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The Impact of the Export-Led Growth Model On Regional Inequalities in Turkey

Ali Cenap Yoloğlu[1]

ABSTRACT:
This study aims to examine how Turkey's spatial pattern has changed as a result of its economic growth strategy based on trade openness. There are two basic approaches to understanding the spatial effects of economic integration. First, it is argued that, especially in parallel with the improvement in transportation infrastructure, companies tend to move toward peripheral areas where labor and land costs are lower. This repositioning is expected to reduce inequality between regions. The second approach contends that openness to foreign trade would widen the gap between regions because it argues that openness forces firms to locate in border areas or coastal regions to reduce transportation costs or to have better access to the foreign market. In addition, companies tend to benefit from agglomeration economies by collaborating with other companies in the same sector. When the change in the spatial pattern of Turkey, which adopted economic liberalization in 1980, is analyzed, analysis reveals that economic integration has caused economic divergence, leading to industry, labor, and infrastructure concentration in already developed regions, and consequently increased interregional inequalities (Falcıoğlu & Akgüngör, 2008; Gezici & Hewings, 2007).

Keyword: economic integration, trade openness, manufacturing industry, spatial concentration, regional Inequalities.

1. Introduction

Studies examining regional inequalities in Turkey have mostly focused on internal dynamics, particularly public policies, production resources, and competitiveness (Duran, 2019). This study examines the impact of international trade on the widening of regional disparities. After 1980, Turkey abandoned its economic strategy of import substitution and switched to an economic growth model based on trade openness (Nas et al., 2023). In 2018, 60% of Turkey's GDP and 70% of Global GDP in terms of monetary value were by foreign trade (Turkish Statistical Institute, World Trade Organization). This study hypothesizes that Turkey's interregional development gaps have been widened by the growth model based on a trade openness policy.

Since the 1960s, free international trade has been widely recognized as promoting economic growth in a variety of theoretical and empirical models (Dollar & Kraay, 2004; Frankel & Romer, 1999). Trade liberalization became widespread as a reaction to the problems created by import substitution industrial policy and was influenced by the suggestions of international organizations such as the International Monetary Fund and the World Bank. This strategy to promote economic development is based on three

[1] Department of City and Regional Planning, Mersin University, Turkey.

assumptions for which the literature does not provide conclusive evidence: (1) an increase in trade will deepen inequalities; however, (2) these inequalities will later disappear as the country develops, and (3) the emergence of spatial inequalities does not pose a threat to future development. These assumptions highlight that developing countries should be more concerned about promoting growth than about inequalities (World Bank, 2009).

However, institutions (North, 1990; Rodriguez-Pose, 2013), institutional quality and governance (Acemoglu and Robinson, 2012; Rodríguez-Pose and Garcilazo, 2015; OECD, 2009), institutional capacity (Cooke et al., 1997; Martin and Sunley, 2015), institutional thickness (Amin and Thrift, 1995), historical trajectories, institutional evolution and path dependence (Boschma and Frenken, 2006), determine how markets function and why similar economic reforms generate different development outcomes, or shape effectiveness of economic policies.

Together, these works support the proposition that regional development outcomes following liberalization are mediated by governance quality, institutional capacity, historical path dependence, innovation systems, and place-specific characteristics, helping explain why comparable liberalization policies often produce markedly different spatial patterns of growth and inequality.

With choices made on January 24, 1980, Turkey embraced an economic policy of trade openness. The World Bank, International Monetary Fund, and Organization for Economic Cooperation and Development are acknowledged to have had a significant influence on these decisions (Özturk et al., 2008). In 2019, Turkey's total imports amounted to 202 billion US dollars, while total exports were 171 billion US dollars (Ergeç & Kaytanci, 2021).

It is impossible to anticipate that this transition will occur equally and quickly in all regions of the country. It is reasonable to assume that certain areas will experience this transition more significantly than others. This study examined the extent to which each region was affected by international trade after 1980, and whether the change reduced or exacerbated differences in the relative position between the regions. Thus, the effect of the economic growth model based on trade openness on regional differences in Turkey was examined.

2. Theoretical Framework

Integration into international trade can increase regional inequalities within a country by intensifying economic activities in certain locations (Paluzie, 2001; Rauch, 1991). According to Crozet and Koenig-Soubeyran (2004), enterprises are compelled to concentrate on regions with the lowest transaction costs because of the diverse domestic transaction costs associated with international trade liberalization. To the extent that trade costs are sector- and region-specific, openness to trade has varied effects in different regions (Head & Mayer, 2004). Depending on regional trade conditions and tariff policies, specialized regions face varying price conditions. Consequently, the spatial distribution of economic activity among regions is expected to shift (Guevara-Rosero, 2017).

When policymakers in developing countries alter their trade policies, they tend to pay little attention to how such changes affect their economic geography (Krugman, 1990). This absence is problematic because there are connections between the trade policies of

developing nations and the geographic distribution of economic activities. The New Economic Geography literature reveals that trade policies affect the economic geography within a country. It is vital to keep in mind that regional circumstances such as access to global markets play a significant role in determining the extent to which trade policies have an impact (Ardeshiri et al., 2019). Daumal (2013) asserts that when a nation opens its markets for international trade, dispersed domestic demand is replaced by foreign demand, which also weakens the propensity for the dispersal of economic activities. After trade liberalization, firms gather in certain regions to benefit from various advantages (economies of scale and positive externalities). For example, the rural population is dispersed across the national territory, which in a closed economy encourages firms and industries to expand to meet local demand. Industrial companies leave rural areas when a nation is open to international trade because domestic demand may be replaced by foreign demand, allowing firms to benefit from geographic concentration.

On the other hand, according to (Martin & Rogers, 1995), the location impact grows as the degree of openness to foreign trade increases. As a result, there may be a fall in the relative price of goods associated with a region that has an advantage in international trade. This situation increases the demand for products produced in the region and causes industries to concentrate there. Brülhart et al. (2004) show that the liberalization of foreign trade leads to urban agglomeration in border regions. Similarly, economies that adopt an export-oriented strategy may see greater concentration in port or border cities (Zheng et al., 2009). Guevara-Rosero (2017) underlined that cities differ in their distance from the coast in New Economic Geography studies. As inland cities have higher transportation expenses than coastal cities, the cost of goods imported from foreign cities or nations is higher in inland cities than in coastal counterparts. High prices lead to low purchasing power in inland cities, encouraging people to move to coastal cities. Cities engage in increasing international trade as trade costs decrease, and their proximity to the shore increases the volume of trade. The distance to the coast is equal to the distance from the global market. Larger cities become more open to international markets when they have higher access to them because of their large domestic markets. Because the production capacity of minor cities is moved to large cities for export and/or import as global trade grows, more people will concentrate in major cities. Therefore, cities in inland regions have a single centripetal force (size of domestic market), whereas those in coastal regions have two (size of domestic market and size of foreign market). The domestic market impact, corresponding to the size of cities, is the driving factor affecting both types of regions. The location advantage impact, which is related to their physical location in relation to the global market, is another asset of coastal cities. Therefore, the expected effect of trade on regional inequality will be greater in favor of coastal regions.

International trade often benefits port cities along a nation's coastline, and this growth is frequently disproportionate (Ducruet et al., 2024). Economic activity is concentrated in places (coastal and/or border) that have major advantages in terms of accessing foreign markets when trade costs are low and competitive pressures from foreign enterprises are weak (Behrens et al., 2006). Regions with relatively high access to foreign markets attract the beneficiaries of integration and displace less competitive sectors. This causes them to have higher medium- to long-term regional growth rates than regions with limited and/or restricted access to foreign markets (Rodríguez-Pose & Sotiriou, 2021).

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As a result, regional inequality will increase in favor of coastal areas. In other words, if the production centers of a closed economy also have above-average external market access through infrastructure, ports, etc. (e.g., Istanbul), trade can indeed promote divergence/differentiation of regional growth paths in the medium to long run (Faber, 2007). In this context, developing countries with a larger share of the urban population living in the largest city of the country are characterized by a higher level of spatial inequality, which supports the existence of clustering effects (Karayalçın & Yilmazkuday, 2014). Based on a sample of 15 developed and 13 developing countries, Rodriguez-Pose (2012) argued that changes in trade policies, together with country-specific factors, significantly affect the evolution of regional disparities. He contends that trade has a more polarizing effect in developing countries than in developed nations, particularly in those that already have high levels of interregional inequality (Rodríguez-Pose, 2012). Additionally, there is a large overlap between the richest areas in developing nations and primary points of commercial entry and exit (Gallup et al., 1999).

Trade liberalization is likely to benefit central/metropolitan areas that attract firms and workers, as these locations provide several advantages such as low-cost access to foreign markets, low transport costs, improved infrastructure, advanced public services, and business incentives (Rivas, 2007). Higher returns to scale within a local agglomeration will improve its centripetal effects and encourage businesses and labor to move into major metropolitan areas. This leads to a spatially concentrated population (Boeing, 2016). According to Rivas (2007), trade liberalization primarily benefits developed regions because they provide various advantages to companies. For example, clustering, low-cost access to foreign markets, the availability of a highly skilled workforce, low information costs, and increased returns to scale created by better infrastructure attract firms to metropolitan areas. As a result, the process of liberalization makes it easier for businesses to relocate, amplifies centripetal effects, and ultimately widens the income disparity between poor and rich regions. According to Fedyunina (2016), the expansion of international trade contributes to the growth of certain regions of a country. First, these particular regions (as opposed to regions of developed countries) are those of developing and transition economies since trade expansion is an important source of economic growth. Empirical studies have found results regarding the positive impact of trade expansion on economic growth for the fast-growing regional economies of Central and Eastern European countries, as well as Brazil, China, and India. Second, these locations are border or seaside areas, with more affordable access to international markets. Simultaneously, foreign investors and export-focused enterprises find these border and coastal regions to be more alluring. Studies conducted in China and Mexico provide empirical evidence to support this hypothesis. The third key component is industrial specialization. For example, countries specializing in industries with comparative advantage experience higher growth rates under trade expansion for China and India.

There are other claims that international trade might lessen regional disparities, which runs counter to the aforementioned facts and perspectives. According to Krugman & Elizondo (1996), international economic integration weakens economic linkages and causes giant third-world metropolises to shrink. Giant third-world metropolitan areas are unintended consequences of an import-substitution industrialization strategy. However, with the liberalization of trade, these giants will become smaller. Reduced costs boost

global trade; hence, forward and backward links lose significance as trade grows. Being close to the major economic center will therefore be irrelevant once trade is liberalized. In this situation, rising property rents and the adverse effects of agglomeration, such as congestion, will push manufacturing operations to disperse from the major centers (Brülhart, 2010; Henderson, 2009). As a result, trade liberalization promotes the spread of economic activity across the nation (Krugman & Elizondo, 1996). Similarly (Fujita et al., 1999) stressed that trade integration can lessen regional inequalities over time by luring production to less developed regions of a country where workers' wages are lower due to a lack of labor mobility.

Grajeda & Sheldon (2009) found that when trade openness increases, main cities shrink, while secondary cities grow. Henderson (2000) stated that trade increases concentration in port cities, but decreases concentration if the primary city is not a port city. Recent empirical investigations of new economic geography models have produced contradictory findings regarding the effect of trade openness on regional inequality: trade openness can either exacerbate or reduce regional inequalities within a country (Daumal, 2013). As a result, no consensus has yet been reached on the relationship between trade openness and regional inequality (Brülhart, 2010). Using panel data on Colombia Guevara (2015) analyzed the impact of trade openness on agglomeration within regions and found that the impact of foreign trade on urban agglomeration varies between areas. He discovered that foreign trade, on the one hand, inhibits spatial agglomeration in places without access to international trade or without historical advantage, while on the other hand, it encourages agglomeration in regions with sizable domestic markets and favorable locations.

According to (Hanson, 1998; Ades & Glaeser, 1995), trade openness is frequently associated with demographic and economic decentralization. The mechanism is explained as follows: As regions open their markets to trade, firms choose to move from central regions, where land, labor, and congestion costs are high, to peripheral regions, where costs are lower and therefore more incentives for profits exist (Özyurt & Daumal, 2011; Rodríguez-Pose & Gill, 2006). This implies that the advantages of metropolitan areas, such as low information costs and the agglomeration of a highly productive workforce and positive externalities, do not reduce the costs of production factors. Therefore, the search for a new lower-cost location becomes a rational choice for companies. As a result, this mechanism is expected to support economic growth in underdeveloped regions and contribute to reducing inter-regional inequalities. Rodríguez-Pose & Gill (2006) offered similar explanations to support this argument. That is, if capital and investment seek the lowest-cost locations, firms are more likely to spread to backward regions, which triggers economic growth in undeveloped or underdeveloped regions and speeds up the convergence process. According to Daumal (2013), the central market loses significance when a nation opens its doors to international trade, since foreign markets might replace local consumer markets and foreign suppliers might substitute for domestic input suppliers. Consequently, since the central market and large agglomerations are less attractive, firms move to the periphery to avoid the cost of coexistence before trade liberalization. Opening up to international trade may cause some economic activities to be dispersed across national geography, thus reducing regional inequality. According to Brülhart et al. (2004) and Crozet & Koenig-Soubeyran (2004), there will be no

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displacement toward the boundaries if clustering occurs in the inner region before opening to foreign trade. The primary reason is that historical circumstances significantly outweigh the impact of trade. Firms will not be interested in locating in border regions if the foreign market is small; instead, they will follow historical trends or current agglomeration patterns (Alonso-Villar, 1999). Furthermore, being near a foreign market increases competition for domestic companies; therefore, these companies try to locate themselves as far away from foreign competitors as they can. Trade integration in this scenario supports inward expansion (Crozet & Koenig-Soubeyran, 2004). In addition to all this, Tung et al. (2020) argue that international trade can increase the demand for unskilled workers in developing countries, which can lead to an increase in their income, and this increase may result in a decrease in income inequality.

However, some studies have shown that there is no connection between economic integration and inequality (Baek & Shi, 2016; Franco & Gerussi, 2012; Wang et al., 2008; Wong, 2016), unlike the first two approaches. Milanović (2005) demonstrated that between 1980 and 2000, increased trade openness had little or no effect on regional inequality in the five most populous nations (India, Brazil, Indonesia, China, and the United States). According to Rodriguez-Pose (2012), there is no proof that regional inequality and international trade have a straightforward linear relationship that holds true across different types of countries. Ades & Glaeser, (1995) and Henderson (2000) use data to analyze the factors affecting the level of spatial agglomeration measured by urban priority in each country. However, the effect of trade openness on these models is uncertain. Similarly, Brülhart & Sbergami (2008) found inconclusive results regarding the effect of openness on the growth-agglomeration relationship.

There are studies stating that there is no relationship between opening up to foreign trade and spatial inequality, as well as studies asserting that mixed effects occur across various countries. In contrast to the version with uniform (homogeneous) domestic space, Brülhart et al. (2004) and Crozet and Koenig-Soubeyran (2004) identified two distinct characteristics of the asymmetric model (based on the presence of intra-country heterogeneous regions). First, foreign demand (exports) weakens the concentration power in domestic regions because the incentive for domestic firms to locate in the regions closest to the foreign market is strengthened. Therefore, one of the potential effects of trade liberalization is to draw domestic firms to the frontier, where they can take full advantage of better access to foreign demand (exports). Second, external supply (imports) weakens agglomeration power in coastal regions because inland regions allow firms to distance themselves from foreign competitors. Therefore, trade liberalization keeps domestic firms in their inner regions, where they are relatively protected from foreign competition. While some wealthy nations, including Finland, Sweden, Canada, the Netherlands, and Japan, show a negative correlation between increases in foreign trade and regional inequalities (as trade increases, inequality decreases), other high-income nations, including Spain, Italy, the United Kingdom, and Greece, show a positive correlation between trade openness and spatial inequality (as trade increases, inequality increases) (Rodríguez-Pose, 2012).

Studies investigating the effects of economic integration generally use the ratio of foreign trade (exports + imports) to GDP as an indicator of trade openness. This indicator, defined as the intensity/weight of trade, shows only the comparative magnitude of foreign trade with respect to the domestic economy of that country. However, this statistic

disregards the size of a country's economy and its significance in international trade (Squalli & Wilson, 2011).

The econometric model used, the content of the national sample taken, and the variable used to measure trade openness may all contribute to the various findings of empirical studies (Neffke et al., 2010). The research methods employed were another factor contributing to the divergence in findings. The research's diverse empirical approaches may account for these divergent findings (Daumal, 2013). Rodriguez-Pose (2012) asserted a connection between trade and spatial convergence/divergence; however, the direction and strength of this relationship differ greatly between countries according to the data and research methods used. Such analyses have yielded contradictory or ambiguous results because of the use of different sets of assumptions and the unique characteristics of the agglomeration and dispersion forces in the models (Neffke et al., 2010). Studies conducted at the country level on the effects of foreign trade on regional disparities (increasing or reducing inequality) have produced different results. Table 1 summarizes the studies conducted in different countries and their results.

Table 1. Country Examples of the Effects of Economic Integration (Trade Openness)

Countries	Increasing Inequality – Agglomeration	Decreased Inequality – Dispersion
Philippines	Akita & Pagulayan, 2014	
Argentina		Brülhart, 2010 Pellegrini & Platino, 2014
Iran		Pourfaraj et al., 2019
India	Daumal, 2013 Zilibotti et al., 2004 Barua & Chakraborty, 2010	
Brazil		Daumal, 2013 Tendler, 2002 Martincus, 2009 Sabóia, 2001
China	Li et al., 2019 Zhang & Zhang, 2003 Kanbur & Zhang, 2005 Fu, 2004 Liao & Wei, 2016 Ezcurra and Rodriguez-Pose, 2014 Wei et al., 2010 Fujita & Hu, 2001 Hao & Wei, 2008 Ge, 2008	
Mexico	Rivas (2007) Kanbur & Venables, 2005 Daumal, 2013 Chiquiar, 2007 Chiquiar, 2005 Rodriguez-Pose (2012) Baylis et al. (2012)	Hanson, 1997 Madariaga et al., 2004 Aroca, 2005 Jordaan & Rodríguez-Oreggia, 2010
European Union	Brülhart, 2001 Brülhart, 2006 Melchior, 2009	Barrios & Strobl, 2009 Brülhart et al., 2004
Austria		Brülhart et al., 2011

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OECD	Alderson & Nielsen, 2002	
Andean Community	Ametoglo & Guo, 2016	
Germany		Redding & Sturm, 2008
Indonesia	Henderson & Kuncoro, 1996 Sjöberg & Sjöholm, 2004	
South Africa	Udeagha & Ngepah, 2019	
Africa		Meniago & Asongu, 2018
Spain		Paluzie et al., 2002
Turkey	Oktay & Gözgör, 2013 Duran and Özkan, 2015 Filiztekin, 2006 Deliktaş et al., 2012	

Source: Author

3. Research Methodology

This study tested the hypothesis that "the economic growth model based on free foreign trade in Turkey increases spatial inequalities and causes the population and economic activities to agglomerate on the coasts". The provincial scale was chosen as the fundamental geographic unit for the study, and data were collected on all economic and social factors at this scale. Provinces are grouped as coastal provinces of the Mediterranean region (Adana, Antalya, Hatay, Mersin, Osmaniye); Ankara (Ankara and Kırıkkale); coastal provinces of the Aegean region (Aydın, İzmir, Muğla); Istanbul; coastal provinces of the Black Sea region (Artvin, Bartın, Düzce, Giresun, Kastamonu, Ordu, Rize, Samsun, Sinop, Trabzon, Zonguldak); coastal provinces of the Marmara region (Balıkesir, Bursa, Çanakkale, Edirne, Kocaeli, Tekirdağ, Yalova); and landlocked provinces of the Central Anatolian region (other provinces) (Figure 1). In the text, the Marmara, Aegean, Mediterranean, and Istanbul regions are referred to as "all coastal regions" and are compared with the Central Anatolia region, which does not have a coastline on the western and southern seas, and the Black Sea Coast provinces.

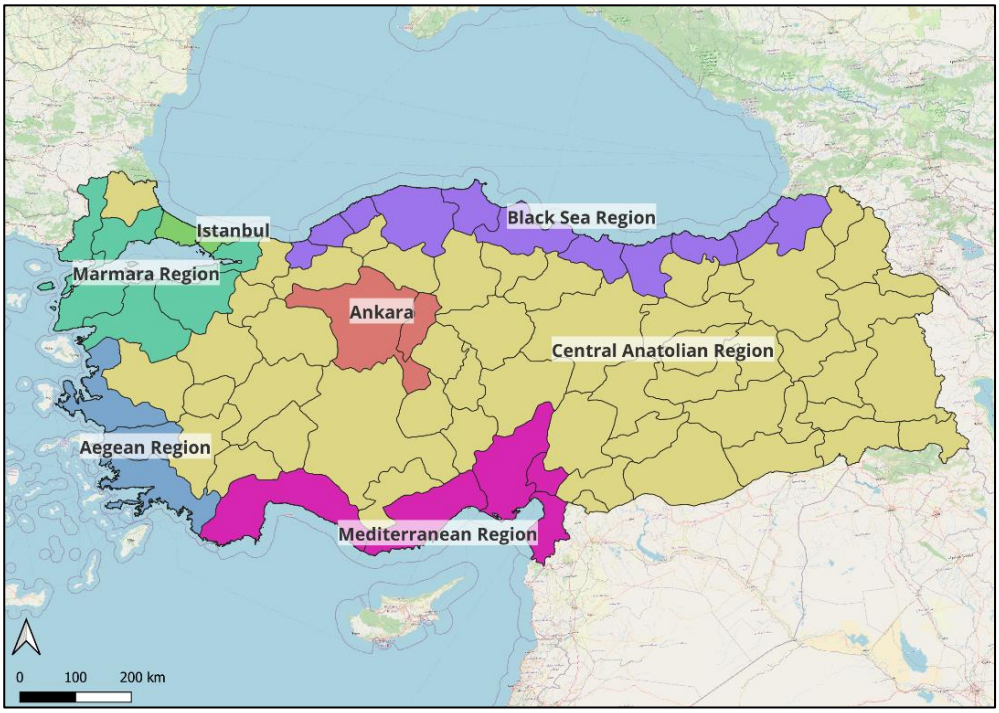

Figure 1. Regional Division of Turkey

To examine the implications of the policy shift, data were gathered from as far back as possible regarding the time dimension. When there is a change in the calculation of variables (e.g., GDP by provinces) or in the geographical reference unit (e.g., NUTS II regions are used to compile the data), then the variables are arranged in two series, as before and after the mentioned change. While accessing the recent data of the variables over the Internet, the electronic archives of the electronic archives of TUIK and relevant institutions were used for historical data.

Because the time intervals in which the data were collected did not coincide, or were otherwise incompatible, statistical tools such as correlation and regression could not be used. Only a descriptive analysis was performed, and the change in this variable over time was interpreted in accordance with the associated hypothesis. The variables used in the study consist of four datasets: (i) foreign trade variables, (ii) variables related to capital as a production factor, (iii) variables related to labor as a production factor, and (iv) variables related to infrastructure.

Although the methodological strategy, relying solely on descriptive analysis due to divergent time series, limits its ability to demonstrate causal links between trade liberalization and regional inequality, future updates will strengthen the empirical evidence for the proposed interpretations and enhance the strength of the results by using consistent datasets and improved econometric approaches.

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4. Turkey's Foreign Trade Liberalization and Empirical Findings

Turkey has gone through many stages of the liberalization process that lasted from the 1970s to the 2000s. First, deregulation policies and economic programs following the 1980 crisis were designed to promote export-led growth and trade openness. The import substitution approach, which had continued until then, was abandoned. Trade liberalization has enabled integration into the world's commodity markets. Exports have been emphasized as the basic strategy for economic growth and stability. In 1989, the Turkish lira became a convertible currency in foreign markets, which contributed to the acceleration of liberalization (Bulut & Tokatlıoğlu, 2021). The 1990s was also a remarkable transitional period, when many international agreements were signed. Turkey joined the Customs Union in 1996 and the World Trade Organization in 1995 (Gülşen, 2022). Finally, negotiations for European Union membership began in 2005 (Yılmaz, 2005).

An examination of the GDP proportion of imports and exports of goods and services for Turkey from 1960 to 2019 reveals two distinct periods. Although it displayed a changing course, the rate of trade openness, which was approximately 12% between 1960 and 1979, began to rise after 1979. This indicates that Turkey's openness to foreign trade has increased since 1979 (Figure 2).

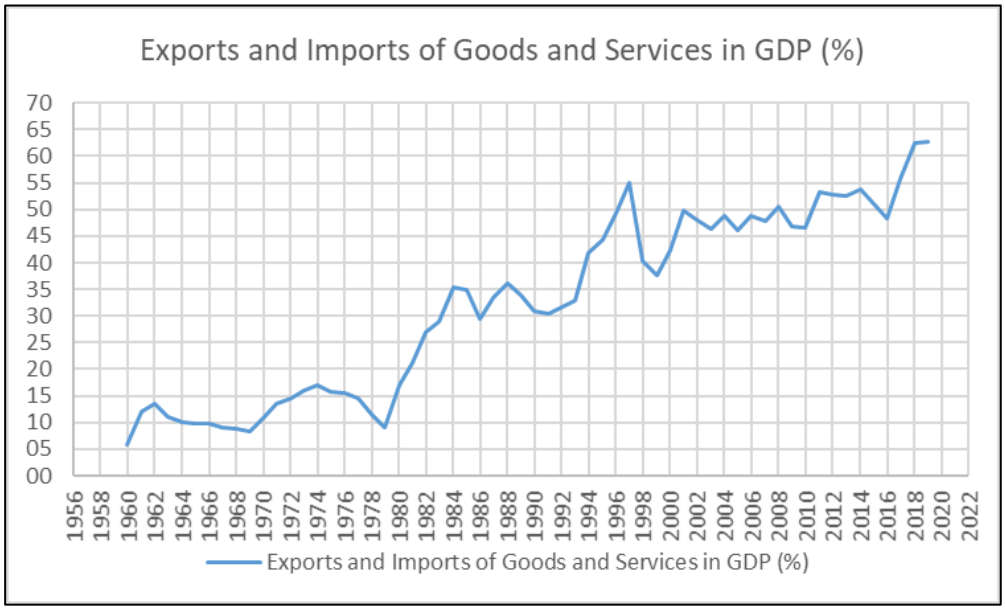

Figure 2. Share of Exports and Imports of Goods and Services in GDP in Turkey (%)
Source: World Bank & Author's Calculation

In this regard, it is crucial to assess the changes that the export-led (openness to international trade) economic growth model discussed above has brought about, or failed to bring about, in Turkey's spatial pattern. Theoretically, the issue is whether the international trade-based economic growth model resulted in a decrease (convergence) or an increase (divergence) in regional inequality.

The following topics will be examined for this purpose: (i) spatial concentration of foreign trade; (ii) spatial concentration of production factor "capital"; (iii) spatial concentration of production factor "labor"; and (iv) spatial concentration of infrastructure investments.

However, future studies should consider incorporating innovative capabilities, institutional quality, education, and technology diffusion, alongside traditional factors like trade, capital, labor, and infrastructure. Including these additional elements would provide a more comprehensive understanding of regional differences and reveal relationships that are currently overlooked in the existing analytical framework.

4.1 Spatial Concentration of Foreign Trade

Turkey's overall foreign trade increased over the 40 years between 1982 and 2020, from $14.6 billion reaching a peak of $422.3 billion in 2013, before falling to $389.2 billion in 2020. The percentage of total international trade with Continental Europe during the period increased from 36.6% to 65.4% in 2003 before falling to 52.3% in 2020 (Figure 3).

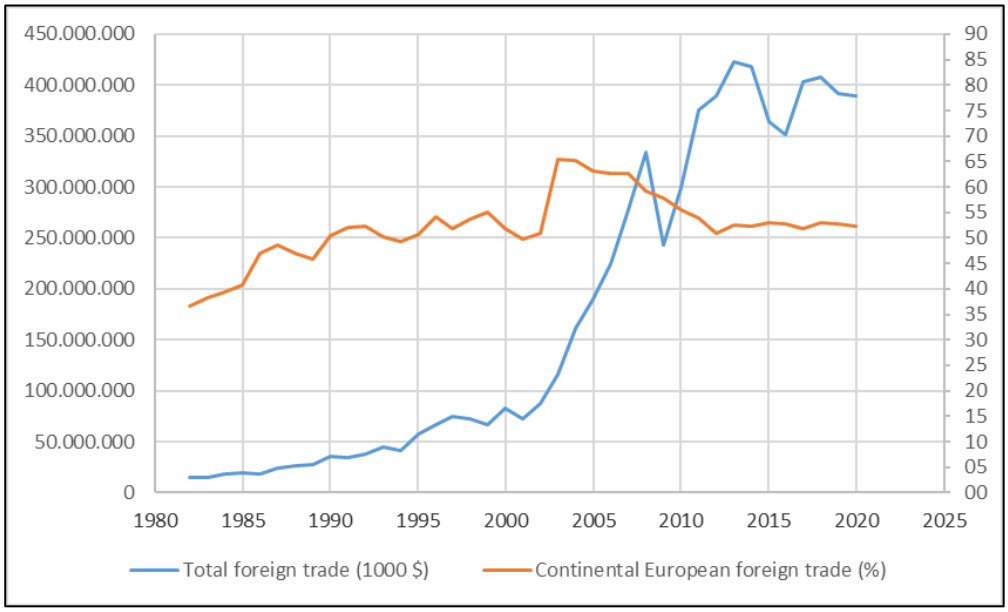

Figure 3. Turkey's Total Foreign Trade Volume and the Ratio of Foreign Trade with Continental Europe
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

Therefore, continental Europe is undoubtedly Turkey's leading trading partner abroad. One-third of all trade of foreign trade was conducted in Continental Europe in 1982, but by 2003, this proportion had increased to two-thirds of all trade. This rate dropped to half of all trade by 2020.

The weight of road freight has fallen, while the rate of rail and sea transport has increased, according to an analysis of the change in the monetary value of imports made by the different modes of transportation between 1992 and 2018. However, during that period, sea transport consolidated its superiority (Figure 4).

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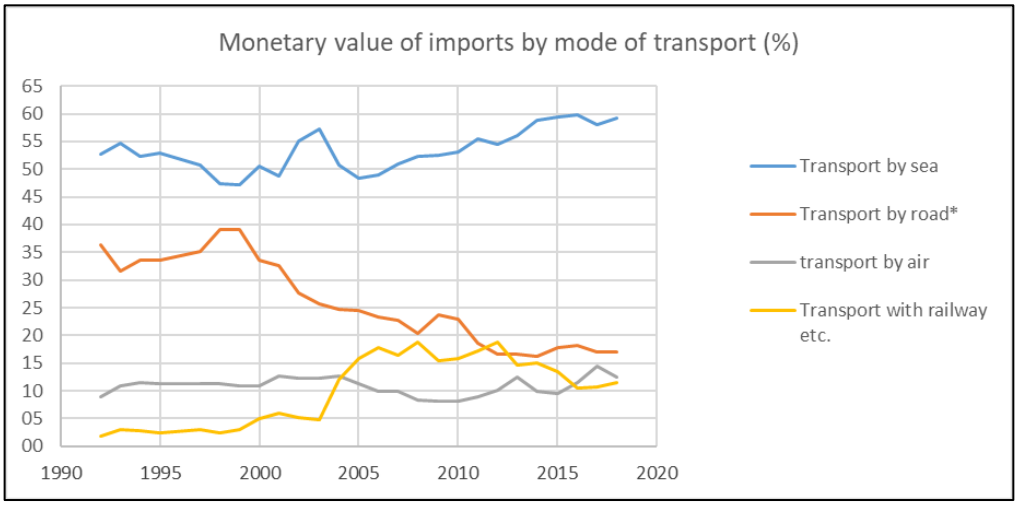

Figure 4. Monetary Value of Imports by Mode of Transport (%)
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

Between 1992 and 2018, when analyzing the monetary value of exports by transport mode, the share of road transport decreased, while that of sea transport increased. Additionally, in terms of the mode of transport, sea transportation surpassed road transportation and became the primary mode during that time (Figure 5).

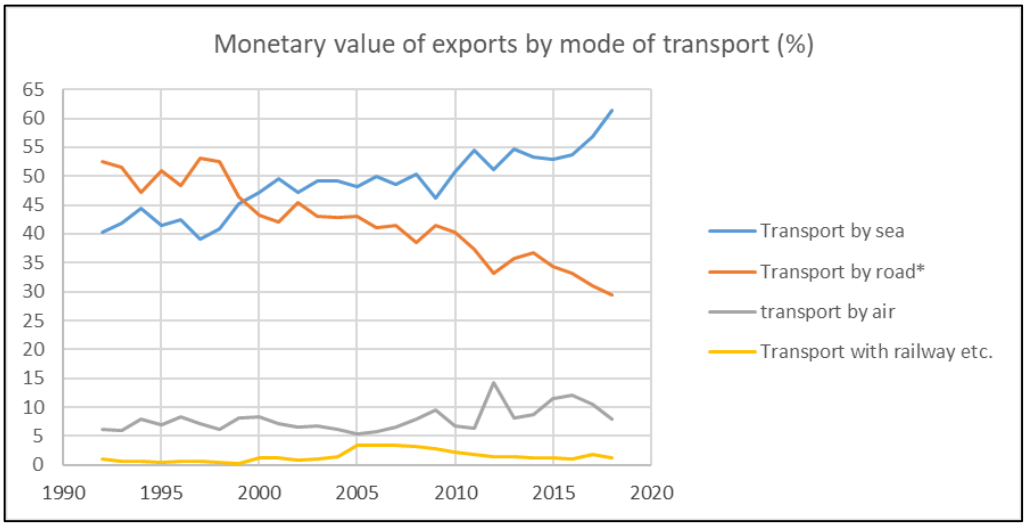

Figure 5. Monetary Value of Exports by Mode of Transport (%)
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

In general, transport by sea is the primary mode of transport in terms of both imports and exports and has strengthened its position (Dönmez, 2025). This situation

suggests that coastal provinces and regions with port facilities come to the fore in terms of foreign trade.

The weights of the Aegean, Marmara, and Mediterranean coasts decreased, and as a result, the total weight of all coastal regions decreased when the regional distribution of the monetary value of imports from abroad was examined between 1992 and 2019. However, Istanbul's contribution to the total grew over time (see Figure 6).

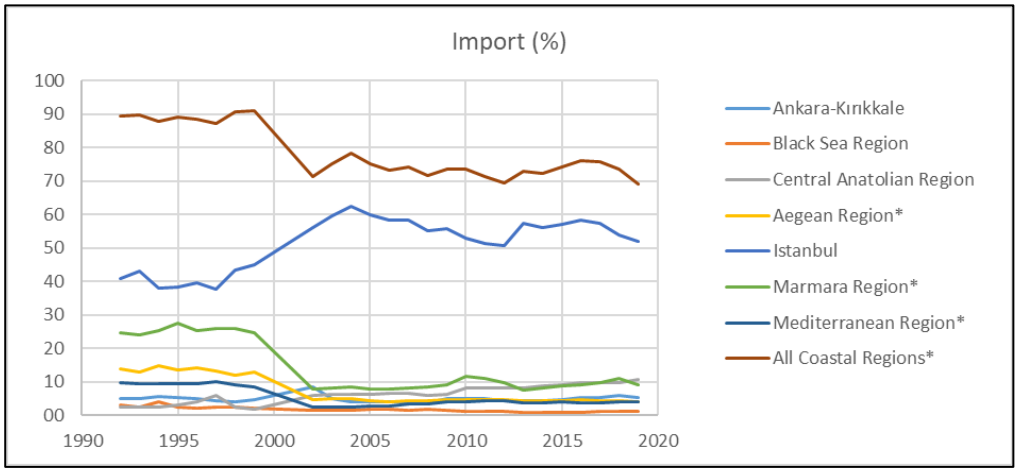

Figure 6. Distribution of Total Import Value by Regions (%)
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

Even though all coastal regions' share of overall imports has dropped from 90% to 70%, the fact that seven out of every ten foreign imports originated in coastal areas indicates that the coasts continue to be the primary location for imports, even though this concentration has lessened.

The total weight of the Aegean coast declined from 18.5% to 6.7% when the regional distribution of the monetary value of exports made abroad between 1992 and 2019 was analyzed, (Figure 7). Consequently, the total weight of all coastal regions also reduced.

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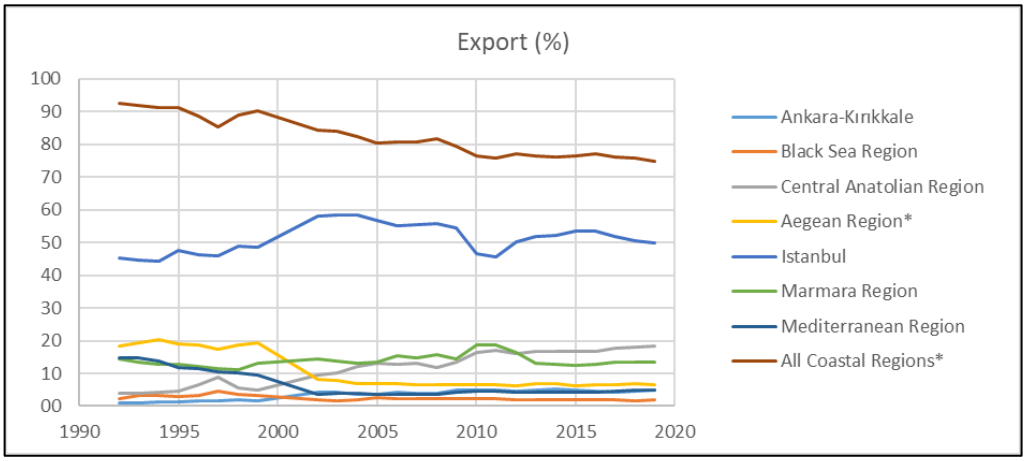

Figure 7. Distribution of Total Export Value by Regions (%)
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

Even though 15 out of every 20 units of overseas exports originate from coastal regions, and the total share of all coastal regions has reduced from 90% to 75%, indicates that the concentration of exports on the coast remains concentrated, despite a decline.

4.2 Concentration of Capital as a Production Factor

An examination of the distribution of bank credits by region between 1984 and 2020 reveals that the share of credits, particularly in Istanbul, coastal regions, and Central Anatolia, increased during this period, while the ratio of credits in Ankara and Kırıkkale within the total decreased (Figure 8).

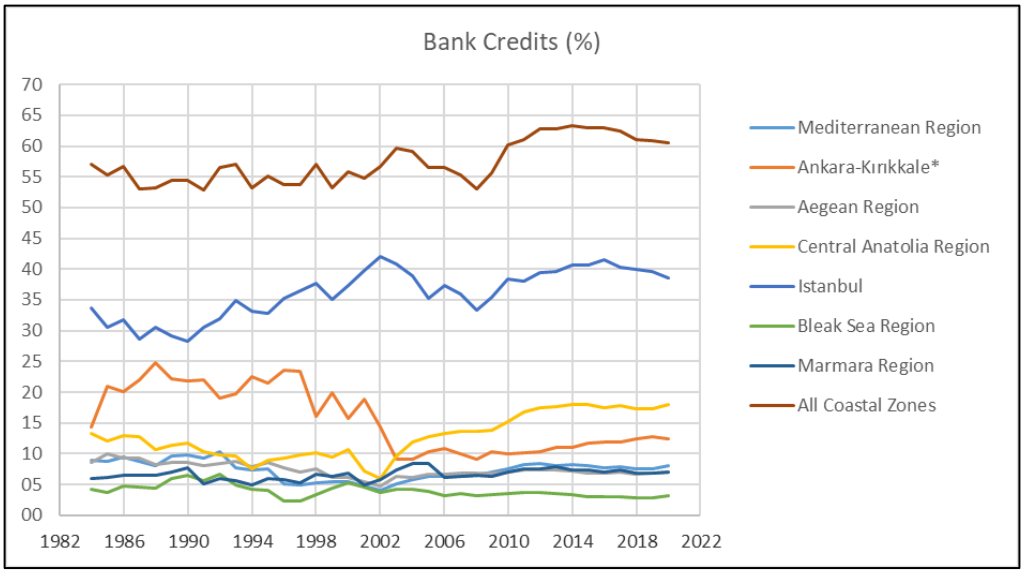

Figure 8. Distribution of Bank Credits by Regions

Source: Union of Municipalities of Turkey (TBB) & Author's calculation

Similarly, an analysis of the distribution of bank deposits by designated regions between 1981 and 2020 shows that Istanbul and all coastal regions experienced an increase in bank deposit percentages during this period, whereas Ankara-Kırıkkale and Central Anatolia saw a decrease (Figure 9).

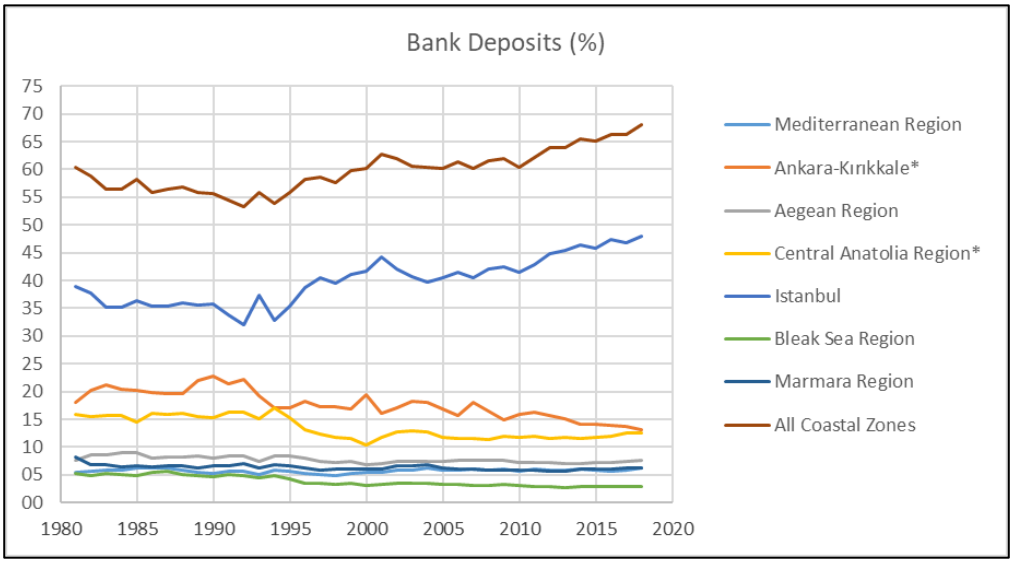

Figure 9. Distribution of Bank Deposits by Regions
Source: Union of Municipalities of Turkey (TBB) & Author's calculation

The total number of bank branches in Turkey increased from 1,700 to 10,000, roughly six times between 1961 and 2020. The ratios of bank branches in Central Anatolia and the Black Sea regions have decreased, whereas those in Istanbul and all coastal regions have increased, according to an analysis of the change in the distribution of the total number of bank branches over time according to the determined regions (Figure 10).

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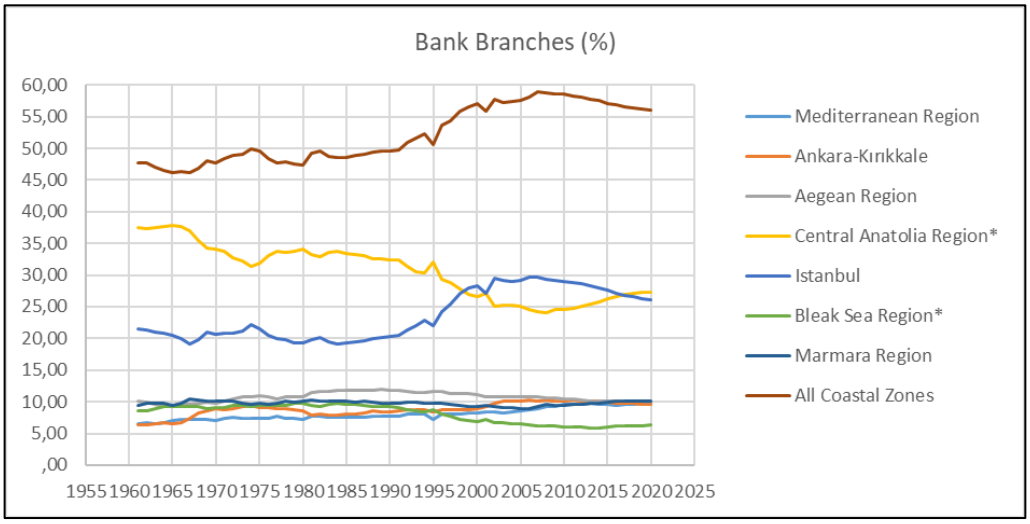

Figure 10. Distribution of Bank Branches by Regions
Source: Union of Municipalities of Turkey (TBB) & Author's calculation

Foreign direct investment is emphasized as a crucial component of financing economic growth. In this context, when the regional distribution of total foreign capital investment in incorporated companies and limited companies is examined in the 2010-2020 period, 78% of the foreign capital investment in incorporated companies is concentrated in Istanbul and 86% in all coastal regions (Figure 11). Similarly, 58% of foreign capital investments in limited companies are concentrated in Istanbul and 83% in all coastal regions (Figure 12).

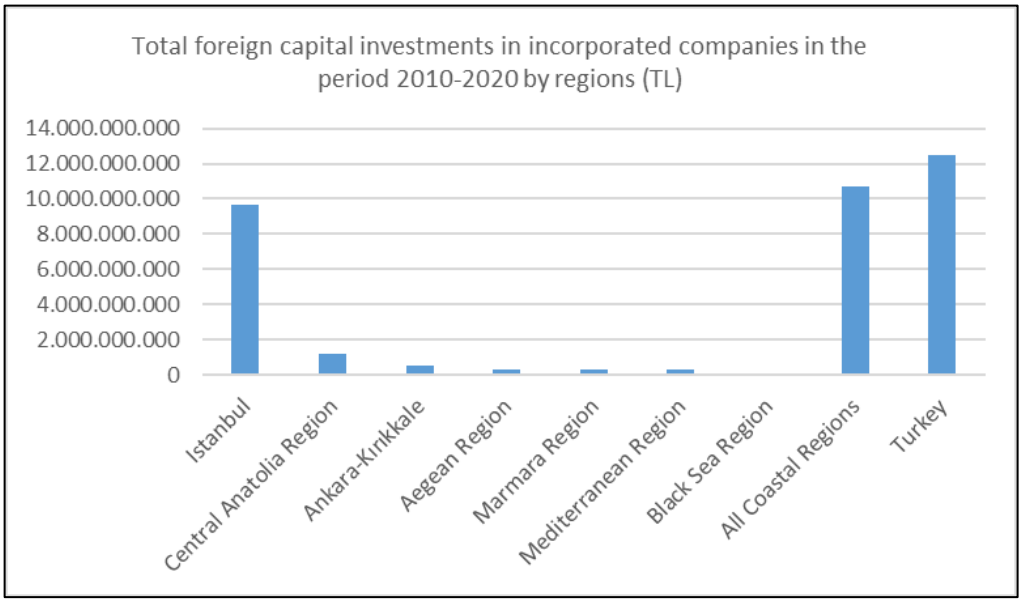

Figure 11. Total Foreign Capital Investments in Incorporated Companies in the Period 2010-2020 by Regions
Source: Union of Chambers and Commodity Exchanges of Turkey (TOBB) & Author's calculation

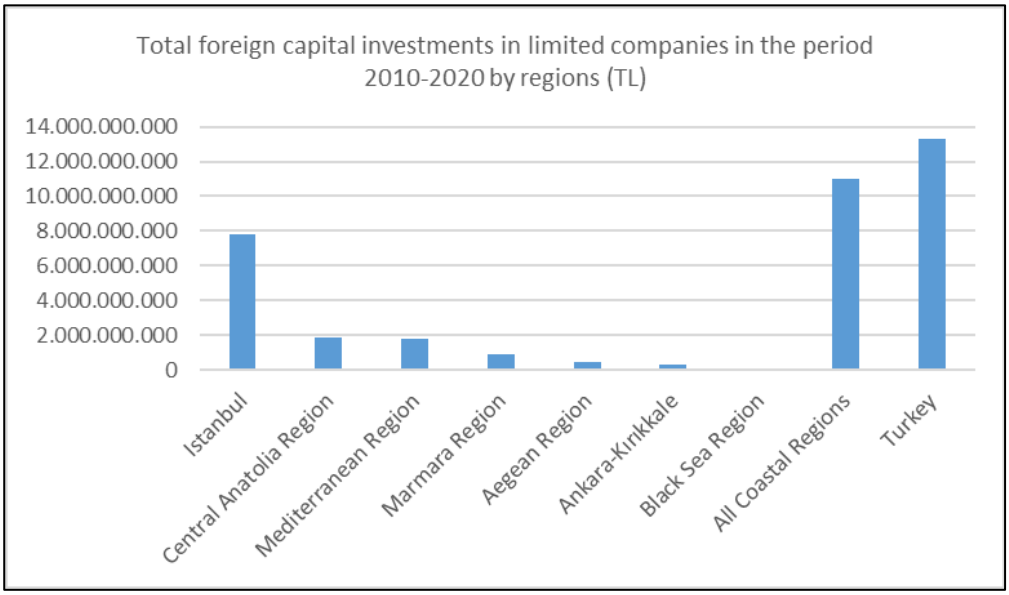

Figure 12. Total Foreign Capital Investments in Limited Companies in the Period 2010-2020 by Regions
Source: Union of Chambers and Commodity Exchanges of Turkey (TOBB) & Author's calculation

When the spatial distribution of small and medium-sized firms was examined from 1944 to 2002, it was found that the Central Anatolian region had a smaller percentage of small and medium-sized enterprises, while the ratio increased in all coastal regions, particularly in Istanbul (Figure 13).

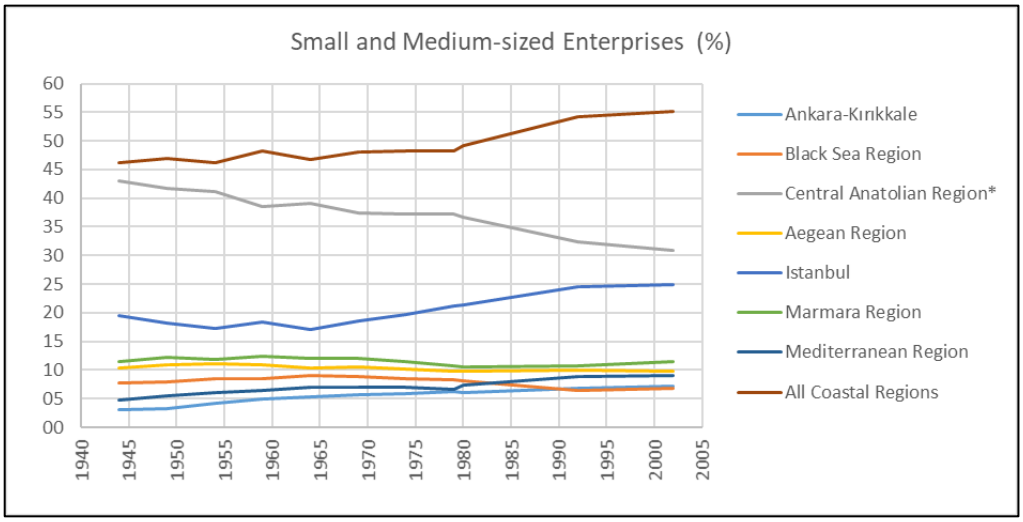

Figure 13. Distribution of Small and Medium-Sized Firms by Regions in the 1944-2002 Period

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Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

To understand whether there is any change in the distribution/concentration of capital, which is one of the production factors, according to the determined regions, by examining the spatial distribution of bank credits used, bank deposits, bank branches established to carry out capital transactions, and foreign capital investments made; it is observed that the accumulation and use of both domestic and foreign capital is high and/or increasing in the coastal regions in general, including Istanbul. Similarly, the ratios of small- and medium-sized firms, in which this capital is used for production purposes, are clustered in coastal regions, especially in Istanbul.

4.3 Concentration of Labor as A Production Factor

Two key changes stand out when the population distribution by region was examined between 1955 and 2020. The first was the decline in the proportion of the population of the Black Sea and Central Anatolia regions. The second is the increase in the proportion of coastal areas to the overall population from 30% to 47% (Figure 14), particularly in Istanbul (from 6.4% to 18.5%). In other words, it is evident that between 1955 and 2020, the majority of Turkey's population resided along the coastal regions.

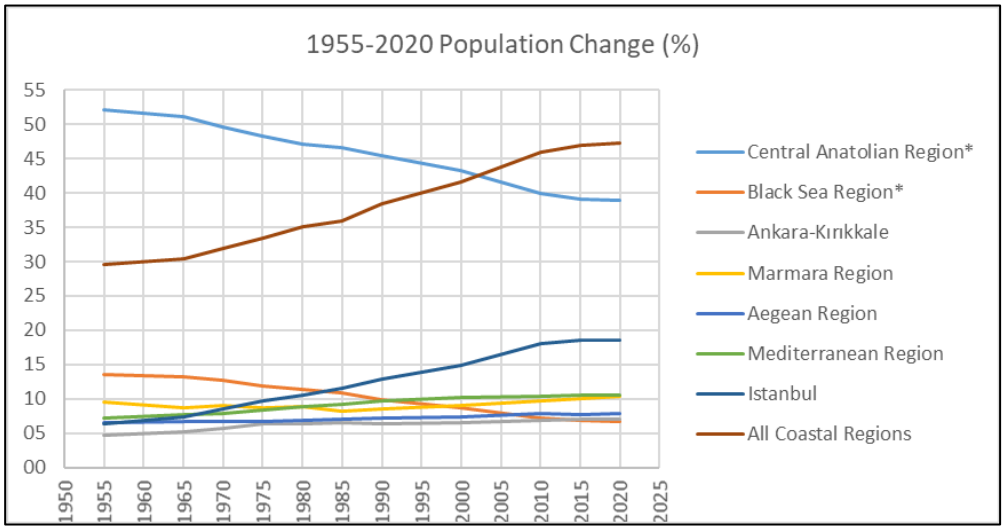

Figure 14. Distribution of the population by regions between 1955 and 2020
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

Istanbul received 1.9 million net migrants, the Marmara region 1.3 million, the Aegean region 1.0 million, Ankara-Kırıkkale 0.6 million, and the Mediterranean region 0.5 million when cumulative net migration data from 1975 to 2020 are evaluated (Figure 15). On the other hand, the Black Sea region showed a net migration loss of 0.8 million and Central Anatolia a loss of 4.5 million people. Therefore, it can be stated that coastal regions are the destination of internal movement based on the net migration data, which shows a net flow of 4.7 million towards all coastal regions.

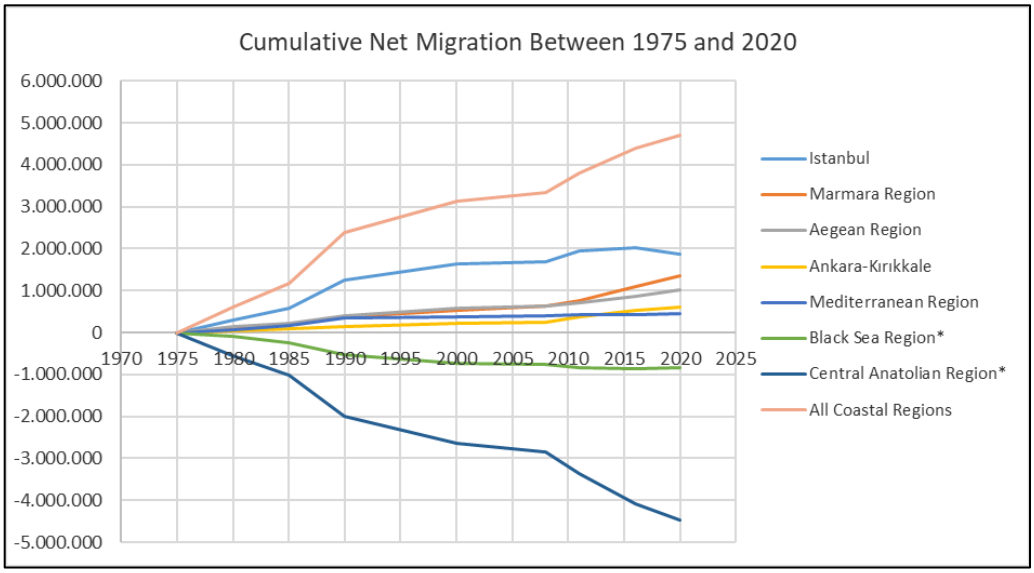

Figure 15. Cumulative Net Migration by Regions (1000 People) Between 1975-2020
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

When the change in the spatial distribution of manufacturing industry workers between 1955 and 2000 was examined, it was found that while the proportion of manufacturing industry workers in the Black Sea and Central Anatolia regions to the total manufacturing industry workforce decreased during the aforementioned period, while this rate increased in Istanbul (from 21.2% to 33.5%) and in all coastal regions (from 48.4% to 64.3%) (Figure 16). In other words, it can be argued that between 1955 and 2000, Turkey's manufacturing industry concentrated its workforce in its coastal regions.

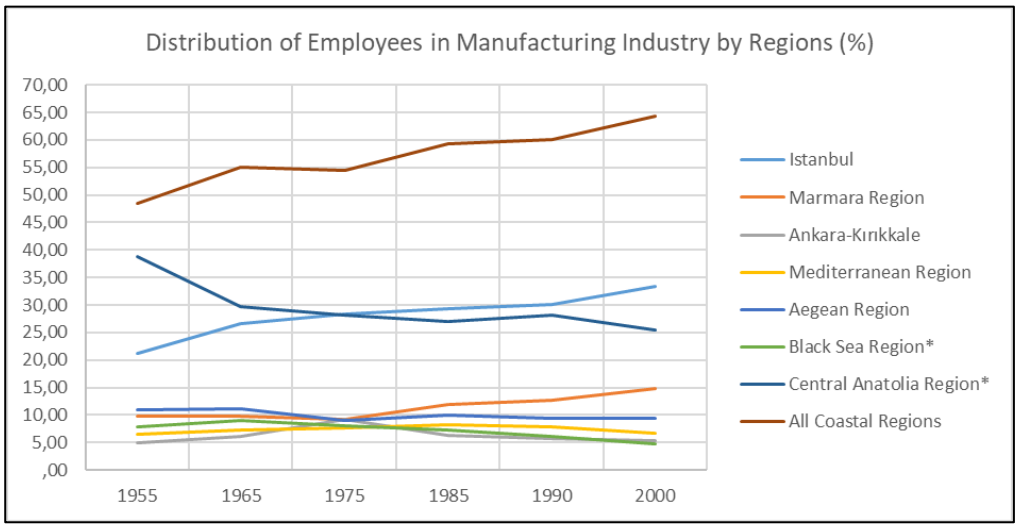

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Figure 16. Distribution of Employees in Manufacturing Industry by Regions between 1955 and 2000
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

As it is not possible to examine the change in industrial employment at the provincial level after 2000, the share in the average industrial employment between 2009 and 2020 at the NUTS-II level reveals that the highest share is in Istanbul (TR10) at 25.3%. The four NUTS-II regions that follow Istanbul and have the largest share are the Bursa, Eskişehir, Bilecik (TR41), Izmir (TR31) Kocaeli, Sakarya, Düzce, Bolu, Yalova (TR42), and Ankara (TR51) regions (Figure 17). In other words, it can be said that in the period 2009–2020, industrial workers in Turkey were concentrated in coastal areas also. Approximately two-thirds (66%) of individuals employed in Turkey's industry are located in NUTS-II regions that encompass coastal areas.

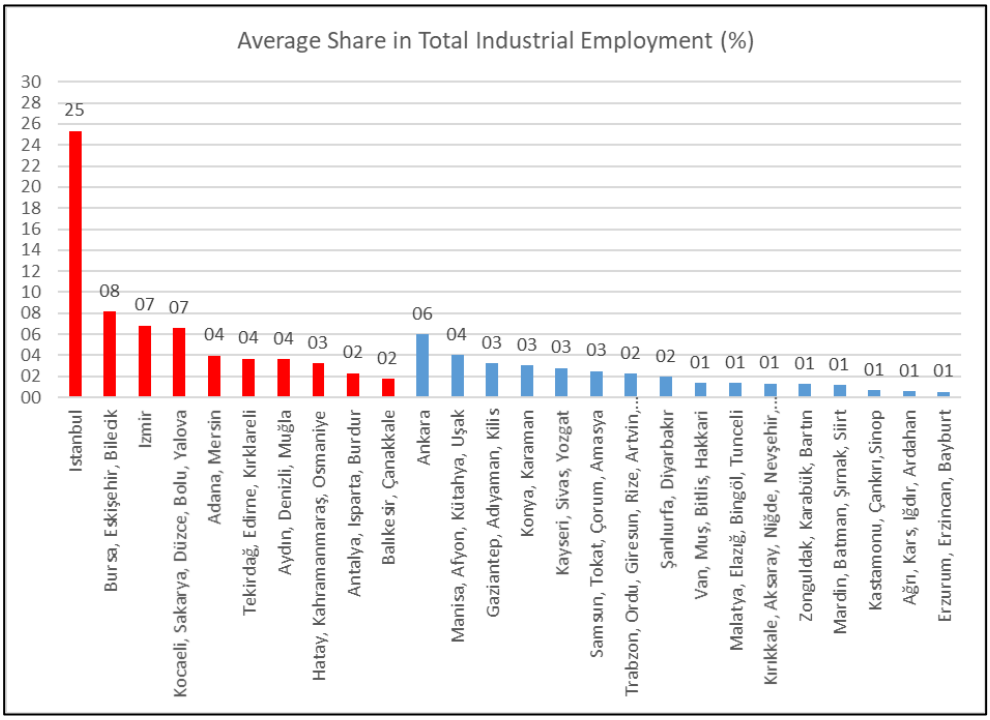

Figure 17. Average Share in Total Industrial Employment Between 2009-2020 (%)
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

Changes in geographical distribution of certain variables including population, net migration and workers employed in the industrial sector show that labor as a production factor has concentrated in coastal regions in Turkey.

4.4 Concentration of Infrastructure Investments

An examination of the cumulative percentage of the spatial distribution of 19-year public investments in the 1999-2017 period reveals that, on average, 17.4% of public investments were allocated to Istanbul, whereas public investments in all coastal regions,

including Istanbul, totaled 41.3%. However, during the same period, the public investment rate in the Central Anatolian region was 38.2% (Figure 18). The respective areal size ratios of all coastal regions and Central Anatolia to that of Turkey were 19.1% and 68.6%. Considering the percentage distribution of public investments (41.3% and 38.2%), it can be said that the investment per unit area for coastal regions is approximately 4 times the investment made in Central Anatolia. Accordingly, public investment can be claimed to be concentrated in coastal areas.

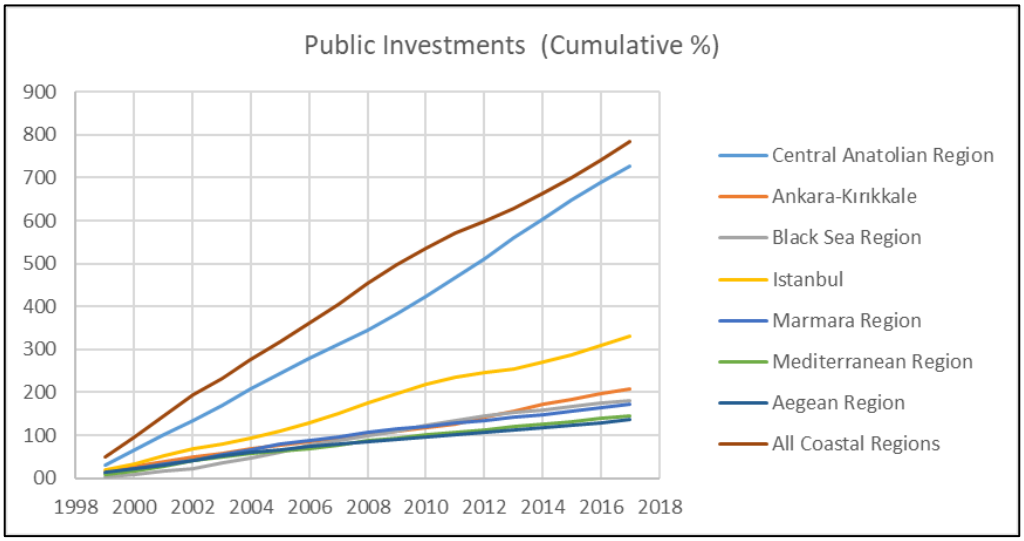

Figure 18. Regional Distribution of Public Investments
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

Border gates are crucial locations in international economic operations. Turkey has 204 open border gateways as of 2022 (table 2). Half of the border crossings were associated with seaway transport, while one-third (31.4%) were associated with airway transport when their distribution by mode of transportation was analyzed. When looking at their spatial distribution according to modes of transportation, coastal regions were home to 83.3% of seaway transport border gates and 32.8% of airway transport border gates, despite more than half of all customs gates (56.4%) being situated there. It is evident that border gates, which are a crucial component of infrastructure for international trade, are mostly located in coastal regions. This is in line with the fact that a sizable portion of international trade is transported by the sea.

Table 2. Regional Distribution of Border Gates by Transportation Types

	Airway	Highway	Railway	Seaway	Total	Total (%)
Ankara-Kırıkkale	3	0	0	0	3	1.5
Central Anatolian Region	33	21	6	0	60	29.4
Black Sea Region	7	2	0	17	26	12.7
Istanbul	3	0	0	8	11	5.4
Aegean Region	5	0	0	19	24	11.8
Mediterranean Region	5	3	0	28	36	17.6

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Marmara Region	8	4	2	30	44	21.6
All Coastal Regions	21	7	2	85	115	**56.4**
All Coastal Regions (%)	**32.8**	23.3	25.0	**83.3**	**56.4**	
Total	64	30	8	102	204	100.0
Total (%)	**31.4**	14.7	3.9	**50.0**	100.0	

Source: Ministry of Trade of the Republic of Turkey

Another infrastructural investment that encourages and facilitates foreign trade is the Free Trade Zones (FTZs). The number of free trade zones, first established in Antalya and Mersin in 1985, increased to 18 (table 3). When the annual change in foreign trade volumes between 2011 and 2021 is analyzed, it is observed that the ratio of free trade zones in Istanbul to total foreign trade has decreased, whereas the ratio of free trade zones in the Central Anatolia region to foreign trade has increased. However, free trade zones in all coastal regions still constitute 95% of the total foreign trade volume (Figure 19). Examination of the total foreign trade volume of free trade zones reveals a concentration in coastal regions.

Table 3. Change in Total Foreign Trade Volumes of Free Trade Zones (FTZ) (%)

	Establishment Year	2011	2012	2013	2014	2016	2017	2018	2019	2020	2021
Antalya FTZ	1985	3,2	3,3	3,9	3,7	3,5	3,5	3,2	4,0	3,8	4,0
Mersin FTZ	1985	11,9	16,6	15,3	15,6	15,0	14,4	14,2	14,3	11,4	13,6
Izmir Ege FTZ	1987	25,4	22,7	20,1	19,1	21,4	21,2	21,0	21,1	17,5	19,0
Istanbul AHL. FTZ	1990	9,9	9,1	7,7	6,8	5,8	5,6	5,1	3,1	16,5	3,2
Istanbul Trakya FTZ	1990	6,8	6,3	7,4	7,3	5,9	6,2	6,2	6,6	6,1	6,3
Trabzon FTZ	1990	0,4	0,3	0,2	0,2	1,9	1,4	1,2	0,1	0,0	0,1
Adana Yumurtalık FTZ	1992	1,2	1,3	1,7	2,3	3,2	4,0	5,7	5,9	5,8	8,0
Istanbul End. ve Tic. FTZ	1992	15,9	14,0	14,5	14,8	14,5	15,2	12,1	10,6	9,2	9,5
Samsun FTZ	1995	0,5	0,3	0,4	0,5	0,4	0,4	0,7	0,6	0,7	0,7
Tekirdağ Avrupa FTZ	1996	9,1	10,3	10,5	10,9	10,4	10,0	11,0	10,8	9,1	11,8
Izmir FTZ	1997	1,6	1,4	1,6	1,4	1,1	1,7	2,3	3,7	3,1	3,6
Kayseri FTZ	1997	3,1	3,0	3,4	3,6	4,0	4,2	4,5	4,9	4,8	6,0
Rize FTZ	1997	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Gaziantep FTZ	1998	0,5	0,4	0,9	0,6	0,4	0,2	0,2	0,4	0,3	0,4
Kocaeli (TÜBİTAK-MAM) FTZ	1999	0,9	0,9	1,0	0,8	0,3	0,3	0,3	0,3	0,4	0,4
Bursa FTZ	2000	6,9	6,6	8,2	8,6	9,6	8,7	9,2	9,7	7,7	8,6
Denizli FTZ	2000	0,3	0,3	0,2	0,5	0,1	0,1	0,2	0,2	0,3	0,3
Kocaeli FTZ	2000	2,4	3,2	2,9	3,1	2,5	2,9	2,8	3,8	3,4	4,5

Source: Ministry of Trade of the Republic of Turkey

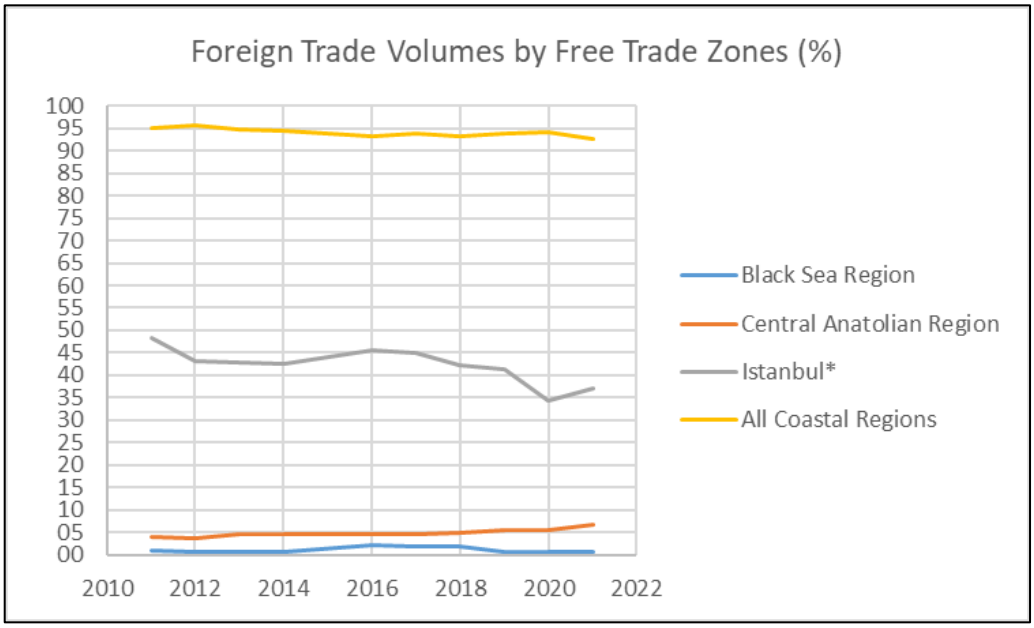

Figure 19. Foreign Trade Volumes of Free Trade Zones by Regions (%)
Source: Ministry of Trade of the Republic of Turkey and Author's Calculation

Industrial Zones are important centers for industrial product manufacturing in Turkey (Civelek, 2015). As of 2018, when the number and total area of parcels in industrial zones were examined, 1/4 of the total number of parcels and about half of the total area of the parcels were concentrated in coastal areas (Table 4; Figure 20). In contrast to other regions, where the average parcel size ranges from 0 to 2 ha, the Marmara Region's average parcel size is 4.5 ha. Consequently, the mean parcel size for all coastal regions was 3 ha. This suggests that companies operating in the Marmara region's industrial zones are greater in scale than those in other regions, and consequently require more space to operate. When the number and size of parcels in industrial zones are analyzed spatially, accumulation is observed in coastal regions.

Table 4. Regional Distribution of Industrial Zones (IZs) by Parcel Number and Parcel Size

	Number of parcels in IZs	Number of parcels in IZs (%)	Parcel areas in IZs (ha)	Parcel areas in IZs (%)
Black Sea Region	1.298	2,5	1.676	2,0
Ankara-Kırıkkale	20.099	38,8	1.918	2,3
Central Anatolian Region	17.590	34,0	39.847	48,5
Istanbul	1.797	3,5	1.419	1,7
Aegean Region	3.116	6,0	5.645	6,9
Mediterranean Region	1.556	3,0	3.191	3,9
Marmara Region	6.350	12,3	28.509	34,7
All Coastal Regions	12.819	24,7	38.764	47,2

Source: Ministry of Environment, Urbanization and Climate Change of the Republic of Turkey

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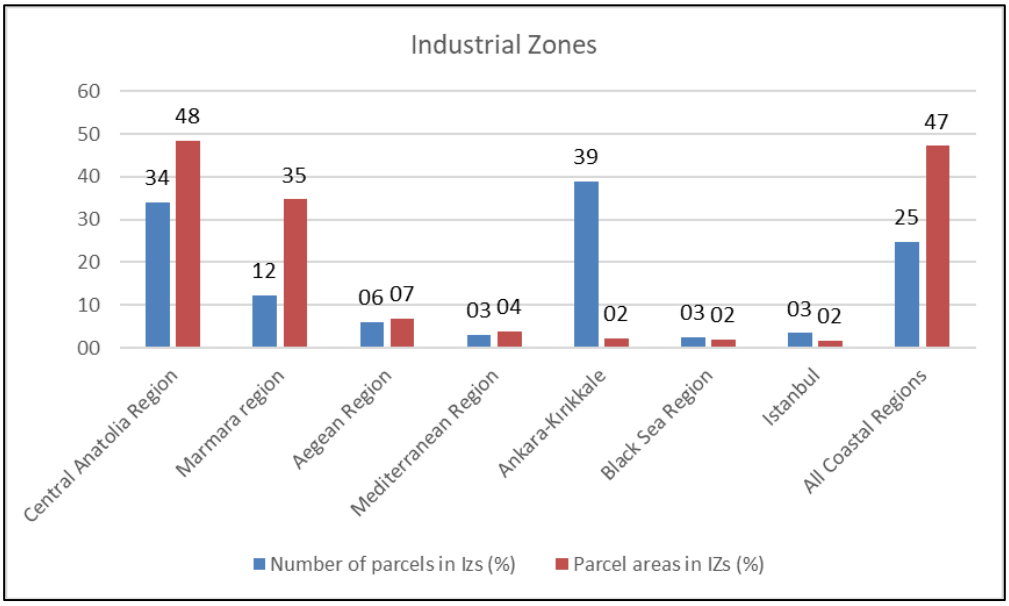

Figure 20. Regional Distribution of Industrial Zones by Parcel Number and Parcel Size
Source: Ministry of Environment, Urbanization and Climate Change of the Republic of Turkey and Author's Calculation

When the spatial distribution of infrastructure investments (public investments, border gates, free trade zones, and industrial zones) that enable the realization of industrial production in Turkey and facilitate foreign trade of this production is examined, agglomeration is evident, especially in the coastal regions of Turkey (Deichmann et al., 2003).

4.5 Consequences of Agglomeration of Industrial Production and Foreign Trade: Concentration of Prosperity and Development on the Coast

When the spatial distribution of GDP between 1975 and 1986 was investigated, the Central Anatolia region had the largest GDP (average: 52–53%), followed by the Marmara region (average: 16–17%), and the Black Sea Coast (12–13%). Figure 21 shows that the average GDP for all regions along the coast was between 34% and 35%. In other words, the Central Anatolia region's GDP share is greater than the share of all coastal regions combined. The crucial fact, however, is that during the mentioned time period, the shares of the different regions in GDP did not change significantly.

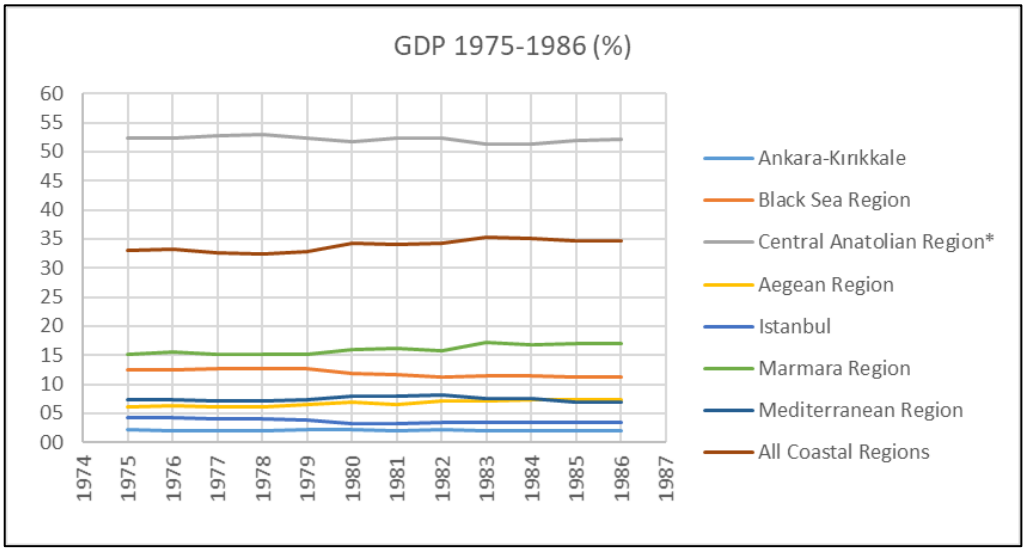

Figure 21. Spatial Distribution of GDP Between 1975-1986 (%)
Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

It can be seen that the methodology for calculating provinces' GDP has changed since 1987. For instance, its share of GDP decreased from 52% in 1986 to 30% in 1987. The share of Central Anatolia, in particular, has decreased, while the share of Istanbul has increased, which has led to an increase in the share of all coastal regions from the GDP (Figure 22). On the other hand, the change in the share of the regions from GDP was examined over the 1987–2018 period. It is apparent that the country's total GDP production began to concentrate on the coastal regions, especially after 1987 (Gezici & Hewings, 2007).

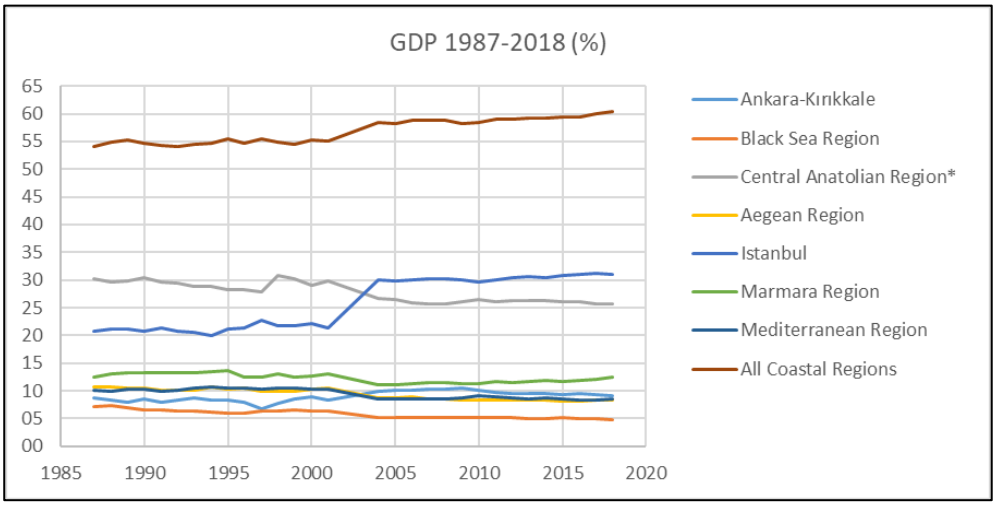

Figure 22. Spatial Distribution of GDP Between 1987-2018 (%)

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Source: Turkish Statistical Institute (TÜİK) & Author's Calculation

When the social and economic development index (SEDI) data created to determine the development level of the provinces from 1963 to 2017 were examined, it was observed that Istanbul, Izmir, and Kocaeli, which are located in coastal regions, are consistently among the most developed provinces. Many coastal provinces are among the most advanced in Turkey, demonstrating significant societal and economic progress (Celebioglu, 2020; Karahasan, 2024; Temurlenk & Abar, 2019; Turanlı et al., 2009).

Table 5. SEDI Ranking of Provinces in Coastal Regions

	1963	1967	1970	1980	1985	1991	1996	2003	2011	2017
Total number of provinces in coastal regions	14	14	14	14	14	14	14	16	16	16
SEDI ranking of Istanbul	1	1	1	1	1	1	1	1	1	1
SEDI ranking of Izmir	3	3	3	3	3	3	3	3	3	3
SEDI ranking of Kocaeli	5	5	4	4	4	4	4	4	4	4
Number of provinces from coastal zones in the first 10 most developed provinces	6	7	6	5	8	8	8	8	7	7
Number of provinces from coastal zones in the first 20 most developed provinces	10	10	10	8	13	13	13	12	12	10
Number of provinces from coastal zones in the first 30 most developed provinces	14	14	13	11	14	14	14	15	14	14

Source: Ministry of Industry and Technology of the Republic of Turkey

The Heckscher-Ohlin-Samuelson theory proposes that the liberalization of (foreign) trade will yield significant productivity gains by forcing countries to specialize according to their own comparative advantage and by relocating factors of production (natural resources, capital, labour, and entrepreneurship) between tradable and non-tradable sectors.

When a historical analysis is conducted as above, it has been found that Turkey's foreign trade constitutes a growing proportion of its overall economic activity. Turkey's largest trading partner is continental Europe. Most international trade with Continental Europe is transported by sea. Both as a result of this and as a cause, the coastal regions have seen a growth in the concentration of the factors of production, such as capital, labor, and infrastructure, which directly affect the selling price of the goods produced. Thus, rather than studies claiming that the growth of international trade will reduce regional inequality, Turkey's experience with foreign trade is observed to be more consistent with studies stating that foreign trade will increase regional disparity.

Other studies conducted in/about developing countries have produced similar findings. Venables (2003) examines the distribution of gains and losses from regional trade agreements (RTAs) among member countries. He discovers that regional integration often increases inequality among developing nations. When low-income countries engage in integration, manufacturing tends to become concentrated in one or a few countries, and investment follows existing industrial advantages. As a result, poorer members often

experience a decline in industrial activity. Consequently, regional integration frequently exacerbates income disparities among member countries rather than reducing them.

The book "Spatial Inequality and Development," edited by Kanbur and Venables (2005), compiles empirical and theoretical research from over 25 developing and transitional economies to explain the uneven distribution of economic growth across regions. One of the book's most significant findings is that trade openness often increases spatial inequality, particularly in developing economies. Trade liberalization tends to benefit coastal regions, export-oriented manufacturing centers, urban metropolitan areas, and regions with better infrastructure. In contrast, inland and rural areas usually gain fewer advantages due to higher transportation costs, weaker infrastructure, lower levels of human capital, and limited market access. Consequently, while national income may rise, regional inequality can worsen.

Kim's review (2008) is particularly valuable for studies that explore the relationship between trade liberalization and regional inequality. It argues that trade openness does not lead to uniform spatial outcomes. Instead, trade liberalization tends to benefit regions that already have industrial agglomeration, skilled labor, good infrastructure, strong institutions, and better access to both domestic and international markets. As a result, similar liberalization policies can yield very different regional outcomes across countries, depending on their initial economic geography and institutional context. This provides a strong theoretical foundation for understanding why trade openness can exacerbate regional disparities in many developing economies, while producing more balanced outcomes in other regions.

Kim and Lin (2009) investigate how trade openness impacts economic growth at different stages of development. Through the use of threshold panel regressions, they discover that trade has a significant positive effect on growth in low- and middle-income countries, while this effect diminishes in high-income economies. The study also concludes that while trade liberalization can boost growth in developing countries, it may lead to uneven outcomes if regions vary in their ability to take advantage of new trade opportunities.

5. Conclusion

As local demand was replaced by international demand after the import substitution industrialization model was abandoned, industries that had been geographically dispersed across the nation to meet demand began to cluster to take advantage of concentration. Owing to imports, firms are not engaged in fierce supply competition with rivals, as the cost of imported goods is kept high by unfavorable currency exchange rates. Due to these developments in foreign supply and demand, firms sought to identify locations that would provide them with easy access to the international market. It has been noted in other studies that in nations like Turkey, where the development disparity among regions is already wide, the polarizing effect of international trade is considerably greater.

A balanced strategy for Turkey should not aim to redistribute export activity away from its globally competitive western regions. Instead, it should expand export capacity in less-developed provinces while preserving the productivity advantages of existing

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industrial hubs. This approach is consistent with insights from the New Economic Geography (Krugman, 1991), endogenous growth theory, and the place-based development literature (Barca et al., 2012; Rodríguez-Pose, 2018).

Shift from place-neutral to place-based development: Traditional regional incentives in Turkey have often emphasized tax exemptions or investment subsidies without sufficiently addressing local productive capacities. A more effective approach is place-based development, which tailors policy to each region's existing assets (Bartik, 2020).

Building export corridors beyond western Turkey: Export performance is heavily influenced by access to ports and logistics. Policies should include: expansion of rail freight, modernization of logistics centers, dry ports linked to main ports, lower freight costs for inland exporters and customs digitalization. Reducing transport costs weakens one of the main mechanisms through which economic activity concentrates spatially (Oğuztimur, 2016; Töngür et al., 2020).

Upgrading regional value chains: Many less-developed provinces specialize in low-value agricultural or resource production. Policies should encourage movement toward: food processing, packaging, branding, cold-chain logistics and export certification. For example, instead of exporting raw pistachios or wheat, regions could export processed food products with higher value added (Aksoy et al., 2008; Karacan and Ceylan, 2020; (Kabaoğlu and Bozoğlu, 2023; Ünüvar, 2025).

Promoting SME internationalization: Large exporters dominate Turkish exports. Regional development would benefit from helping SMEs through: export credit, trade fairs, digital export platforms, quality certification support, foreign market intelligence and e-commerce training. These broaden participation in export growth (Cebeci and Fernandes, 2014; Doğanay and Koçsoy, 2011).

Investing in human capital: Export competitiveness increasingly depends on skilled labor. Priority investments should include: vocational schools linked with local industries, apprenticeship programs, engineering education, digital skills and technical universities in lagging regions. Human capital increases both productivity and firms' ability to absorb new technologies (Meschi et al., 2011; Akkuş, 2021; Srour et al., 2013).

Strengthening innovation outside metropolitan regions: R&D spending remains concentrated around major cities. Policies to change that pattern could include: regional innovation hubs, university–industry collaboration, technology transfer offices, digital manufacturing centers and Industry 4.0 adoption grants. These measures help peripheral firms move into higher value-added production (Vaillant et al., 2021).

Reforming regional incentives: Rather than simply offering tax breaks, incentives should reward measurable outcomes such as: export growth, employment creation, innovation, productivity improvements and integration into global value chains. Performance-based incentives reduce inefficiency while supporting regional development (Kronfol and Steenbergen, 2020).

As in other developing countries, a metropolitan area such as Istanbul is both the richest region of the country and the most important hub for foreign trade (OECD, 2008). Industries are concentrated in Istanbul, as it has a large population and a large hinterland (Karaalp-Orhan, 2020; Pusch, 2012). At the same time, due to its developed industrial base, Istanbul has strong supply (backward) and demand (forward) linkages and hosts

industries that use intermediate goods intensively (Akgüngör, 2006; OECD, 2008). Istanbul has developed infrastructure and is a port city, making it a desirable location for industry to cluster(OECD, 2008; Berköz & Eyüboğlu, 2007). The concentration of industry in Istanbul has created divergence between Istanbul and other regions, and regional inequalities have increased (Karaalp-Orhan, 2020; OECD, 2008). Consequently, the existing spatial inequality between regions shows a path-dependent course, as it stems from previous spatial inequalities(Gezici & Hewings, 2007; Karahasan, 2017).

However, recently, since the content of foreign trade has shifted from export-based to import-based (an economic growth model largely driven by domestic demand), the GDP ratios of regional sub-centers such as Gaziantep and Kayseri have started to increase (Danaci & Mete, 2020; Erkişi & Tekin, 2019; Yılmaz & Albayrak, 2022). However, it is obvious that an economic growth model that depends on the growth of the domestic economy based on intermediate goods imports creates other problems such as a foreign exchange gap (Erkişi & Tekin, 2019).

Since roughly the early 2000s—and especially after the mid-2000s—Turkey's growth became increasingly driven by domestic consumption, construction, credit expansion, public investment, and imported intermediate and consumer goods (Buyukyoran & Yaman, 2024; Güven, 2016)

These sectors are geographically much more dispersed than export manufacturing (Acemoğlu & Üçer, 2015). For example, housing construction occurs in almost every province; retail and consumer services expand with household income; public infrastructure projects reach lagging regions; government transfers support consumption outside major industrial centers. Consequently, economic growth becomes less concentrated in export hubs and more evenly distributed across the country.

Several mechanisms could explain the relationship between import-led growth and lower regional inequality.

- **Reduced importance of export clusters**: If exports account for a smaller share of GDP growth, the competitive advantage of western industrial regions weakens.
- **Greater role of domestic demand:** Consumption occurs everywhere, not only where goods are produced. Retail, transportation, education, healthcare, and local services therefore expand across less-developed regions.
- **Public investment and construction:** Construction booms generate employment even in provinces with weak industrial bases. Turkey's large investments in highways, airports, hospitals, universities and urban transformation projects were widely distributed geographically.
- **Import substitution is no longer the dominant spatial force**: When growth depends heavily on imported consumer and intermediate goods, production becomes less tied to existing manufacturing centers. They can sustain nationwide consumption.

After 2002, several additional forces emerged simultaneously: large-scale public investment, social transfer programs, rapid construction growth, expansion of universities, healthcare investments, and credit-fueled consumption (Acemoğlu & Üçer, 2015; Buyukyoran & Yaman, 2024) These policies stimulated income growth in eastern and

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southeastern provinces even where export capacity remained limited. Thus, declining regional inequality may reflect a changing composition of growth.

However, When the growth engine shifts toward import-led growth—characterized by an overvalued domestic currency, high trade deficits, and consumption financed by external credit (Ünal, 2018)—the spatial impact may not change drastically.

An import-led model disproportionately benefits regions with high purchasing power and a concentration of service-oriented capital.

- **Marmara Domain:** Istanbul and its surrounding provinces act as the primary financial, corporate, and consumption hubs. Imported intermediate goods, luxury goods, and capital flow heavily into the core, widening the wealth gap between the metropolitan center and agrarian or industrial peripheries.
- **The Import Content of Manufacturing:** Turkish manufacturing exhibits a high structural dependence on imported intermediate and capital goods (Erduman et al., 2020). Even when provincial industries produce goods, the value-added is frequently captured by import/export firms, distributors, and financial headquarters located in the core.

Inland manufacturing hubs (like the Anatolian Tigers) rely on cost competitiveness. However, an import-led regime often squeezes local production if cheap imports substitute local inputs. If the local currency appreciates artificially to support consumption, it penalizes peripheral exporters who do not have the high-margin, high-tech buffer to absorb price shocks, potentially leading to stagnation or deindustrialization in those secondary regions (Duran & Erdem, 2017).

While a consumption-led model can spread service-sector employment (like retail, logistics, and hospitality) across all 81 provinces via nationwide chains and distribution networks, these are typically low-wage, low-productivity jobs. They rarely compensate for the loss of a robust local industrial base, which is crucial for structural catch-up in less-developed regions (such as NUTS-1 Eastern and Southeastern Anatolia).

When analyzing the GDP growth index data from 2009 to 2024, it is noted that half of the 26 NUTS-II regional centers performed better than the Turkish average, while the other half performed worse. Consequently, it cannot be concluded that there is a significant difference between coastal and inland regions regarding import-dependent growth.

Empirical evidence (such as the State Planning Organization/SBB's SEGE indices and sub-national Inclusive Growth data) demonstrates that regional divergence in Turkey is deeply structural, rather than merely a reflection of trade orientation (Efe, 2026)

- **Human Capital & Education**: Skilled labor accumulates rapidly in metropolitan cores, leaving peripheral regions starved of the technological capabilities needed to advance (Karaalp-Orhan, 2020).
- **Infrastructure and Logistics**: Port access and European integration favor Western and Coastal sub-regions, regardless of whether they import or export (Saygılı & Özdemir, 2017).
- **Fiscal Capacity**: Tax revenues generated from high-volume consumption and imports disproportionately enrich the municipal capabilities of primary metros, despite central redistributive transfers (Efe, 2026).

A shift toward an import-led or consumption-driven growth model is unlikely to be a mechanism for reducing regional inequality in Turkey. Instead, it may tend to re-concentrate capital and high-productivity employment back into major metropolitan hubs that act as the gatekeepers of import distribution and financial capital. True regional convergence relies less on the trade balance orientation and more on spatial industrial policies, targeted public investments in high-tech infrastructure, and improving sub-national human capital across lagging regions

In sum, labor, capital, and infrastructure in Turkey have started to concentrate in coastal regions (Gezici & Hewings, 2007; Karaalp-Orhan, 2020; Kïrdar & Saracoğlu, 2008). This trend has not changed since Turkey abandoned its import substitution economic policies and switched to an export-based growth model (Duran, 2019; Gezici & Hewings, 2007). As long as Turkey maintains its export-led economic growth model, it cannot diminish the advantage of coastal regions, which have superior access to foreign markets, over other regions (Duran, 2019; Gezici & Hewings, 2007). This trend has the potential to reproduce regional inequalities or nullify policies aimed at reducing them, particularly due to the spatial patterns it creates (Duran, 2019; Karahasan, 2017). In this regard, if the issue of regional inequality is to be remedied, either foreign trade policy must be reconsidered or the state must intervene more effectively to reduce the aforementioned discrepancies.

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