.317	₺31.627	$4.493

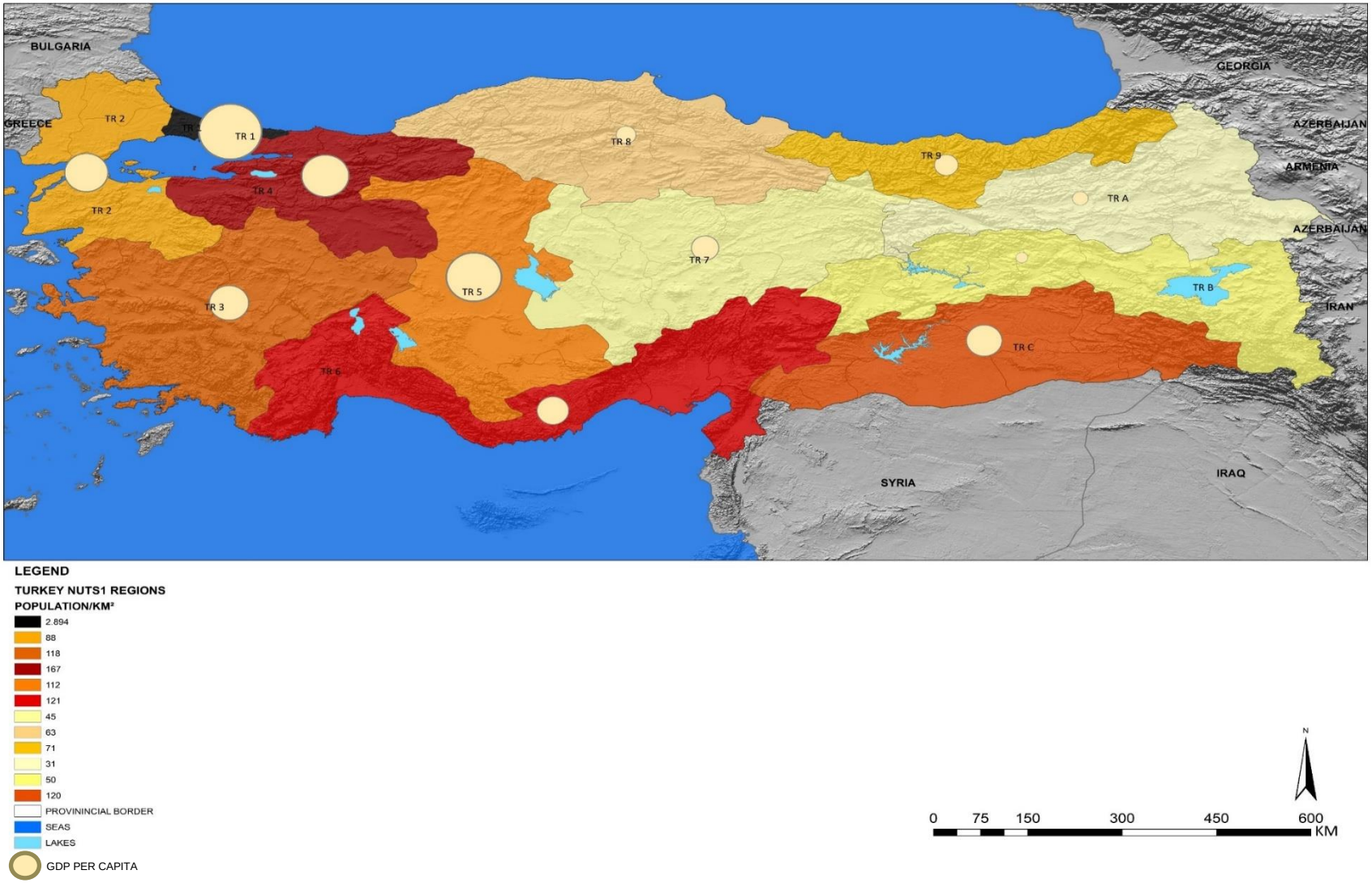

Figure 2. 4. Distribution of Türkiye's Population and GDP Values by NUTS1 Regions (It is prepared by using TUIK Data).

2.2. Türkiye NUTS 1 Regions Installed Capacity and Energy Generation/Consumption Values

Energy has taken place in the economy with ecological economics approach both as a concept and a production factor. The cycle between labour and capital, expressed as a neoclassical activity flow until the ecological economics approach, has been seen as a subsystem of the global ecosystem in ecological economics. In ecological economics, solar power is the only energy source in the global ecosystem (Usta, 2016).

Energy, an input in production and a cost element in consumption, has become an economic value. Therefore, energy is an essential factor in the level of development and development of countries. For this reason, in the context of regional development, the energy consumption amounts of the regions and installed capacities are examined at the NUTS1 level.

When looking at the order of usage areas of energy consumption from Türkiye national energy balance tables, it is seen that the order is in the form of industry, transportation, residential, services sector, commercial and agricultural. The fact that the industrial sector is in the first place can mean that the most energy use is in the industrial field and that as production increases, energy consumption also increases. The increase in production brings with it economic growth. (Ministry of Energy and Natural Resources, 2022).

A comparison was made by examining the energy consumption and installed power data at the NUTS 1 level. On the map in Figure 3.5, the colours represent the energy consumption of the regions. The enormous energy consumption amount belongs to TR1 Istanbul, with a share of 16.13%. Istanbul is Türkiye's commercial, tourism, investment, and financial centre, and approximately 20% of Türkiye's population lives here. The fact that Istanbul ranks first in energy consumption is an expected situation under these conditions. The TR6 region ranks second in energy consumption and in third place is the TR3 region. The energy consumed in TR1, TR6, and TR3 regions correspond to 45.62% of all consumption. Half of the energy consumption takes place in the area covering 23% of the country's surface area. If we look at Istanbul specifically, 16% of energy consumption is realized in 0.7% of the country's territory. Detailed energy consumption, installed capacity, and energy production/consumption rates of the regions are given in Table 2.2.

Table 2. 2. NUTS 1 Regions Fundamental Energy Datas (Source: TUIK, 2020)

NUTS 1 Regions	Energy Consumption	Installed Capacity	Generation/Consumption Rate
TR 1	16,13%	3,44%	22,00%
TR 2	7,05%	11,25%	251,58%
TR 3	14,69%	16,65%	329%
TR 4	14,51%	9,80%	70,47%
TR 5	9,14%	5,43%	49,59%
TR 6	14,80%	16,80%	103,26%
TR 7	4,29%	5,10%	128,35%
TR 8	4,28%	9,24%	229,99%
TR 9	2,07%	4,96%	126,23%

TR A	1,12%	1,93%	87,65%
TR B	2,28%	5,18%	137%
TR C	9,64%	10,19%	64,72%

The installed capacity is demonstrated with the point representation on the map. Installed power is the maximum capacity a power plant can supply, an installation system can handle, and an electrical network can carry. Installed capacity, also known as connection power, is vital in ensuring electricity continuity (Maabir, 2022).

TR6 is the region with the highest installed capacity in Türkiye. 16.8% of the total installed power in the country is in this region. In second place is TR3, with a rate of 16.65%, and in third place is the TR2 region, with an installed power rate of 11.25%. TR2, TR3, and TR6 regions have 44.7% of the total installed capacity. In table 3.2, it is seen that there is a production and consumption balance in the TR6 region. In TR2, TR3, and TR8 regions, it is noteworthy that the production is much higher than the energy consumed (Table 2.2). Although Istanbul is the highest region in terms of energy consumed, the amount of energy produced in the region is only 22% of its consumption.

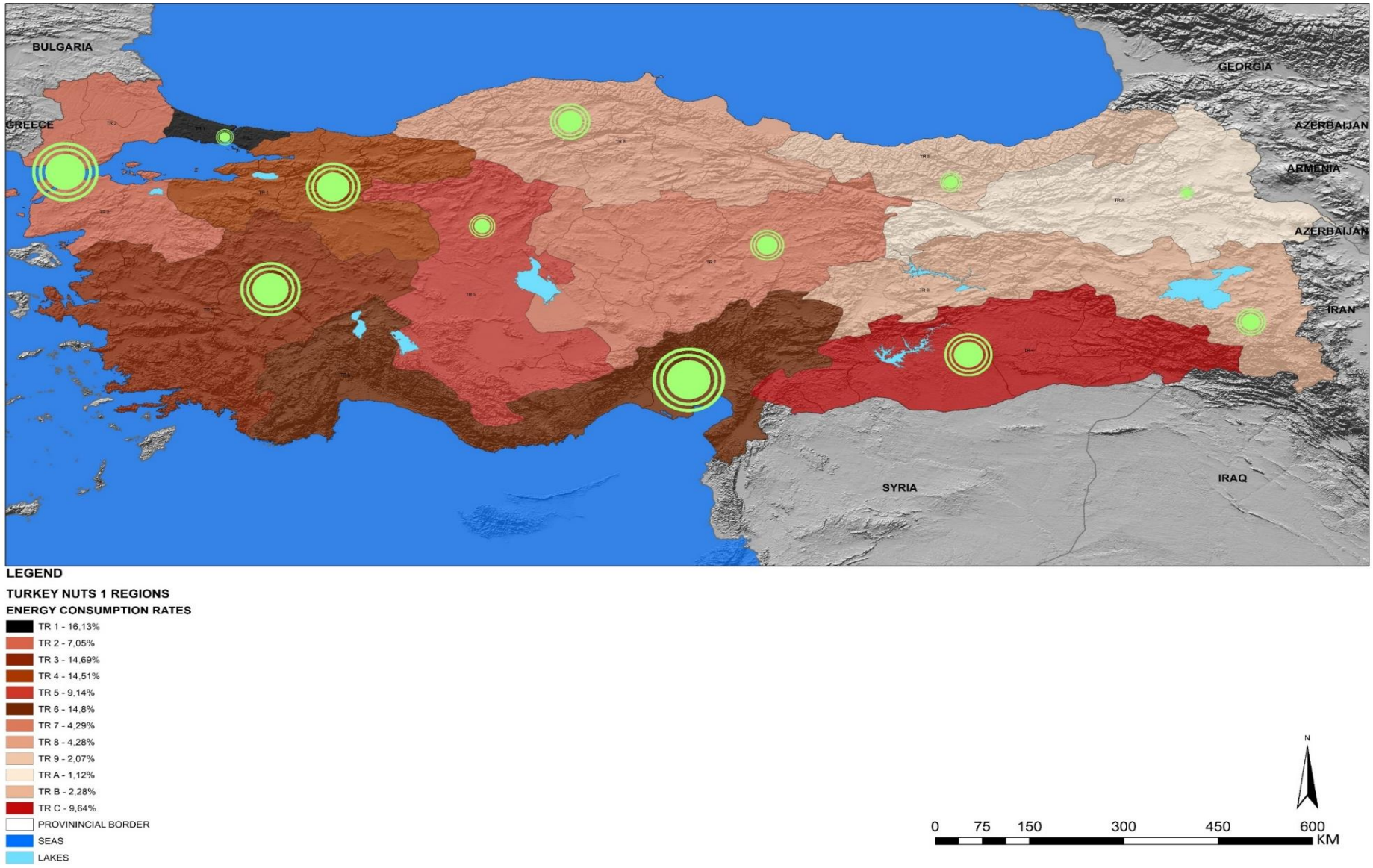

Figure 2 5. Türkiye NUTS1 Regions Energy Consumption and Installed Capacity Map (Source: TUIK 2020)

2.3. Installed Capacities of Regions in terms of Energy Sources

Considering which energy types are found more in which areas of the installed power; wind power plants on the Aegean coast and the east of the Mediterranean, hydroelectric power plants in the Euphrates-Tigris basin and Çoruh basin, domestic coal plants in regions with coal mines, imported coal plants in coastal cities, natural gas plants in regions with high electricity consumption; additionally, it is observed that solar power plants, which have just started to be established in our country, are concentrated in the southern half of Türkiye.

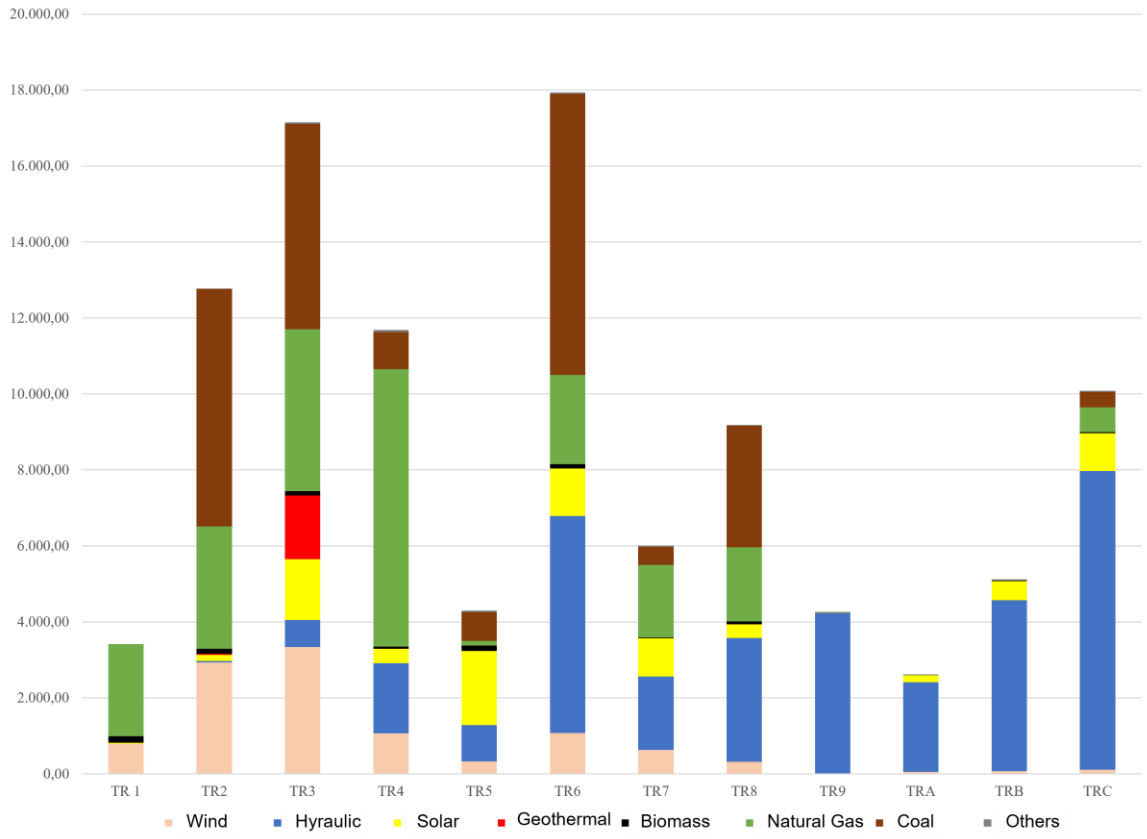

Figure 2. 6. Türkiye NUTS 1 Regions Installed Capacity Distribution in terms of Energy Resources (Source: www.enerjiatlasi.com/sehir/)

Considering the installed power in NUTS 1 regions according to sources, Figure 3.6 shows which type of installed power is concentrated in which region.

- As evaluated in terms of renewable energy, 54.08% of the total installed hydraulic power is in the TRC, TR6, and TRB regions, and the TRC region has the largest share, with 23.52%.
- 58.51% of the wind energy installed capacity is located only in the TR2 and TR 3 regions, and the TR3 region has the largest share, with 31.3%.
- TR5 region has the most significant share in solar energy installed power, with 23.17%. The TR3 region follows the TR5 region with 19.02% and the TR6 region with 14.91%.
- 98.2% of the geothermal energy installed capacity is in the TR3 region; Except for the TR2 and TR3 regions, it is seen that there is no geothermal energy installed capacity in other

regions.

- It is seen that the installed capacity of biomass is mainly in the regions where big cities such as TR1, TR5, and TR2 are located.
- In terms of fossil fuels, the TR4 region has the largest share in the natural gas installed power with 30.18%; 61.08% of the total natural gas installed power is in the TR2, TR3, and TR4 regions, but the natural gas installed power is not found in the TR9 and TRB regions.
- In terms of coal, the installed power is concentrated in TR2 (32%), TR6 (38.03%), and TR8 (16.48) regions since domestic coal power plants are in regions with coal mines and imported coal power plants are in coastal cities, TR1, TR3, TR9, there is no installed power in TRA and TRB regions.
- In general, TR3 and TR6 regions have the largest share in installed power and diversity regarding resource types. In terms of production/consumption balance, the TR6 region is balanced, and the production in the TR3 region is three times more than consumption. On the other hand, the TR1 region, where the consumption is most intense, remains very low in installed power share and production.

The map in Figure 3.7 shows the regions in Türkiye at NUTS 1 level and what percentage of each energy type is produced in these regions. According to the Ministry of Energy and Natural Resources data, as of 2021, 55.56% of the installed power in Türkiye consists of renewable energy sources and 44.44% of fossil fuels. Shares of energy resources are 33.71% hydraulic, 10.72% wind, 8.5% solar, 1.73% geothermal, 0.9% biomass, 24% natural gas, % 19.62 percent is coal, and 0.82% other liquid fuels.

Considering the shares of installed power capacities in the regions, respectively,

- In TR1, 10.01% of natural gas, 7.40% of wind, 0.28 of solar energy, 19.80% of biomass,
- In TR2, 32% of coal, 27.51% of wind, 15.16% of biomass, 13.32% of natural gas, 1.84% of solar, 1.8% of geothermal, and 1.67% of other liquid fuels,
- In the TR3, 98.2% of geothermal, 31.3% of wind, 19.02% of solar, 17.58% of natural gas, 13.27% of biomass, 11.50% of other liquid fuels, and 2.15% of hydraulics,
- In the TR4, 30.18% of natural gas, 17.5% of other liquid fuels, 9.9% of wind, 6.18% of biomass, 5.5% of hydraulics, 4.99% of coal, 4.56% of sun,
- In the TR5, 23.17% of solar, 15.86% of biomass, 12.5% of other liquid fuels, 3.9% of coal, 3% of wind, 2.86% of hydraulics, 0.5% of natural gas,
- In the TR6, 38.03% of coal, 17.09% of hydraulics, 14.91% of solar, 12.21%, 11.83% of other liquid fuels, biomass, 10.50% of wind, 9.74% of natural gas,
- In the TR7, 14.18% of other liquid fuels, sun; 11.89%, 7.89% of natural gas, 5.9% of wind; 5.79% of hydraulics; 2.43% of coal; 2.4% of biomass,
- In the TR8, 16.48% of coal, 9.76% of hydraulics, 8.44% of biomass, 8.04% of natural gas, 7.2% of other liquid fuels, 4.28% of solar, and 2.81% of wind,
- In the TR9, 12.64% of hydraulics,
- In the TRA, 7.07% of hydraulics, 6.81% of other liquid fuels, 2.13% of solar,

- In the TRB, 13.47% of hydraulics, 7.01% of other liquid fuels, 5.96% of the sun, 2.37% of the biomass,
- In the TRC region, 23.52% of hydraulics, 11.8% of solar, 9.8% of other liquid fuels, 3.36% of biomass, 2.7% of natural gas, 2.08% of coal, and wind have 1% installed power capacity.
- In terms of resources, the NUTS1-level regions in the first three ranks, respectively, in installed power capacity are as follows:
- In hydraulic energy, TRC, TR6, and TRB (54.08% of total hydraulic installed capacity);
- In wind energy, TR3, TR2, TR6 (69.31% of total wind installed capacity);
- In solar energy; TR5, TR3, TR6 (57.1% of total solar installed power);
- In geothermal energy, TR3, TR2 (100% of total geothermal installed power);
- In biomass energy, TR1, TR5, TR2 (50.82% of total biomass installed capacity);
- In natural gas, TR4, TR3, and TR2 (61.08% of total natural gas installed capacity)
- In coal, TR6, TR2, and TR8 (86.51% of total coal installed power).

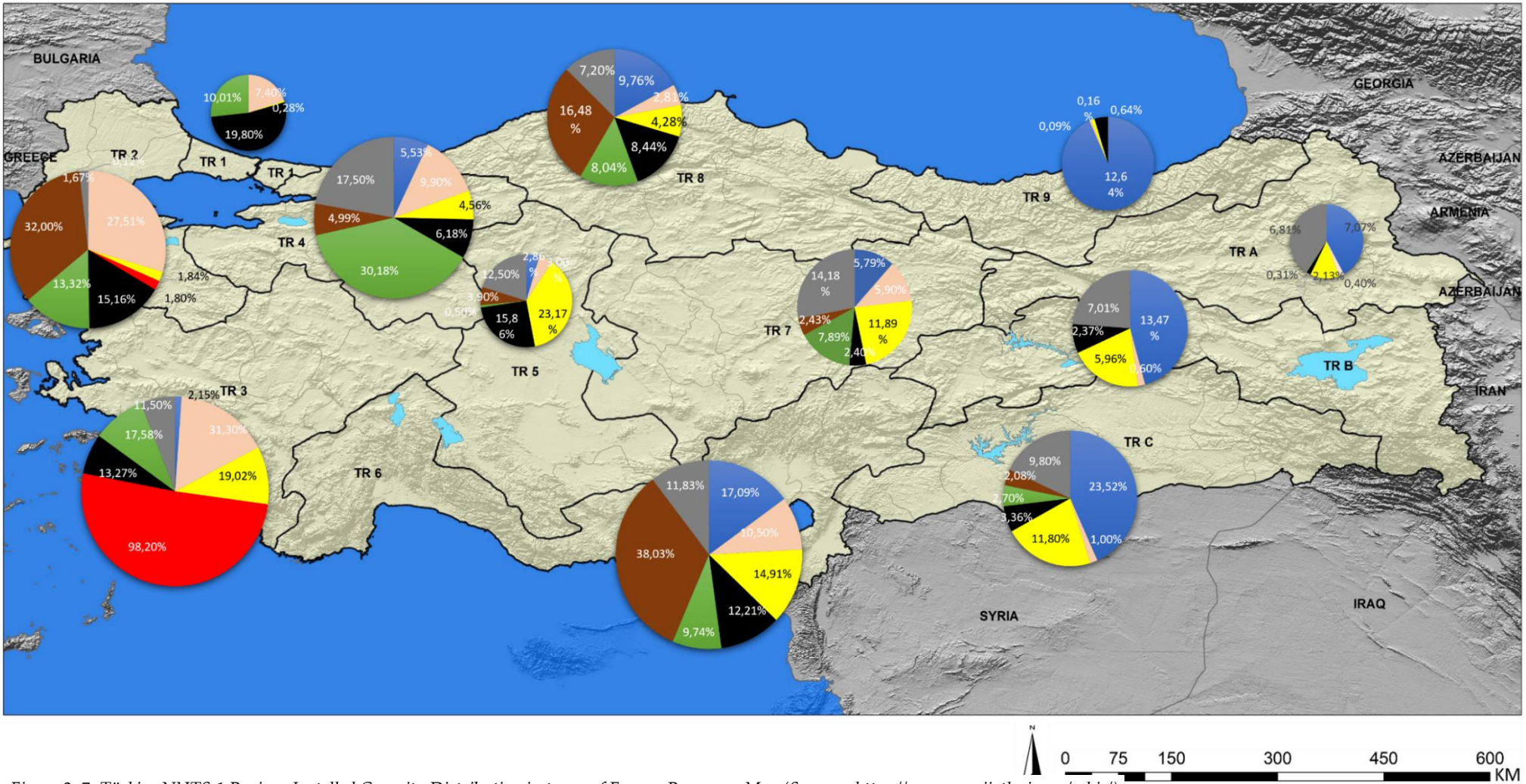

Figure 2. 7. Türkiye NUTS 1 Regions Installed Capacity Distribution in terms of Energy Resources Map (Sourcre: https://www.enerjiatlasi.com/sehir/)

CONCLUSION

Türkiye is a developing country and is directly or indirectly affected by the economic fluctuations in the world. However, it is emerged because of the literature and secondary data analysis that it has been searching for resources to provide energy supply since its establishment in 1923 and has been in the development targets for this need.

In this study, in which the change of primary energy supply in terms of quantity and type over the years and the energy policies developed from 1923 to the present are discussed in the context of development plans, it is seen that urbanization, industrialization, and development goals and energy are in a direct relationship.

It was stated that during the Early Republican Period, coal, lignite, and non-commercial energy sources were used intensively from conventional energy sources. Since the 1950s, with the increase in urbanization and industrialization, petroleum reserves were explored, and then oil imports were made. With the start of economic growth and development, there has been a period in which the energy demand has increased intensively, and the country's resources are insufficient to meet this demand. While conventional resources such as coal and oil were used until the 1980s, natural gas imports started after 1980, and thus the tendency towards oil and coal decreased a bit.

HEPPs have used intensively until 2010. Still, since 1985, targets have been set in the development plans to carry out R&D studies to increase the use of alternative, clean energy sources. After 2010 wind energy, after 2015 solar energy is included in the primary energy supply.

After 1963, first development plans developed guidelines for local resource use and self-sufficiency. However, the urban and industrial developments, with the expansion and globalization after 1980 and the understanding that the existing national resources were insufficient, increased the share of energy in imports day by day. After the significant increase in the percentage of energy in imports, it is seen that the use of alternative resources and the use of local resources gained importance in the development plan. In contrast, energy imports continued to increase in the next period. It has been observed that during periods of economic development, the need for energy increases, and the demand cannot be met locally, so the increase in imports puts a financial burden on the economy. Therefore, when the development plans are examined in the context of energy policies, it can be stated that the plans do not complement each other, the determined targets cannot be fully achieved, and there need to be consistent and sufficient policies.

When all these data and energy policies are analysed from a spatial perspective, it is understood that each region has different potentials. In terms of renewable energy sources, it can be said that solar energy in the south of the country, wind energy in the west, hydroelectric power in the east and north, and biomass installed capacity in metropolitan cities with high populations. There are thermal power plants in cities such as Zonguldak and Kahramanmaraş, where mines are located, and natural gas and oil fields are in transportation centers in terms of imports. A careful study should be made on the national energy potential, and these potentials should be used effectively. The most energy consumption is realized in the regions with population density and industrial

production. Still, the energy production-consumption balance cannot be achieved in large part of these regions. Due to the weakness in local energy production, energy imports are increasing, and the increase in imports affects national development negatively.

Current data: while arousing curiosity about Türkiye's energy potential, "Is it possible to provide spatial production/consumption balance and to produce an integrated, balanced spatial energy plan?" It also brings the question to mind.

The importance of energy policies in national development has been emphasized in many different studies for many countries. The importance of renewable energy due to sustainable development and global climate change is also known, and it is kept on the agenda by international organizations through agreements. Energy policies are vital to support sustainable development in a country like Türkiye, which has strong potential, especially in terms of renewable energy sources, and has only recently started to use this potential action for the last ten years.

Integrated spatial energy plans for the most efficient development of energy policies are a topic developed in Europe in recent years. The potentials of the regions are evaluated most effectively by carrying out feasibility studies. Not only the generation of energy but also its efficiency and storage are other prominent topics in these plans. Furthermore, considering renewable energy as a new sector, "Do renewable energy policies solve the inequality problem between regions, which is another problem in Türkiye?" answering the questions is critical for spatial energy planning and development.

While the place of energy in our lives is increasing day by day, the issue of energy policies and spatial planning should also be on Türkiye's agenda. Not only economic experts, but also city and regional planners should pay attention to this issue. Integrated spatial plans should begin to be prepared nationally and regionally. For Türkiye, which is in a relatively strong position in terms of renewable energy potential, it is necessary to focus on the regional renewable energy plan studies aiming at balanced development, together with future energy projections.

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Researching the Relationship Between Corporate Sustainability and Service Quality: The Case of Chambers and Commodity Exchanges [1*]

Kurumsal Sürdürülebilirlik ile Hizmet Kalitesi Arasındaki İlişkinin Araştırılması: Oda ve Borsalar Örneği

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Abstract
The aim of this study is to investigate the relationship between corporate sustainability in accredited chambers and exchanges affiliated with TOBB and the perceptions of the service provided by chambers and commodity exchanges and to determine the direction of this relationship. In addition, the sub – purpose of the study is to determine whether the perception of corporate sustainability and perceived service quality show a statistically significant difference according to socio-demographic variables. A questionnaire was applied to 613 members of the accredited chamber and exchange council members affiliated with UCCET. As a result of one-way ANOVA and independent groups t-test analyzes to examine whether there are statistically significant differences, it was concluded that there was a statistically significant difference between the groups under the education level variable. Afterwards, a structural equation model was established to examine the relationship between corporate sustainability and service quality, and it was concluded that there were some statistically significant relationships between the dimensions of both concepts.

Keywords: *Corporate Sustainability, Service Quality, SERVPERF, Professional Organisations with Public Institution Status, Structural Equation Model*

JEL Codes: *L31, L84, M00, O14, Q01, Q56*

INTRODUCTION

At the beginning of the last century, only economic indicators were used to measure the performance of organizations. Today, such superficial approaches have ceased to be one of the main goals of organizations. Organizations meet the demands of their internal and external stakeholders, are sensitive to natural systems and the society, provide equal opportunity, remuneration based on a fair performance evaluation system, prevent discrimination in decision – making processes, seek solutions to the problems of the society in a responsible way, are honest, transparent, accountable, started to try to develop responsible practices (Ayral, 2021: 1).

Environmental and stakeholder pressure is gradually increasing in the context of sustainability practices, regardless of the public or private sector, especially in developed countries. As a result, all organizations, whether profit – oriented or not, consider it a necessity for them to be transparent to their stakeholders about their level of compliance with economic, environmental and social issues (Öztel et al., 2012: 33). It is difficult to observe what kind of solutions organizations produce and develop strategies and policies on sustainability. For this reason, in order to measure their sustainability achievements, organizations have chosen to determine sustainability indicators that are easy to understand and monitor, and that can be expressed numerically, and thus it has become possible to monitor whether they have achieved their economic, social and environmental goals (Tüyen, 2020: 92).

The service sector has grown in the last forty years and many services and sub – sectors have emerged. The newly developing service sectors have triggered each other and the service sector has gained great importance in the world (Yıldırım and Şafaklı, 2016: 101). It is possible to define the economy of many countries as a service economy. In these countries, the service sectors employ just over 60% of the workforce. In addition, when the workers in the manufacturing and construction sectors are taken into account, the service sector constitutes 85% of the total employment in developed countries (Akbolat et al., 2018: 7).

In this study, the concept of corporate sustainability, which has been studied many times by social scientists in the literature and has just begun to gain ground in terms of perceived service quality and its measurement and evaluation, is discussed. It has been observed that corporate sustainability is mostly examined at the conceptual level and evaluated through the ready – made documents that the organizations have. In this study, it is aimed to determine the relationship between service quality and corporate sustainability. This relationship has been researched on the accredited chambers and commodity exchanges affiliated with UCCET.

1. CONCEPTUAL FRAMEWORK

1.1. The Concept of Sustainability

The origin of the expressions, which took place in English as 'sustainability' and translated into Turkish as 'sürdürülebilirlik', is derived from the Latin expression "sustinere", which means to provide, preserve, perpetuate, support and resist (Binboğa, 2017: 4). The UCLA Sustainability Committee, which operates under the University of California, defines the concept of sustainability as "the preservation of natural systems, the integration of social equality and economic success" in order to ensure the continuity of healthy and resilient generations for future societies (Doğan, 2021: 8). Sustainability is an approach that requires living in the present together

with the experiences gained in the past and being able to look at the present with the eyes of future generations (Yalçın, 2021: 31).

1.2. Corporate Sustainability

The concept of corporate sustainability derives from the concept of sustainable development, which is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Sustainability, which is generally carried to the corporate business level, is called corporate sustainability. Referring to the concept of Sustainable Development, Corporate Sustainability can be defined as meeting the needs of an organization's direct and indirect stakeholders without compromising its ability to meet the needs of future stakeholders (Mazur and Walczyna, 2020: 8988).
Various definitions of corporate sustainability have been made in the sustainability literature. Social scientists who made these definitions generally preferred to create a definition based on the concepts they had studied before. The most common definitions in the literature are given in the Table 1.

Table 1. Definitions of Corporate Sustainability

Author	Definition
John Elkington	The effort of businesses to balance their social, economic, and environmental goals.
Giles Atkinson	Cost accounting for external influences caused by the business, based on the concept that businesses contribute to or hinder sustainable development.
Thomas Dyllick Kai Hockerts	Meeting the needs of businesses' primary and secondary stakeholders without compromising the ability to meet the needs of future stakeholders.
R. Scott Marshall Darrell Brown	An "ideal" sustainable organization will not use natural resources faster than the regeneration and recycling rates of these resources.
Marcel van Marrevijk	In general, corporate sustainability and corporate social responsibility refer to "voluntary" business activities that demonstrate the incorporation of environmental and social concerns into business activity and stakeholder interactions.
Frank Figge Tobias Hahn	Corporate sustainability is the efficiency of contributing to the three dimensions of sustainability (environmental, social and economic) of a business and the efficiency of using resources compared to other businesses.
Ulrich Steger	The number of environmental and social activities that go beyond regulatory compliance and have an economic reason, a business justification.
Pratima Bansal	Corporate sustainability means integrating the principles of economic integrity, social equity and environmental integrity into products, policies, and practices simultaneously.
Sally Russell Nardia Haigh Andrew Griffiths	To work for long – term economic performance, to carry out activities that will create positive effects for the environment, to support the society and to determine a holistic approach to realize all these together.
Tobias Hahn Frank Figge	Pursue environmental, social, and economic goals to achieve the long-term well – being of the business or contribute to the long – term well – being of society and humanity.
Michael E. Porter Mark R. Kramer	Policies and practices that improve a business's competitiveness while at the same time improving the economic and social conditions in the society in which it operates.
Thomas Dyllick Katrin Muff	It is the practice of an organization that understands how it can make a significant positive impact in areas critical to humanity and the planet.

Source: Meuer et al., 2020: 324 – 326

1.2.1. Dimensions of Corporate Sustainability

The triple system approach, which is the most accepted dimensioning approach of the sustainability concept, was put forward by John Elkington in 1997. It is referred to as the most effective approach all over the world. At the core of this idea is the idea of providing economic welfare, environmental quality and social equality at the same time (Correia, 2019: 30; Taticchi and Demartini, 2021: 68). This three – dimensional systems approach argues that organizations should consider profit, the planet and people, which represent their economic, environmental and social dimensions, simultaneously, with equal importance. Figure 1 shows the triple system approach of corporate sustainability (Wilson, 2015: 440).

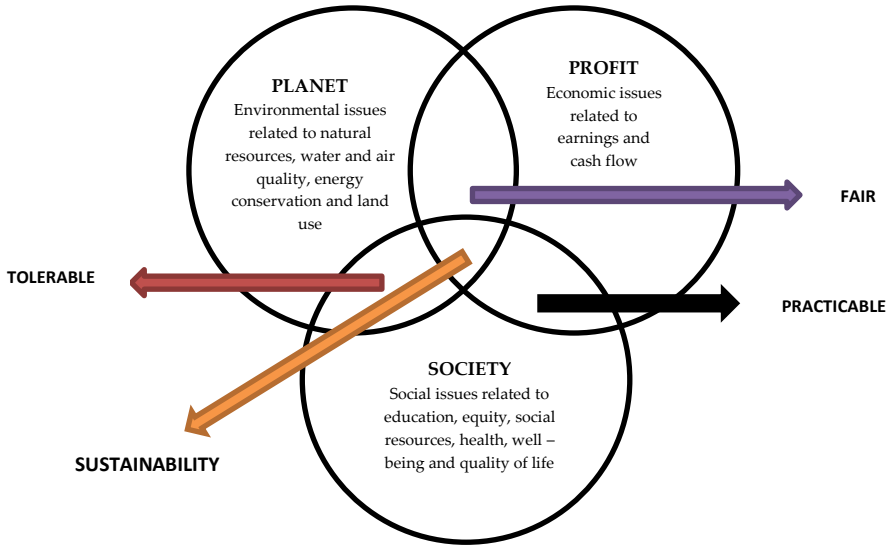

Figure 1. Corporate Sustainability: Triple System Approach

Source: Allan et al., 2008: 58

A business can be considered sustainable if it can manage all these dimensions of its sustainability performance. First, profit is a prerequisite for a healthy business and therefore the enabler of the positive impact a business can have on society and the environment. Second, the social dimension of the three-dimensional systems approach ensures the health and safety of customers, the well – being of employees, and the protection of society in general. Finally, the third dimension of the three – dimensional systems approach, the environment, is concerned with the protection of the planet (Taticchi and Demartini, 2021: 69).

1.2.2. Approaches Effective on Corporate Sustainability

Corporate sustainability, sustainable development, corporate social responsibility and stakeholder theories include closely related approaches. It will be useful to examine these theories in order to understand the corporate sustainability philosophy (Doğan, 2018: 85).

Sustainable Development: In the report called Our Common Future, also known as the Brundtland Report, sustainable development is defined as 'the development that meets the needs of today's societies without compromising the ability of future societies to meet their own needs and desires'

(Hall et al., 2010: 441; Çamlıca and Akar, 2014: 102).

Corporate Social Responsibility: Defines the responsibility of an organization for the impact of its decisions and activities on society and the environment, through transparent and ethical behavior, contributing to sustainable development, health and well – being of society; takes into account the expectations of stakeholders; it complies with applicable laws and international norms of behavior and is integrated throughout the organization and applied in its relations with other organizations (Diez – Cañamero et al., 2020: 2156).

Stakeholder Theory: Stakeholder theory is one of the leading institutional theories used to explain the concept of corporate sustainability. Stakeholders are parties that have direct or indirect interests in organizations, and stakeholder theory emphasizes that an organization should be concerned with all stakeholders rather than focusing only on shareholders (Aslan, 2020: 428). The analysis of the relations of organizations with their stakeholders constitutes the main subject of stakeholder theory (Polat, 2008: 93).

2. SERVICE QUALITY

2.1. The Concept of Service

A service is defined as any action or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not depend on a physical product. Since there are many types of services, it is a very difficult concept to express with a single definition (Johns, 1999: 959). By Philip Kotler and Gary Armstrong, service has been defined as an act or gain offered by one party to another that is invisible to the eye and does not result in ownership of anything. With this definition, the occurrence of a service may or may not be related to a physical product (Erdoğan, 2012: 40).

Service can be defined as non – physical products such as teaching, hair styling and football. Service can also be defined as any essentially intangible and non – proprietary action or performance that one party can offer to another (Yıldırım, 2019: 350). A service is an action or activity offered to satisfy customers' requests as an offering or simply as a benefit. Services are often difficult to conceptualize; this is because services are promoted, purchased and consumed at the same time (Alsanosi, 2018: 6).

2.2. Characteristics of Services

The characteristics of the service concept are also the main differences that distinguish it from the concrete product concept. The effects of these differences in the quality management approach of the service concept are great (Moeller, 2010: 359). The main characteristics that differentiate the service from the product are described below:

Intangibility: The intangibility of service means that services are intangible and cannot be felt, smelled, tasted, seen, or heard before they are purchased and experienced (Hole et al., 2018: *183).*

Perishability: It means that the services cannot be stored for later sale or use (Erdil and Yıldız, 2011: 1233).

Variability: Another important feature of services is that they are variable (Ghobadian et al., 1994: 45). It refers to the fact that the quality of services can vary greatly depending on who provides them, when where and how (Barutçu, 2008a: 104).

Inseparability: Inseparability means that service production and consumption occur

simultaneously (Moeller, 2010: 363 – 364).

Lack of Ownership: Services can only be used for a certain period and expire when no repayment is made. They cannot be owned (Aydoğdu et al., 2019: 158).

2.3. Service Quality

The term of quality, which is derived from the Latin word 'qualitas'; It is seen that there are various definitions of the product or service in which it is used (Box, 1983: 25). From this point of view, it can be said that quality is a natural feature of products or services. Some researchers are of the opinion that the structure of a product or service cannot be changed without changing it or replacing it with a different product or service (Akıncı et al., 2009: 64). In today's conditions, while organizations continue to struggle for existence by considering the conditions of the market in which they operate, the concept of quality; It is seen as a strategic, that is, a guiding concept in realizing its corporate goals, trying to adapt to competitive conditions, and meeting the demands of its stakeholders and customers, one of the most important, as desired (Mergen, 1993: 25; Ertuğrul, 2014: 3).

It is much easier to define quality when producing tangible products. Determining the level of quality for services is much more difficult than for products. This is because quality specifications for services come from businesses and individuals, that is, from more than one source at the same time (Barutçu, 2008b: 322). The difficulty of defining service quality is due to the highly intangible, labor – intensive nature of services and the involvement of customers and often other elements in the production process of the service (Stewart et al., 1998: 210). Service quality refers to the degree of satisfaction that customers feel because of the services they receive. Due to the invisible feature of the services, it is as good or not as the perception of the service recipient. It differs from person to person (Söylemez, 2017: 38; Organ and Tekin, 2019: 4). Service buyers generally benefit from the indirect features included in the service procurement process to measure the quality of the service concept, which is an abstract concept (Hıra, 2020: 25).

2.3.1. Measurement of Service Quality

It is possible for businesses to keep the service quality at the center of all their activities, guaranteeing the quality and the sustainability of the quality, and evaluating the service quality in an accurate and objective way. Measuring service quality allows to reveal areas of improvement (Webster, 1989: 36; Barutçu, 2008a: 103). In the literature on the concept of service, there are many assessment tools for measuring service quality (Uzunçakmak, 2021: 53). In this study, SERVQUAL and SERVPERF methods were examined.

SERVQUAL is a method based on the view that the evaluations of service recipients about the service they receive are of great importance. This evaluation is conceptualized as a gap between the service quality demanded by the service – receiving group and the service provider's evaluations regarding the performance of the service offered (Onurlubaş and Gümüş, 2020: 32). Parasuraman, Zeithaml, and Berry (PZB) concluded that, based on the information obtained from the focus group applications made with consumers in the early days of its development, consumers' service quality wishes and expectations and perceptions can be obtained by comparing them within the scope of ten dimensions. These; tangibles, reliability, responsiveness, assurance, competence, communication, credibility, courtesy, understanding/knowing customers, and access (Buttle, 1996: 9; Ladhari, 2009: 174; Dichoso et al., 2019: 74). In his studies

in 1988, this number of personnel was reduced to five. In other words, this measurement method is discussed under five dimensions. In Table 2 explained these five elements: reliability, assurance, tangibles, empathy (understanding/knowing the customer), responsiveness (Parasuraman vd., 1985: 48):

Table 2. Definitions of PZB – SERVQUAL Dimensions

Dimensions – Definitions	Equivalent in Chambers and Commodity Exchanges
Reliability Ability to perform the promised service in a reliable and error – free manner	Are the Chamber/Commodity Exchange services planned consistently to fulfill the transactions requested by the members? Are the operations performed in the expected quality and format?
Assurance The knowledge and tolerance of employees and their ability to inculcate trust and confidence	Do employees provide services to members with accurate information? Is a polite approach displayed while serving? Are the procedures for the service provided clearly defined?
Tangibles Appearance of physical facilities, equipment, and personnel	Do the Chamber/Commodity Exchange's service building and units look nice? Are the websites regularly updated? Are there any links that don't open? Does the clothing of the employees and their harmony with the job meet the expectations?
Empathy The attentive, personalized attention that organizations provide to their customers	Can Chamber/Commodity Exchange members feel that they receive individual attention? Do they realize that their opinions are considered? Do they generally feel that they are cared for?
Responsiveness Enthusiasm to help customers and provide prompt service	Do Chamber/Commodity Exchange employees respond to e – mails and telephone calls in a timely manner? When members apply to the Chamber/Commodity Exchange, are their requests met the first time? Do members have the privilege to receive services through their preferred communication tools?

Resouce: Parasuraman vd., 1985: 48

J. Joseph Cronin and Steven A. Taylor suggested in 1992 that the SERVQUAL method is not a good enough method to measure service quality. Because every person requesting a service will experience that service for the first time and considering the possibility that he will not know what to expect from that service, they have developed a new method based on the SERVQUAL method with 22 items (Öztürk, 2019: 37). They found that the SERVPERF scale, which results in measuring only service performance, produces more reliable estimates, more convergent and discriminant validity, less bias due to more explained variance, and better results. They also emphasized that this method is only a function of perceptions about the performance of the service (Koç and Kaya, 2021: 214).

2.4. Literature Review

As a result of the literature review, we come across many research areas associated with the concepts of corporate sustainability and service quality. For this study, while literature review was conducted, it was discussed that the other related concepts such as corporate sustainability, corporate social responsibility, stakeholder engagement and service quality, customer satisfaction, corporate reputation, corporate image, customer trust, brand value, repurchase intention and corporate performance studies were examined. Some of the reviewed studies are summarized in Table 3.

Table 3. Summarized Literature Review

Author – Year	Aim of the Study	Analysis Methods
Bloemer et al. (1998)	Investigation of the effects of image, perceived service quality and satisfaction on loyalty in the banking sector	Correlation analysis Regression analysis
Fahlioğulları (2009)	Revealing the effects of corporate social responsibility practices on customer trust and corporate image	Linear multiple regression
Kuo and Ye (2009)	Investigation of the effect of service quality and corporate image on students' commitment to vocational education institutions	Structural equation modeling
Caruana and Ewing (2010)	To reveal the effect of corporate image and service quality on e – customer loyalty	Structural equation modeling
Chen et al. (2012)	Investigation of the effects of service quality and corporate social responsibility on customer satisfaction	Exploratory factor analysis Reliability analysis Correlation analysis
Leaniz and Bosque (2013)	Examining the effects of corporate sustainability on corporate reputation	Structural equation modeling
Huang et al. (2014)	Exploring the relationship between corporate social responsibility, service quality, corporate image and repurchase intention	Regression analysis
Kim and Kim (2016)	Investigation of the effects of potential customers' experiences of a hotel's corporate social responsibility practices, service quality and transparency on their perceptions of trust, satisfaction, and customer loyalty	Confirmatory factor analysis Structural equation modeling
Yuen et al. (2018)	Investigation of the effects of corporate social responsibility and service quality on business performance	Structural equation modeling
Song et al. (2019)	Investigation of causal relationships between perceived service quality, corporate image, customer trust and corporate reputation in an airline company	Confirmatory factor analysis Structural equation modeling
Najib et al. (2020)	Determining the role of small – scale coffee shops on market orientation and perceived service quality in their corporate sustainability	Confirmatory factor analysis Structural equation modeling
Erçin (2021)	Examination of the relationship between the concepts of corporate social responsibility, service orientation and employer brand attractiveness of companies operating in the logistics sector	Correlation analysis Regression analysis
Mısırlıoğlu (2022)	Examination of the relationship between accreditation performance and service quality perception in healthcare businesses accredited to JCI	Confirmatory factor analysis Independent groups t – test ANOVA Structural equation modeling

3. RESEARCHING THE RELATIONSHIP BETWEEN CORPORATE SUSTAINABILITY AND SERVICE QUALITY: THE CASE OF CHAMBERS AND COMMODITY EXCHANGES

3.1. Aim and Importance of the Study

The general purpose of this study is to investigate the relationship between the corporate sustainability perspective in the chambers and commodity exchanges affiliated with UCCET and

the perceived qualities of the service provided by the chambers and commodity exchanges and to determine the trend of this relationship. In addition, the sub – purpose of this study is to determine whether the perception of corporate sustainability and perceived service quality show a statistically significant difference according to socio – demographic variables.

This study is one of the few studies in which the concepts of corporate sustainability and service quality are discussed together, covering chambers and commodity exchanges affiliated with UCCET. In this study, it is expected to be a useful resource for researchers who deal with corporate sustainability and service quality in the field of social sciences in Turkish literature and who will choose the chambers and commodity exchanges affiliated with UCCET as their research area.

3.2. Research Model and Hypotheses

A research model is a plan created by the researcher in order to clarify the situation that the researcher questions or to test his hypotheses. The research model is also expressed as a research design by those who will do the research (Akmaz, 2022: 99). In this study, the relational survey model, which is one of the quantitative research methods, was used in order to not find a study that addresses the concepts of corporate sustainability and service quality simultaneously in the literature. This type of survey model is a research model that aims to define the existence and degree of change between two or more variables (Gür et al., 2015: 15).

Research hypotheses are statements that are established to test the accuracy of the information obtained in similar studies and assume that there are significant relationships between the variables related to the research (Baloğlu, 2011: 125). In this study, the relationship between corporate sustainability and perceived service quality was examined, and it was tried to determine whether the scores of these two concepts showed a statistically significant difference according to socio – demographic variables.

3.3. Data Collection

In this study, the questionnaire technique, which is one of the most preferred methods of obtaining data, was used. In the first part of the questionnaire, it is aimed to determine the socio – demographic characteristics of the person who filled out the questionnaire; gender, age, sector, education level, type of organisation, duration of membership to chamber/commodity exchange, task period in chamber/commodity exchange assembly and geographical region where the chamber/commodity exchange is located are included. In the second part, there are items to measure the corporate sustainability perceptions of the participants, and in the third and last part, there are items to determine their perceptions of service quality.

Corporate Sustainability measurement tool; Shashi et al. (2018) and used by Fidanoğlu (2021: 69) in his study, Hahn and Scheermesser (2006: 154), Aksoy (2013: 175), Tuna (2014: 184) and Ayral (2021: 184) was prepared by making use of the questionnaires they used in their studies. The prepared measurement tool consists of 25 items under four dimensions. For the Service Quality scale, designed by Cronin and Taylor (1992) to reveal service quality performance, Büyükkeklik et al. (2014: 36) adapted into Turkish for their studies (Tuna et al., 2020: 483) SERVPERF scale was preferred. SERVPERF scale; It consists of 22 items examined under five dimensions (Pamukkale University Social and Human Sciences Ethics Committee - Scientific Research and Publication Ethics - Ethics Committee Decision - Document Date and Number: 03.06.2021 - E.58089).

3.4. Population and Sample of the Research

In general, population refers to people living in a particular region at a particular time. In statistics, the population is the set of all items of interest for a study (Tarsi and Tuff, 2012: 1). A sample is defined as a smaller and more manageable representation of a larger group. When the population size is too large to include all items or observations in the test, sampling is used. Sampling enables the collection of intensive and comprehensive data with limited resources (time, cost, labor, etc.) easily (Sudman and Blair, 1999: 270). The population of this study consists of the council members of the accredited chambers and commodity exchanges, whose numbers and distributions are given in Table 4 of UCCET, one of the sampling methods, the simple random sampling method in which each item in the population has an equal chance of being included in the sample was used.

Table 4. Distribution of Chambers and Commodity Exchanges Affiliated with UCCET

Type of Organisation	All	Accredited
Chamber of Commerce and Industry	186	133
Commodity Exchange	113	90
Chamber of Commerce	52	41
Chamber of Industry	12	12
Chamber of Shipping	2	2

Accreditation is formal, independent verification that an organization meets established quality standards and is competent to perform certain conformity assessment tasks. Accreditation standards ensure the high quality and range of services offered to members. UCCET, the supreme union of chambers and commodity exchanges, has been continuing its accreditation studies since 2005 to increase its corporate capabilities, improve the quality of the services offered, establish a culture of creating a future – oriented mission, vision, strategy, and plan, and adopt corporate governance principles. The purpose of the accreditation system is to place quality awareness at the center of the activities carried out in the chambers and commodity exchanges affiliated to UCCET operating in Turkey, to increase the prestige of the chambers and commodity exchanges in the business world and to improve their service quality, to improve their communication with other chambers and commodity exchanges. It is to ensure their compliance with the European Chamber/Commodity Exchange System (TOBB_1, 2022).

3.5. Limitations and Assumptions of the Study

Limitations; scarcity of resources, small sample size, flawed methodology. If a study depends on access to individuals, organizations, data or documents, and access is blocked or somehow limited for any reason, the reasons for this should be explained (Theofanidis and Fountouki, 2018: 156). This study was carried out between December 2021 and June 2022. When domestic and foreign studies are examined, the number of studies on the measurement and evaluation of the concept of corporate sustainability is quite low. For this reason, a measurement tool that was used in 5 accessible studies was used. Due to the Covid – 19 outbreaks, the planned chamber and commodity exchange visits could not be made to explain the purpose, subject and scope of the study. Items related to the measurement of corporate sustainability and service quality are limited to those in the questionnaire. This study was carried out within the scope of accredited chambers and commodity exchanges affiliated with UCCET and was carried out with a sample of 613 participants. The inclusion of non – accredited chambers and commodity exchanges in the

study is an important limitation for the population and sample. Although some chambers and commodity exchanges have e – mail addresses, e – mails could not be transmitted, that is, the entire population could not be reached.

Assumptions are necessary elements for conducting research and connecting it to a conclusion (Wolgemuth et al., 2017: 132). They do not need to be proven statistically. Possible obstacles to be encountered in research are temporarily approved or rejected (Pemberton, 2012: 82 – 86). In this study; the items in the questionnaire form adequately and accurately represent the concepts of corporate sustainability and service quality and are correctly understood by the participants, the participants of the questionnaire answered the questionnaire items sincerely and honestly, the participants represent the study population well, it is assumed that the use of a Likert type scale is appropriate within the scope of this study, and the data obtained are measurable and reproducible.

4. DATA ANALYSIS

4.1. Normality Analysis

For the assumption of normality, the skewness and kurtosis values of the data were considered. When the studies in the field of social sciences are examined, it is seen that skewness and kurtosis are evaluated in very different intervals. Although the skewness – kurtosis value is one of the most used normality measures, there is no common accepted value range (Orcan, 2020: 256). Some authors stated that only values within the range of ±1 are acceptable skewness – kurtosis values for normality (Büyüköztürk et al., 2014). In this study, data were collected from 613 participants in total. There is no missing data among the data collected in terms of corporate sustainability and service quality scales. It has been observed that each of the skewness and kurtosis values are in the range of ±1 values. In terms of corporate sustainability and service quality scales and dimensions, the data provide the assumption of normality.

4.2. Confirmatory Factor Analysis

Under this heading, the validity of the Corporate Sustainability and Service Quality scale has been examined in terms of the collected data. IBM SPSS AMOS 22 plug – in of IBM SPSS Statistics program was used to perform confirmatory factor analysis. Path diagrams were first drawn to visualize the scales. While presenting the findings, the initial models of the scales and the final models obtained as a result of the modifications and/or item inferences are included.

The Corporate Sustainability Scale consists of 25 items under 4 factors. It was seen that the initial model drawn for confirmatory factor analysis did not show sufficient fit, and therefore model improvement steps were applied. The verified version of the corporate sustainability scale is given in Figure 2.

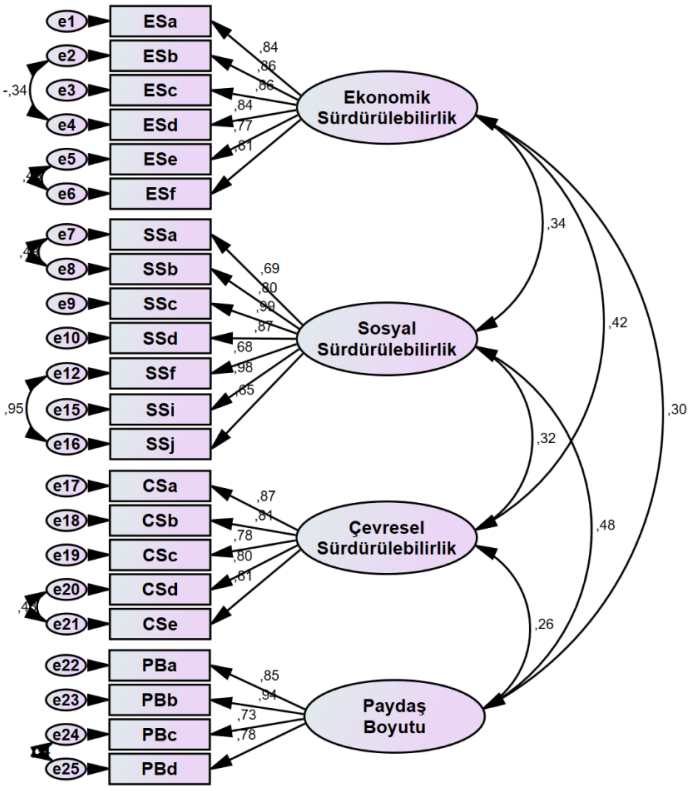

Figure 2. Validated Measurement Model of the Corporate Sustainability Scale

For possible improvements, first, item factor loads (standardized regression coefficient) of each item were examined and it was seen that each factor load was greater than 0,50. The standardized regression coefficient or standardized coefficients allow researchers to compare the relative magnitude of the effects of different explanatory variables in the path diagram by adjusting the standard deviations so that all variables have equal standard deviations despite different units of measure.

Table 5. Fit Index Values and Good Fit Values of the Corporate Sustainability Measurement Model

	Initial Model Fit Index Values	Fit Index Values after Item Extraction and Modification	Acceptable Fit Values
χ^2/sd	13,16	4,17	≤ 5
GFI	0,67	0,90	≥ 0,90
AGFI	0,61	0,86	≥ 0,85
CFI	0,79	0,96	≥ 0,95
NFI	0,78	0,94	≥ 0,90
RMSEA	0,14	0,07	≤ 0,08
SRMR	0,07	0,06	≤ 0,10

It is seen that the initial fit index values of the confirmatory factor analysis results of the Corporate Sustainability scale were not within acceptable limits, but after the modifications and item

extractions, the fit index values approached acceptable limits (Table 5). Although the fit index is within the threshold value with SRMR = 0,07, χ^2/sd = 13,16; GFI = 0,67; AGFI = 0,61; CFI = 0,79; NFI = 0,78; By taking the values of RMSEA = 0,14, it was concluded that the goodness of fit index was outside the threshold values, and the Corporate Sustainability Scale did not fit well according to the confirmatory factor analysis results. As a result, after the modifications and item extractions, the fit index values were χ^2/sd = 4,17; GFI = 0,90; AGFI = 0,86; CFI = 0,96; NFI = 0,94, RMSEA = 0,07; It is seen that it is within the acceptable threshold values by taking SRMR = 0,06 values.

Service Quality Scale consists of 22 items under 5 factors. Before testing the hypotheses, the measurement model was tested. It was seen that the initial model (Figure 3) drawn for confirmatory factor analysis did not show sufficient fit, and therefore model improvement steps were applied.

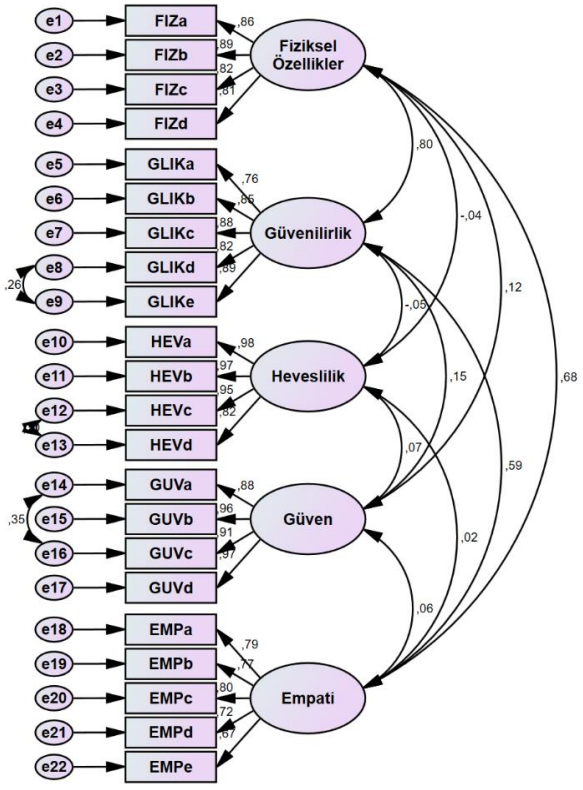

Figure 3. Validated Measurement Model of the Service Quality Scale

For possible modifications, first, item factor loads (standardized regression coefficient) of each item were examined and it was seen that each factor load was greater than 0,50.

Table 6. Fit Index Values and Good Fit Values of the Service Quality Measurement Model

	Initial Model Fit Index Values	Fit Index Values after Item Extraction and Modification	Acceptable Fit Values
χ^2/sd	4,61	4,03	≤ 5
GFI	0,87	0,90	≥ 0,90
AGFI	0,86	0,87	≥ 0,85
CFI	0,95	0,96	≥ 0,95

NFI	0,93	0,94	≥ 0,90
RMSEA	0,08	0,07	≤ 0,08
SRMR	0,04	0,04	≤ 0,10

4.3. Reliability Analysis

Cronbach's alpha value was used to measure the reliability of the collected data. Cronbach's alpha coefficients for corporate sustainability and service quality scales and dimensions are given in Table 7.

Table 7. Reliability of Corporate Sustainability and Service Quality Scales and Their Dimensions

	Number of Scale Items	**Cronbach's Alfa (α)**		**Number of Scale Items**	**Cronbach's Alfa (α)**
Corporate Sustainability Scale	**22**	**0,925**	**Service Quality Scale**	**22**	**0,881**
Economic Sustainability	6	0,932	Tangibles	4	0,907
Social Sustainability	7	0,949	Reliability	5	0,923
Environmental Sustainability	5	0,915	Responsiveness	4	0,964
Stakeholder	4	0,903	Assurance	4	0,965
			Emphaty	5	0,853

As a result of the reliability analyzes made, it is seen that the corporate sustainability and service quality scales and their dimensions consisting of 22 items are highly reliable.

4.4. Descriptive Statistics and Distributions

Descriptive statistics are used to summarize and describe a variable or variables for a sample or population. The preparation and presentation of descriptive statistics represents a vital first step in research and should always be done before starting inferential statistical analysis (Kaur et al., 2018: 60). In this study, arithmetic mean, standard deviation, minimum and maximum values, frequency, and percentage values were used.

Table 8. Descriptive Statistics of Corporate Sustainability and Service Quality Scales and Their Dimensions

	Av.	**SD**	**Min.**	**Max.**		**Av.**	**SD**	**Min.**	**Max.**
Corporate Sustainability Scale	**3,60**	**0,51**	**1,85**	**5,00**	**Service Quality Scale**	**3,10**	**0,57**	**1,55**	**4,60**
Economic Sustainability	3,60	0,75	1,00	5,00	Tangibles	3,42	0,82	1,00	5,00
Social Sustainability	4,04	0,61	1,14	5,00	Reliability	3,24	0,94	1,00	5,00
Environmental Sustainability	2,96	0,80	1,00	5,00	Responsiveness	2,65	1,12	1,00	5,00
Stakeholder	3,81	0,67	1,00	5,00	Assurance	3,00	1,19	1,00	5,00
					Emphaty	3,19	0,71	1,00	5,00

When Table 8 is examined, the mean and standard deviation of the Corporate Sustainability Scale scores of the people participating in the study is 3,60 ± 0,51, while the mean and standard deviation of the Service Quality Scale scores is 3,10 ± 0,57.

When the averages of the corporate sustainability scale are examined in terms of dimensions, the dimension with the lowest perception average is the Environmental Sustainability dimension, and the dimension with the highest average is the Social Sustainability dimension. When the

averages of the Service Quality scale were examined in terms of dimensions, the dimension with the lowest perception level was the dimension of Responsiveness, and the dimension with the highest level of perception was the dimension of Tangibles.

Table 9. Distributions by Socio-Demographical Characteristics

Variables n* = 613	Number of	Per cent
Gender		
Male	579	94,5
Female	34	5,5
Age		
21 – 30 years	25	4,1
31 – 40 years	79	12,9
41 – 50 years	265	43,2
51 – 60 years	138	22,5
61 years and older	106	17,3
Sector		
Service Sector	263	42,9
Manufacturing Sector	350	57,1
Education		
Primary Education	39	6,4
High School	108	17,6
Associate Degree	244	39,8
Bachelor's Degree	194	31,6
Graduate Degree	28	4,6
Type of Organisation		
Chamber of Industry	56	9,1
Commodity Exchange	87	14,2
Chamber of Commerce	166	27,1
Chamber of Commerce and Industry	304	49,6

Varibles n = 613	Number of	Per cent
Membership of Chamber/Commodity Exchange		
0 – 10 years	7	1,1
11 – 20 years	72	11,7
21 – 30 years	191	31,2
31 – 40 years	270	44,0
41 years and more	73	11,9
Membership of Assembly		
0 – 4 years	80	13,1
5 – 8 years	133	21,7
9 – 12 years	230	37,5
13 – 16 years	124	20,2
16 years and more	46	7,5
Region		
Mediterranean	87	14,2
Eastern Anatolia	38	6,2
Aegean	111	18,1
Southeastern Anatolia	44	7,2
Central Anatolia	104	17,0
Black sea	87	14,2
Marmara	142	23,2

***n = Sample size**

Table 9 shows the distribution of accredited chambers' and commodity exchanges' assembly members participating in the questionnaire.

4.5. Review of Statistical Differences in terms of Socio – Demographic Characteristics

In this section, statistical differences between groups under the variables were analyzed. For difference analysis; Characteristics represented by two groups were analyzed by independent groups t – test, and features expressed as more than two groups were analyzed by one – way ANOVA test. The Tukey test was also applied to the variables with significant values as a result of the one – way ANOVA test. IBM SPSS Statistics 28 programs were used for difference analysis.

Table 10. Investigation of Differences in Corporate Sustainability and Service Quality Scale Scores According to Socio – Demographical Characteristics

	Corporate Sust.		Service Quality	
Gender	**Av.**	**SD**	**Av.**	**SD**
Male	3,61	0,51	3,10	0,57
Female	3,53	0,44	3,17	0,48
***t;p**	0,815;0,415		-0,723;0,470	
Age				
21 – 40 years	3,61	0,56	3,06	0,55
41 – 50 years	3,63	0,51	3,09	0,57
51 – 60 years	3,55	0,50	3,17	0,56
61 years and older	3,59	0,48	3,06	0,60
****F;p**	0,756;0,519		1,111;0,344	
Sector				
Service Sector	3,62	0,51	3,09	0,56
Manufacturing Sector	3,59	0,50	3,11	0,58
t;p	0,533;0,594		-0,395;0,693	
Education				
Primary Education	3,44	0,58	3,34	0,46
High School	3,59	0,54	3,10	0,57
Associate Degree	3,61	0,51	3,06	0,57
Bachelor's ang Graduate Degree	3,63	0,47	3,10	0,57
F;p	1,159;0,198		2,672;**0,047*** **Fark: 1>3**	
Type of Organisation				
Chamber of Industry	3,62	0,57	3,22	0,46
Commodity Exchange	3,60	0,50	3,02	0,59
Chamber of Commerce	3,60	0,49	3,14	0,56
Chamber of Commerce and Industry	3,60	0,51	3,08	0,58
F;p	0,017;0,997		1,817;0,143	

	Corporate Sust.		Service Quality	
Membership of Chamber/Commodity Exchange	**Av.**	**SD**	**Av.**	**SD**
0 – 20 years	3,59	0,46	3,15	0,54
21 – 30 years	3,60	0,52	3,11	0,58
31 – 40 years	3,62	0,52	3,06	0,55
41 years and more	3,56	0,49	3,18	0,62
F;p	0,340;0,796		1,142;0,331	
Membership of Assembly				
0 – 4 years	3,58	0,51	3,14	0,56
5 – 8 years	3,61	0,49	3,09	0,59
9 – 12 years	3,64	0,50	3,10	0,57
13 – 16 years	3,56	0,56	3,12	0,58
16 years and more	3,58	0,47	2,98	0,48
F;p	0,525;0,717		0,637;0,637	
Region				
Mediterranean	3,67	0,52	3,14	0,61
Eastern Anatolia	3,44	0,52	3,20	0,49
Aegean	3,67	0,49	3,14	0,50
Southeastern Anatolia	3,51	0,53	3,01	0,64
Central Anatolia	3,54	0,50	3,09	0,54
Black sea	3,62	0,51	3,12	0,53
Marmara	3,61	0,50	3,04	0,63
F;p	1,730;0,112		0,850;0,532	

***Two sample t-test value p<0,05**
****F: One-way variance analysis (ANOVA) value (ANOVA) p<0,05**

In Table 10, the statistics obtained as a result of the one – way ANOVA test for the educational status feature were found to be F;p value for corporate sustainability scale 1,159;0,198, and F;p value for service quality scale 2,672;0,047, respectively. While there is no statistically significant difference in terms of institutional sustainability perceptions between the groups under the education status feature (Primary Education, High School, Associate Degree, Undergraduate and above), it is seen that there is a significant difference in terms of service quality perceptions. As a result of the Tukey test for difference, it was concluded that the service quality perceptions of the primary school graduates were higher than the service quality perceptions of the associate degree graduates.

4.6. Structural Equation Modelling

Structural equation modeling was used to examine the relationship between corporate sustainability and service quality concepts. The path diagram of the research is given in Figure 4.

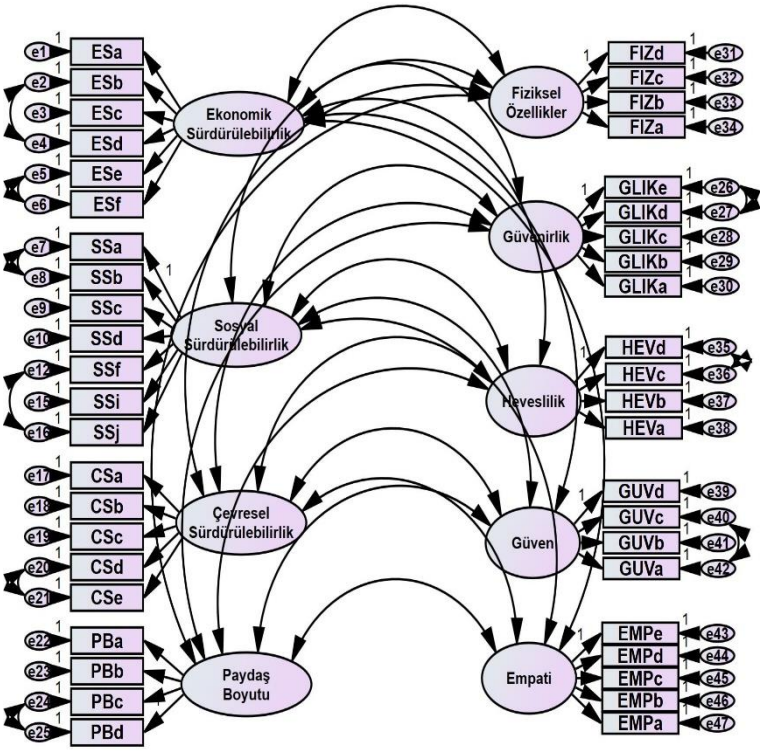

Figure 4. Structural Model of Corporate Sustainability and Service Quality Relationship

When the fit index values of the structural model are examined, it is seen that some fit values are very close to the threshold values considered within the scope of this study, but not fully. However, in complex structural models like this study, it has been observed that the model is compatible since the χ^2/sd, RMSEA and SRMR coefficients, which are more critical, are within acceptable limits. When the fit index values and good fit values table for the model are examined, χ^2/sd = 3,62; RMSEA = 0,06; It was seen that they were within the threshold of fit index values with SRMR = 0,02 values. GFI = 0,82; AGFI = 0,80; CFI = 0,92; Since NFI = 0,89 fit index values are very close to acceptable model indices values; it can be said that the model fits well (Table 11).

Table 11. Fit Index Values and Good Fit Values of the Structural Equation Model

	Model Fit Index Values	Acceptable Model Indices Values
χ^2/sd	3,62	≤ 5
GFI	0,82	≥ 0,90
AGFI	0,80	≥ 0,85
CFI	0,92	≥ 0,95
NFI	0,89	≥ 0,90
RMSEA	0,06	≤ 0,08
SRMR	0,02	≤ 0,10

Table 12. Path Coefficients for the Structural Equation Model of the Relationship between Corporate Sustainability and Service Quality

			r	p				r	p
ES	<--->	FIZ	-0,111	**0,004***	CS	<--->	EFIZ	0,168	***
ES	<--->	GLIK	-0,170	***	CS	<--->	GLIK	0,042	0,282
ES	<--->	HEV	0,009	0,824	CS	<--->	HEV	0,003	0,939
ES	<--->	GUV	0,100	**0,014***	CS	<--->	GUV	-0,038	0,361
ES	<--->	EMP	0,251	***	CS	<--->	EMP	-0,243	***
SS	<--->	FIZ	-0,274	***	PB	<--->	FIZ	0,313	***
SS	<--->	GLIK	0,313	***	PB	<--->	GLIK	-0,258	***
SS	<--->	HEV	-0,014	0,699	PB	<--->	HEV	-0,050	0,197
SS	<--->	GUV	-0,059	0,120	PB	<--->	GUV	0,023	0,558
SS	<--->	GLIK	-0,031	0,409	PB	<--->	EMP	-0,087	**0,030**

FIZ: Tangibles
GLIK: Reliability
HEV: Responsiveness
GUV: Assurance
EMP: Emphathy

ES: Economic Sustainability
SS: Social Sustainability
CS: Environmental Sustainability
PB: Stakeholder

R: Correlation Coefficient ***: p<0,05** *****:p<0,001**

When Table 12 is examined, there is a statistically significant low – level negative relationship between the dimensions of economic sustainability and tangibles (r=-0,111). There is a statistically significant low – level negative correlation between economic sustainability and reliability dimensions (r=-0,170). There is a statistically significant low – level positive correlation between economic sustainability and trust dimensions (r=0,100). There is a statistically significant low – level positive relationship between economic sustainability and empathy dimensions (r=0,251).

There is a statistically significant low – level negative correlation between social sustainability and tangibles dimensions (r=-0,274). There is a statistically significant moderate – level positive correlation between social sustainability and reliability dimensions (r=0,313).

There is a statistically significant low – level positive relationship between environmental sustainability and tangibles dimensions (r=0,168). There is a statistically significant low – level negative correlation between environmental sustainability and empathy dimensions (r=-0,243).

There is a statistically significant moderate – level positive correlation between the stakeholder and the tangibles dimensions (r=0,313). There is a statistically significant low – level negative correlation between stakeholder and reliability dimensions (r=-0,258). There is a statistically significant low – level negative correlation between the stakeholder and empathy dimensions (r=-0.087).

CONCLUSION

Chambers and commodity exchanges, which are non – profit and non – governmental organizations, are accepted as the sector that comes after the manufacturing, trade and service sectors and makes the biggest contribution to the economy indirectly. They provide services not offered by the business and public sectors, contribute to the development of knowledge and skills of business actors and to increase employment. Although they have a non – profit structure, in recent years, there have been studies among decision makers and policy makers showing that the area in which chambers and commodity exchanges operate is increasingly open to competition.

These studies emphasize that the service quality and corporate sustainability of non – profit organizations such as chambers and commodity exchanges are as important as those of profit – oriented ones.

In this study, it is aimed to calculate the relationship and the direction of the relationship between corporate sustainability and service quality in accredited chambers and commodity exchanges affiliated to the Union of Chambers and Commodity Exchanges of Turkey. In addition, the sub – purpose of this study is to investigate whether the collected data and perceptions of corporate sustainability and service quality show a statistically significant difference according to socio – demographic variables. While the service quality scale scores do not show a significant difference according to gender, age, sector, type of organization, membership period to the chamber/commodity exchange and the geographical region where the chamber/commodity exchange is located ($p>0,05$), the service quality scores of people with primary education It was concluded that the service quality scores of people with associate degree status were statistically significantly different ($p<0,05$). As a result of the Tukey test applied to determine the direction of the difference, it was concluded that the service quality perceptions of the people with primary education are statistically higher than the service quality perceptions of the participants with an associate degree. The fact that there is no statistically significant difference in the scores of corporate sustainability and service quality perceptions in terms of socio – demographic variables other than the educational status variable can be evaluated as the accreditation system fulfills its purpose.

In the relevant literature, it is stated that corporate sustainability practices are mostly customer – oriented. This suggests the existence of a relationship between corporate sustainability and service quality. In this study, it was concluded that there are some relations between the dimensions of corporate sustainability and service quality. As the studies on corporate sustainability increase, it is thought that the number of studies that reveal the existence of the relationship between corporate sustainability and service quality will increase.

Although this study is one of the few studies on chambers and commodity exchanges, it is the first study in which the relationship between corporate sustainability and service quality within the scope of accredited chambers and commodity exchanges is discussed. It is thought that it will be a starting source for studies on accredited chambers and commodity exchanges by other researchers in the future. Accredited chambers and commodity exchanges conduct various questionnaires within the framework of their member profiles in accordance with the accreditation system conditions. When the results of this study were discussed with the general secretaries of chambers and commodity exchanges, management representative and accreditation officers, the feedback was received that some predicted situations became more concrete with this study and that it was a positive step to take action. If the preparation and completion of the implementation part of this study coincide with the Covid – 19 pandemic process, and if it is assumed that such a process will not occur again for many years, how a pandemic will affect the perceptions of corporate sustainability and service quality of chambers and commodity exchanges, and the opportunity to compare the perceptions of corporate sustainability and service quality after the pandemic. It can be said that it is a work that provides.

The data used in the study were obtained from ready – made scales. By making use of ready – made scales for the perception of corporate sustainability and service quality for chambers and

commodity exchanges, special new scales can be developed to implement in chambers and commodity exchanges. Thus, more specific studies can be carried out on a provincial and regional basis for corporate sustainability and service quality. Before developing a new measurement tool, a study covering all chambers and commodity exchanges using the same scales can be conducted, and the data obtained in this study can be compared statistically, and it can be considered as a new research topic whether there is a difference between them. The questionnaire conducted in this study was carried out via e – mail. The questionnaire was first forwarded to the general secretaries of the chambers and commodity exchanges, and then to the council members through the general secretaries. Researchers who will conduct a similar study may be recommended to conduct the study face-to-face.

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