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Spatial Trends of Capital Concentration in Türkiye: An Analysis of the Top 1000 Industrial Firms

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Abstract

Industries, firms, and capital are geographically concentrated in the core regions of the countries which leads to regional disparities. Türkiye, as a developing country, suffers from high regional disparities, especially regarding east-west duality. In this context, this study analyzes the spatial concentration of the top firms in the regions of Türkiye (81 NUTS 3) in the 1999-2019 period, using the İstanbul Chamber of Industry's top 500 and second 500 companies' datasets. As one of the few studies conducted in this field, this study reveals important results. The differences regarding the spatial concentration of capital accumulation are decreasing in Türkiye; however, the level of capital accumulation disparities is quite uneven and high. The number of top firms is decreasing in the core regions of Türkiye, namely İstanbul (535 to 321), Ankara (73 to 58), and İzmir (104 to 76). Considering the decline in Turkey's largest companies, it is clear that these losses indicate a large loss of industrial assets. On the other hand, the number of firms among the top 1000 firms is increasing in the regions called Anatolian Tigers, namely Gaziantep (17 to 61), Kayseri (16 to 28), Sakarya (4 to 14) and Konya (10 to 22). The analyses show that the east-west duality has not changed but is restructured with the emergence of the New Industrial Spaces of Türkiye. It can be said that the areas where capital is concentrated have changed.

Keywords:
Capital accumulation, Economic geography, Regional disparities, Türkiye

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INTRODUCTION

Regional disparities are quite high in Türkiye. This is not a challenging argument because it is a well-known phenomenon that the western part of the country is more developed than the eastern part (Çelebioğlu and Dall'Erba, 2010; Gezici and Hewings, 2004; Karahasan, 2015). Infrastructure like industrial zones, airports, highways, harbors, innovation centers, and human capital are concentrated in the western part of Türkiye, whereas regions of eastern Türkiye lack these assets. Still, regional disparities in Türkiye are not a static process, but a dynamic process that regional economies are transforming.

Evolutionarily, history shows that regional economies are transforming and restructuring according to regional dynamics embedded in space. Therefore, the spatial configuration of capital accumulation is changing accordingly. This restructuring process is crystallized in the shrinkage of the core regions in Türkiye and the rise of the Anatolian Tigers located on the periphery. This process is, of course, a complex process with multiple layers and multiple actors. However, two dynamics come to the fore regarding their power to explain the causality and relatedness of the shrinkage of core cities and the rise of Anatolian Tigers. The former is deindustrialization and financialization of the core regions, and the latter is competition between capital fractions. Historically, the core regions of Türkiye are in the western part, and their numbers are few. Today, core regions of Türkiye are still in the western part, but after 1980, we see that Anatolian Tiger regions took the stage with power triggered by liberal policies.

Such transformation and restructuring of the regions are evident and can be observed in the spatial distribution of the top firms over time. Top firms refer to a concept based on the ranks of the 1000 industrial firms in Türkiye. The ISI (İstanbul Chamber of Industry) ranks Turkish industrial firms according to their sales from production. Regional capital accumulation is surely more than the spatial distribution of the top 1000 firms of Türkiye. Nevertheless, it is a unique and fair proxy for measuring the uneven geography and spatial restricting of capital accumulation in Türkiye because the spatial distribution of the top firms is quite immanent to the spatial development processes of Türkiye (Akın and Seyfettinoğlu, 2022). There are no proper data for measuring the concentration and accumulation of capital in regions and the rise of the Anatolian Tiger regions. In this study, we use the number of top firms to refer to the level of capital accumulation in the regions. If a region has a higher number of top firms, then the spatial concentration of capital is also quite high in this region. The fact that the concentration of capital in a place where it was not concentrated before is a unique and difficult fact, especially for the backward regions. In this regard, use of the top 1000 firms' data for investigating regional capital accumulation in Türkiye reveals the importance of this study.

The present paper aims to answer the following questions (i) Are there large capital concentration disparities across the Turkish NUTS III

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regions? (ii) how is the east-west duality changing? (iii) how the capital accumulation historical cores and Anatolian Tiger regions (new industrial spaces) in Türkiye are evolving? and reports quite significant results that the uneven geography of capital accumulation in Türkiye is not static but restricting. The number of the top 1000 firms is decreasing in core regions, whereas their numbers are increasing in regions called "Anatolian Tigers".

The following part belongs to the literature review. In part three, we discussed data and dataset development. The fourth part belongs to exploratory spatial data analyses. In the fifth part, we discuss the results.

LITERATURE REVIEW

Spatial capital accumulation and the concentration of capital in particular places are dateless topics in the economic geography literature. There are two main approaches existing in the literature; the former is based on Marxist geography and the latter is based on economic geography literature. According to the Marxist approach (Harvey, 2012; Smith, 2010; Das, 2017), the capital accumulation process is a necessity in which capital tends to accumulate in specific places to increase the speed of production and the volume of surplus accumulation. In capitalist economies, capital tends to concentrate on particular cities and regions, historically, for faster access to better means of production, high-quality raw materials, cheap labor pool, productive new production techniques, and high technology. Profit maximization through the fastest production at the lowest costs is the primary driver of unequal regional capital accumulation (Das, 2017; Harvey, 2012). Thus, industries, firms, and capital tend to be geographically concentrated in the core regions of the countries (Balland et. al, 2019, p. 1252; Boschma and Lambooy, 1999).

On the other hand, economic geography approaches highlight space-specific assets. According to the economic geography approaches, the spatial concentration of firms and capital are heavily dependent on space-specific assets like infrastructure, organization capacity, human capital, and type and level of capitalism (Storper, 1997). Some regions have better spatial assets than other regions that poor regions are not able to develop because these assets are embedded in space and not easy to copy and develop. Thanks to these assets, market dynamics lead to the concentration of firms in particular regions, which leads to high-level regional disparities in countries worldwide.

Two notable reasons are the engines of these restructuring processes. (i) The first is related to the local capabilities of the regions. As regions accumulate further capital, their economies and capabilities grow, and new firms emerge. Regions specialize more in new capabilities related to pre-existing capabilities, which refers to a path-dependent process. (ii) The second is that the core regions tend to move their firms, industrial zones, and other complexes (capabilities) to neighboring regions and to regions that have a relatively lower level of capital, but still have higher capital compared to other regions, because of the financial transition of

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the economies in the core regions. Therefore, new capabilities are emerging in neighboring and other high-level capital-accumulated regions, thereby resulting in increasing regional disparities. There is a consensus in the literature that focuses on the structural change observed in core regions in developed countries that deindustrialization and financialization are processes in which regions will inevitably relegate their industries to surrounding regions because of the process of deindustrialization and financialization[1].

Several studies existing in the literature that investigated the deindustrialization process of Türkiye Karahasan (2015), Karahasan et al. (2016), and Karahasan (2020) show that the deindustrialization process of Türkiye is not random, but it follows well-known paths of economic policy. Besides, Doğruel (2013) and Doğruel and Doğruel (2018) report a decrease in industrial production in old industrial areas. Although our study establishes the causality of the change in the geographical pattern of the top 1000 companies over the years with these concepts, since the focus of the study is not deindustrialization and financialization in Turkish cities, we leave the deepening of these issues to future studies on a regional or sub-regional scale.

All these path-related spatial assets and structural changing processes lead to the unequal accumulation of successful firms in particular places such as Silicon Valley in the USA, Il de France in France, and Baden-Württemberg in Germany; on the other hand, as in the Detroit example, the loss of firms in the specialized sector causes problems such as shrinkage, population loss, and economic contraction (Storper, 1997).

Türkiye as a developing country is a unique case for understanding the uneven geography of capital accumulation across regions. Because (i) regional disparities are lower in developed countries than in developing countries. Since developed countries have higher capital, their spatial distribution is more balanced, which means that capital is concentrated in a particular place (one or two regions) in developing countries because capital is scarce. It is quite common that only one region has a very high number of investments, population, firms, and capital, and these unequal distributions lead to high regional disparities. Interior and coastal China (Rodríguez-Pose, 2010), south and north Italy (Taylor et al., 1997), south and north Mexico (Gonzales-Rivas, 2007) and east-west duality of Türkiye (Gezici and Hewings, 2004; Duran and Erdem, 2017) are well-known examples of high regional disparities that lead to unequal accumulation of capital, firms, etc. across the regions.

And (ii) the spatial distribution of the capital in Türkiye is immanent to the capital groups or fractions (Ercan, 2009). There are two evident capital groups (fractions) that play crucial roles in the restructuring of the accumulation process of capital in Türkiye. The first capital group consists of firms formed around the association Turkish Industrialists' Businessmen's Association (TÜSİAD), called the "Big İstanbul Capital Group" where its members are mostly concentrated in İstanbul. The second group is the Independent Industrialists' and Businessmen's

[1] The concepts of financialization and deindustrialization are frequently used to explain the economic change and transformation that occurs in the regions where capital is most concentrated in countries. The sub-concepts and dynamics of these concepts are not included within the scope of this study. The study aims to establish causality by examining the inequality of capital concentration between regions and the changes in the spatial distribution of 1000 industrial companies. Analyses regarding the concepts intended to conceptualize change and transformation in the regions were left to subsequent studies due to both the focus of the study and the lack of data.

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Association (MÜSİAD), which is called the "Anatolian Capital Group". The members of this group concentrated on the regions located in central Türkiye, which are also called "new industrial places" of Türkiye (Eraydın, 2002; Ercan, 2009; Deniz, 2022). Again, we are using the concept of capital fractions as an explanatory of the regional uneven capital concentration process of Türkiye, but because of the lack of access to proper data, we cannot analyze the top 1000 list regarding the capital groups. Although we cannot determine the share of capital groups in the top 1000 lists, we support the arguments of studies that claim it is an important explanation of the spatial configuration of capital concentration[2].

In these regards, analyzing the uneven spatial concentration of capital and its restructuring process is important and can provide important insights into the design of future regional development policies for reducing regional uneven distribution of capital across Türkiye. To better understand the evolution of the regional distribution of capital accumulation in Türkiye, we analyzed the top 1000 firms published by the İstanbul Chamber of Industry (ISO).

DATA and METHODS

The ISI (İstanbul Chamber of Industry) has published separate datasets for the top 500 and second top 500 industrial firms of Türkiye annually since 1997. For each year in the period 1997-2019, the data covers the ranking of the firms among I-500 and II-500, their post-address, city, the volume of sales from production, number of employees of the firms. It is not wrong to assume that the ISI dataset is reliable and consistent data because it has been consistently published for more than two decades.

Data

To analyze the geographical variation of the top 500 and second top 500 firms of Türkiye, (i) 22.000 firms (22 years x 1000 firms) are geo-coded to their latitudes and longitudes to explore the geographic distribution of the capital accumulation by their postcodes and addresses. The *Tidygeocoder*[3] and *tmaptools*[4] packages in R environment are used for geocoding the locations by using free OpenStreetMap Nominatim API[5]. The data for firms was categorized into the NUTS III level regions according to their locations. The annual dataset of firms with regional and sectorial breakdowns between 1997 and 2019 is analyzed from an evolutionary spatial perspective by using maps, graphs, and cartogram techniques with social realist approach (Sayer, 2010).

Spatial Evolution of Top 1000 Firms

Throughout history, capital has tended to accumulate in certain regions to take maximum advantage of proximity externalities because proximity leads to faster circulation of capital (Harvey, 2012). The speed of capital circulation is the main reason for the uneven spatial

[2] The number of capital fractions is, surely, more than two (TUSIAD and MUSIAD) in Türkiye but for not to distract the focus of the study, we treat these two capital groups as dominant capital groups. For further information about the capital groups and their historical dynamics in the development process of the economy of Türkiye please see: Ercan, (2009).

[3] For more information on tidygeocoder please see https://cran.r-project.org/web/packages/tidygeocoder/readme/README.html

[4] For more information on tmaptools please see https://rdrr.io/cran/tmaptools/man/geocode_OSM.html

[5] For more information on nominatim api please see https://nominatim.org/release-docs/latest/api/Overview/

development in which core regions can circulate their capital faster by exploiting their peripheries (Harvey, 2012). This leads to dualities between backward and developed regions, which lack capital accumulation and concentration (ports, industrial areas, labor, human capital, firms, sectorial diversity and specialization, transformation capacity, and other social and economic dynamics).

East-west duality in Türkiye dates back to the capitalization of its economy (Pamuk, 2014). After the establishment of the new republic in 1923, Türkiye turned to the Western world because of the intensity of the capital they had due to their early capitalist economies (Tekeli, 2001; Pamuk, 2014). Developing economies have fewer alternatives to accumulate their capital in particular places, mostly they tend to accumulate in one place, which is İstanbul in Türkiye, Buenos Aires in Argentina, and New Mexico in Mexico, and examples can be multiplied. In Türkiye, most of the investments and capital were accumulated in the İstanbul region because of its historical and geographical proximity to Europe and its coastal location (Gezici and Hewings, 2004). Thus, the İstanbul region is the financial core of the economy of Türkiye. The other core regions are Ankara, İzmir, and Bursa, which are the secondary industrial core regions of Türkiye (located in western Türkiye), where they have a capital intensity much higher than the average of Türkiye but lower than İstanbul.

Capital Fractions

Another form of east-west duality also exists in the capital groups of Türkiye, which is immanent to the regional disparities of the country (Ercan, 2009). The history and spatial dynamics of capital groups or capital fractions in Türkiye are important for understanding the dynamics of the regional distribution of top firms and unequal capital accumulation in Türkiye (Gündoğdu, 2009). In line with the historical background of the country, top firms are in the western part of Türkiye, especially in the İstanbul region and the Ankara and İzmir regions (Tekeli and Menteş, 1982), where these firms and capital owners formed a capital group called “Big İstanbul Capital Group”. These firms are the pioneers of private capital formation processes and the growth and capitalization of the economy of Türkiye. The TÜSİAD is the final institution of this group, which consists of the biggest actors of private capital in Türkiye, established in 1970, and supports a transition to a free-market economy (Sarı and Aydın, 2010). Table 1 clearly shows that most members are located in the İstanbul, Ankara, and İzmir regions. Except for the Kocaeli and Bursa regions, the number of members from other regions is lower than 10, and the number of members decreases around 2 and 3 as the distance increases from the core regions of Türkiye.

The rest of the country also has a capital intensity that is relatively low compared with these core regions and consists of small- and medium-scale firms formed by a capital group called “Anatolian Capital Group” which has been supported by import substitution-oriented policies

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during the 1980s (Ercan, 2009). With the January 24 policies that initiated rapid and uncontrolled trade liberalization in Türkiye, MÜSİAD was established by Anatolian Capital Group to take a position together against liberal free-market dynamics and to become more visible (Özsöz, 2017). This capital group was clustered in certain regions in Anatolia, and the regions where it was clustered were later called Anatolian Tigers regions (ATR) (Eraydın, 2002). The concept of new industrial spaces is also used to refer to Anatolian Tiger regions (Eraydın, 2002). It is also possible to see which regions are Anatolian Tiger regions from Figures 1 and 2 those small accumulations formed by a few numbers of dots (firms) spread to the regions in central and eastern Anatolia.

We assume that the majority of the members of TÜSİAD were among the top 1000 firms by ICI at the beginning of the analysis period. We assume and claim that with the rise of MÜSİAD member companies in the following years, the number of TÜSİAD member companies on the list may have decreased and TÜSİAD member companies may have shifted to lower ranks in the list. Making this comment is more likely when other cities are examined, especially when looking at the regional distribution of TÜSİAD member companies in regions other than İstanbul, Ankara, and İzmir. It appears that more companies are on the list than the number of TÜSİAD member companies. Such a difference between the number of firms among the top 1000 firms and the number of TÜSİAD members in these regions clearly indicates the existence and domination of MÜSİAD and other capital groups in these regions.

Table 1. Regional Distribution of TUSIAD members in 2023. Source: Own Calculations

Regions	Count
İstanbul	535
Ankara	64
İzmir	56
Kocaeli	15
Bursa	13
Denizli	7
Antalya	5
Kayseri	2
Mersin	2
Tekirdağ	4
Eskişehir	3
Aydın	2
Konya	3
Adana	2
Kahramanmaraş	2
Samsun	3
Gaziantep	1
Uşak	1
Kütahya	1
Trabzon	1
Abroad*	6
Total	728

Note that: * Abroad refers to the Turkish members that located out of Türkiye.

Aware and cautious that we have oversimplified and over-reduced, we claim that this is the mainframe of the regional disparities of Türkiye, in which financial and industrial cores with most of the top firms are in western Türkiye, especially in İstanbul. Besides, small-scale regions with a few top 1000 firms are in central and eastern Türkiye. Most TÜSİAD members are in the core regions of Türkiye, and it is not wrong to suggest that most MUSİAD members are located in regions called Anatolian Tigers in central and eastern Türkiye[6]. Although several policies like regional funding and promotion strategies for the backward regions were applied to reduce the level of disparities in balancing the east-west duality of Turkish regions, the duality has not changed but was restructured with a transition due to the tension between the capital groups (Ercan, 2009). The spatial evolution of the top 1000 firms in Türkiye can provide insights into the transition of capital accumulation and monitor the level and evolution of the spatial dynamics of regional disparities in Türkiye. In this regard, the spatial evolution of the top 1000 firms in Türkiye is analyzed to further explore the evolution of regional disparities in Türkiye.

[6] We do not deny that the MÜSİAD members among the top 1000 were initially from the regions in central and eastern Anatolia, but this situation may turn into a pattern in which MÜSİAD members from the western regions are also included in the list over the years. We would like to kindly take the attention of the researchers to uncover these topics in future researches.

The East - West Duality

Unequal spatial accumulation of capital and economic capabilities is crystallizing in the east-west duality of Türkiye. This duality refers not only to the spatial decomposition of capital but also to the decomposition of capital regarding the groups and fractions. Both spatial and fractional decompositions of capital are immanent to each other. Competition between the different capital groups causes a restructuring of the capital accumulation distribution across the regions. In this paper, we claim that this restructuring is visible in the change in spatial distribution of the top firms.

The spatial distribution of the top 500 and second top 500 (total 1000 for each year) firms in Türkiye are displayed on regional maps by geocoding their addresses for the years 1997 and 2019 in Figures 1 and 2. Red dots refer to the top 500 firms, and blue dots refer to the second top 500 firms. Figures 3 and 4 shows the spatial distribution of firms on an unequal cartogram. The east-west duality, which has century-long roots, is quite clear in Figure 1 and Figure 2. Every dot in Figure 1 and Figure 2 refers to one firm. In the 1997 map, a very high share of the firms is in the core regions of the western part of the country, whereas few firms are in the central part, and very few firms are in the eastern part, clearly. The spatial distribution patterns of the red and blue dots overlap.

The spatial distribution pattern of the firms in 1997 did not change significantly in 2019, although the number of blue and red dots increased in the northern-eastern part and in the southern part of the country. A comparison of the maps of 1997 and 2019 shows that the east-west duality has not changed structurally. In addition, blue dots increase in the regions around İstanbul and especially in central Türkiye.

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These are quite clear in Figure 3 and 4, in which the regions are distorted according to their share of the number of firms they have. The distorted shapes of the country that look like a “Nemo” changed slightly. Clearly, it is remarkable that the areas of the eastern regions located in the tail of the Nemo expanded. In addition, the area of the eastern regions located close to the tail and the regions located in the central part expanded further. On the other hand, the shapes of the İstanbul, Ankara, and İzmir regions shrank from 1997 to 2019, which means that the number of top firms decreased in these regions.

As seen in Figure 1 to Figure 4, the number of firms in regions where the “Big İstanbul Capital Group” accumulated is decreasing, whereas the number of firms is increasing in the regions where the “Anatolian Capital Group” is heavily concentrated. In line with these, it is possible to claim that the east-west duality is transforming. To better understand this transformation, we analyzed the evolution of the number of firms analyzed for each region. These results are consistent with Kent and Donduran (2020), who analyzed the size of firms and regional disparities.

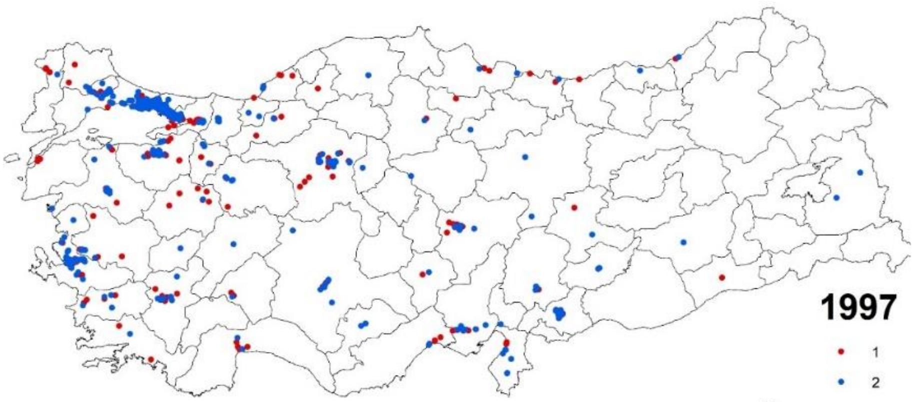

Figure 1. Spatial Distribution of the top 500 and second top 500 industrial firms of Türkiye for the year of 1997.
Note: Red dots refer to top 500 firms, and blue dots refer to the second top 500 firms. Source: Own Calculations

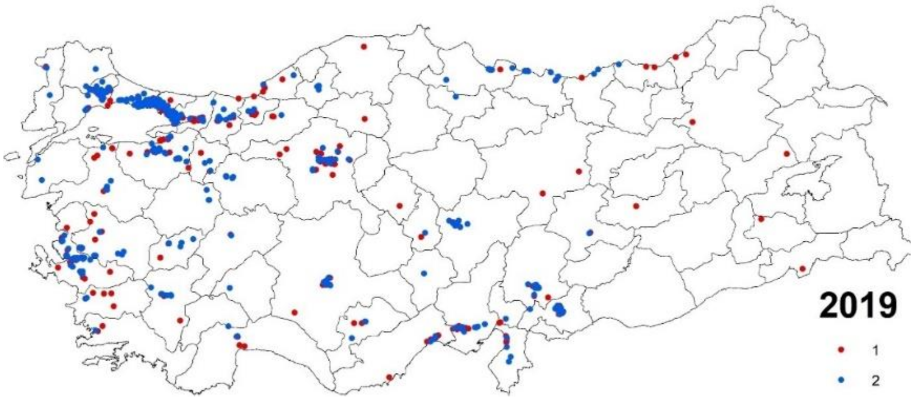

Figure 2. Spatial Distribution of the top 500 and second top 500 industrial firms of Türkiye for the year of 2019.
Note: Red dots refer to top 500 firms, and blue dots refer to the second top 500 firms. Source: Own Calculations

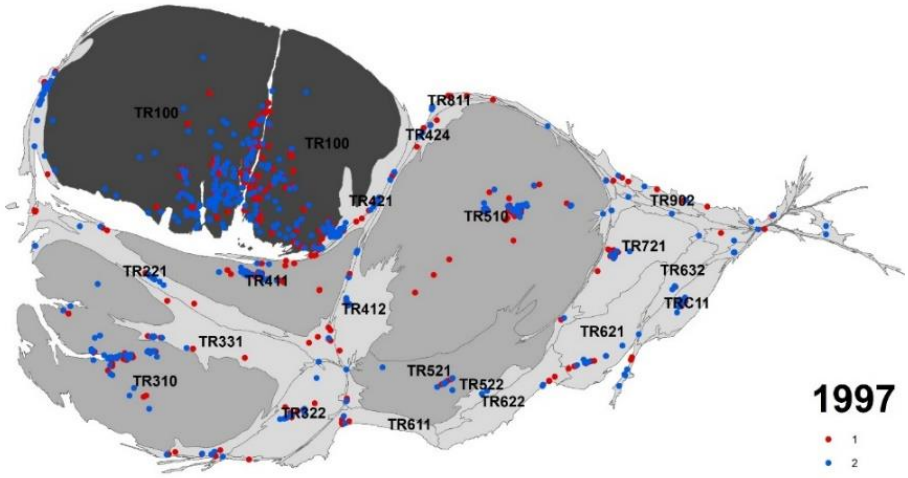

Figure 3. Spatial Distribution of the top 500 and second top 500 industrial firms on unequal cartogram of Türkiye for the year of 1997.
Note: Red dots refer to top 500 firms, and blue dots refer to the second top 500 firms. Company counts weighted.
Source: Own Calculations. For more information on cartogram mapping please see https://www.dannydorling.org/?page_id=3132 and the book The human atlas of Europe: A continent united in diversity https://www.jstor.org/stable/j.ctt1t8937s

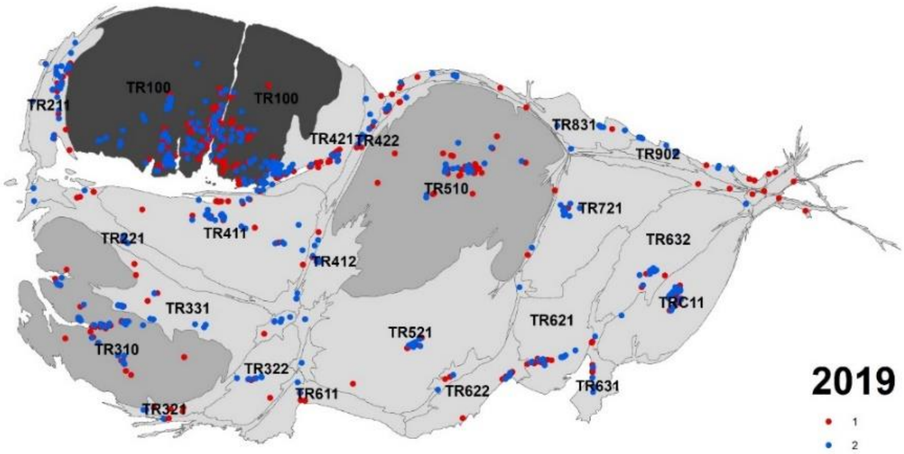

Figure 4. Spatial Distribution of the top 500 and second top 500 industrial firms on unequal cartogram of Türkiye for the year of 2019.
Note: Red dots refer to top 500 firms, and blue dots refer to the second top 500 firms. Company counts weighted.
Source: Own Calculations. For more information on cartogram mapping please see https://www.dannydorling.org/?page_id=3132 and the book The human atlas of Europe: A continent united in diversity https://www.jstor.org/stable/j.ctt1t8937s

Evolution of Historical Cores and New Industrial Spaces in Türkiye

Table 1 presents the distribution of the top 1000 firms to regions by years. Figures 5 and 6 were created to monitor region-specific change trends annually. To trace the region-specific change trends on a yearly basis, Figures 5 and 6 are created. Each graph belongs to a region, and the cross-sectional average is one in the region-specific time series. The trend lines for the top 500 and second top 500 firms are obtained by dividing the annual number of firms in the region by the average of a region-specific time series. The Red line shows the trend for the top 500 firms, and the blue line shows the trend for the second top 500 firms.

Considering the number of the first 1000 companies located in the historical core regions of Türkiye;

- İstanbul: The number of firms decreased from 535 to 321 (-40%) in the 1997-2019 period. Figure 5 (A) clearly shows the evolution of the decreasing trend of top firms in İstanbul at first glance. Both the red and blue lines show a rapidly decreasing trend. The 2008 global financial crisis is a breaking point for the top 500 firms. The trend appears to fluctuate around similar values until 2008 and then starts to decrease. Initially, the number of firms among the

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second largest 500 firms is higher than that among the top 500 firms; however, their number falls below the number of top 500 firms in 2019. Regarding the capital fractions, the regional distribution of the TÜSİAD members shows that TÜSİAD members are highly located in İstanbul in 2023, but their share in the top 1000 firms is evidently decreasing in the analysis period.

- İzmir: The number of firms decreased from 104 to 76 (-26.9%) in the 1997-2019 period. In Figure 5 (B), the red line, which shows the trend of the top 500 firms in the regions, has a sharp decreasing trend until 2011 and then starts to increase slightly until 2019. The trend of the second-top 500 firms started to decrease after the 1999 and 2008 global financial crises.
- Ankara: The number of firms decreased from 73 to 58 (-20.6%) in the 1997-2019 period. For the region, Figure 5 (C) shows that the number of the top 500 and second top 500 firms decreased, although not as sharply as in the İstanbul and İzmir regions.

These results from figures and tables confirm that the number of top 500 and second top 500 firms is decreasing significantly in the core regions where they had almost 70% of the top 1000 firms in 1997. This ratio decreased to 45 in 2019.

Table 2. Distribution of top 1000 firms to regions by years, Source: Own Calculations

Region	Code	1997	1999	2002	2008	2014	2019
İstanbul	TR100	535	514	496	435	370	321
İzmir	TR310	104	114	89	83	71	76
Ankara	TR510	73	75	61	60	61	58
Bursa	TR411	44	42	64	65	66	65
Denizli	TR322	21	20	32	22	21	18
Manisa	TR331	19	21	17	19	21	25
Kocaeli	TR421	18	25	26	52	63	74
Adana	TR621	18	21	17	23	23	25
Gaziantep	TRC11	17	16	16	31	56	61
Kayseri	TR721	16	18	25	27	28	28
Balıkesir	TR221	14	12	11	15	12	12
Eskişehir	TR412	12	12	12	11	8	9
Konya	TR521	10	11	12	20	24	22
Mersin	TR622	9	7	6	7	9	11
Karaman	TR522	6	6	3	5	3	4
Zonguldak	TR811	6	5	4	6	5	5
Bolu	TR424	5	6	6	5	5	4
Ordu	TR902	5	5	6	6	7	8
Antalya	TR611	5	4	7	9	6	7
Kahramanmaraş	TR632	5	3	8	11	20	25
Sakarya	TR422	4	4	6	6	17	14
Kütahya	TR333	4	4	5	3	3	2
Giresun	TR903	4	4	3	1	2	3
Aydın	TR321	4	3	4	6	6	6
Edirne	TR212	3	3	3	4	3	2
Malatya	TRB11	3	2	1	2	2	1
Samsun	TR831	2	5	7	11	13	14
Tekirdağ	TR211	2	3	5	9	14	22
Trabzon	TR901	2	2	3	5	5	3
Niğde	TR713	2	2	3	1	0	1
Çanakkale	TR222	2	2	2	4	2	4

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Kırşehir	TR715	2	2	2	1	1	1
Isparta	TR612	2	2	2	0	2	2
Amasya	TR834	2	2	2	0	2	2
Rize	TR904	2	1	1	2	2	2
Adıyaman	TRC12	2	1	1	1	0	0
Hatay	TR631	1	3	9	11	11	12
Karabük	TR812	1	1	1	2	4	5

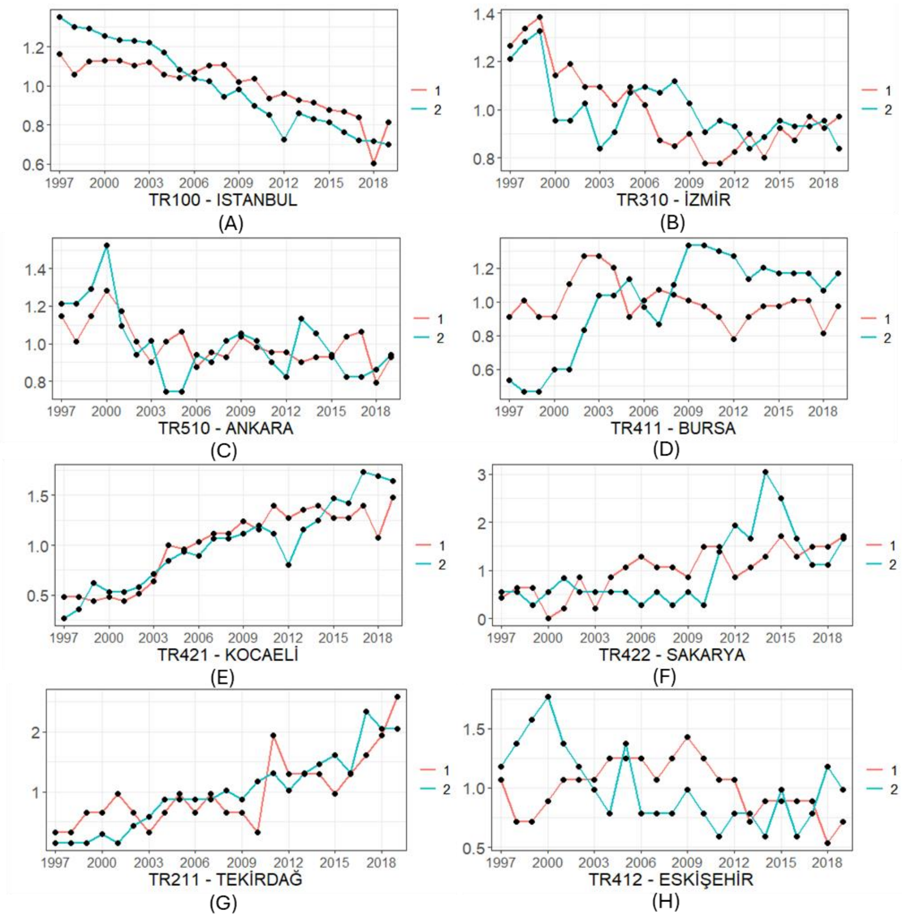

Figure 5. Evolution of top 500 and second top 500 industrial firms in major regions of Türkiye for the period of 1997 - 2019. Note: Red line refers to top 500 firms, and blue line refer to the second top 500 firms. Cross-sectional average is 1 in all figures. Source: Own Calculations

The decrease in the number of the top 1000 firms in core regions also indicates an increase in the number of top 1000 firms in other regions. In this context, we can claim that such increases occur in the regions around or close to İstanbul and in the Anatolian Tiger regions. Figure 5 (D)-(H) shows the annual change trend of the top and second top 500 firms in the regions close to or around İstanbul. It is widely discussed in the literature that the core regions of the countries had transition processes called deindustrialization, which refers to a transition from industrial cores to financialization cores. Policies based on the transfer of industrial areas of core regions to neighboring and backward regions are quite common in European Regions.

Considering the number of the first 1000 companies located in the regions near the historical core regions of Türkiye;

- In Bursa, which has been a center of trade and industry throughout its history and is close to İstanbul, but the proximity effect of

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İstanbul has decreased due to the inland sea between them, the number of top firms increased from 44 to 65 between 1997 and 2019. The Bursa region is dominated by the big İstanbul Capital and Anatolian Capital Group. Both the red and blue lines show increasing trends (Figure 5D). While the top 500 also maintained its existence during the period, the number of second-top firms increased.

- Tekirdağ, İstanbul, Kocaeli, and Sakarya regions are developing by integrating from west to east. Because these three regions are very close to İstanbul, it is quite clear in Figures 5 (G), (E), and (F), respectively, that these regions receive the highest share of the deindustrialization processes of İstanbul. Both the number of top 500 and second top 500 firms is apparently increasing in these three regions. These trends are consistent with the industrial relocation policies of the İstanbul region. The increase in the Kocaeli regions, where industrial investments have been implemented in connection with the İstanbul region since the beginning of the new republic, is almost five times higher than that in the Tekirdağ and Sakarya regions. Tekirdağ and Sakarya regions are secondary neighbors of the İstanbul region; however, the increases in the top 500 and second top 500 firms in these two regions are quite significant, with the number of firms increasing 10 times for Tekirdağ region and almost four times for the Sakarya region. It is still possible to claim that both the Big İstanbul Capital Group and the Anatolian Capital Group dominate these regions. Anatolian Tigers or New Industrial Spaces are concepts for defining the regions whose share in the Turkish economy and industrial production has increased remarkably and rapidly since the 1980s. Most of the firms located in these regions are SMEs formed by families who were able to accumulate low-level capital due to the late capitalist economies of these regions. In this regard, the evolution of the second-top 500 firms in these regions is quite significant and provides important insights into the regional restructuring of the new industrial clusters in Türkiye. The number of the top 500 and second top 500 firms is increasing in these regions with different patterns. Figure 5 (A)-(J) shows the changes in the trend of these regions.

In almost all regions in Figure 6, it is seen that the blue line has a high upward trend in all or part of the 1997 - 2019 period. Regions that come to the fore in the increasing trend of the blue line are especially the regions of Konya, Kayseri, Gaziantep, Adana, Samsun, and Ordu. In some regions, the red line is also consistent with the trend of the blue line. These regions are Konya, Gaziantep, and Samsun, where the number of top 500 and second top 500 firms increased between 1997 and 2019. The number of top 1000 firms increased two times in

Konya, and this ratio is more than three for the Gaziantep region and seven for the Samsun region.

There are also regions where the number of companies in the top 500 has increased like the Manisa and Hatay regions, although their second top 500 firm numbers are fluctuating between 1997 and 2019. The number of top 1000 firms increased 12 times between 1997 and 2019 in the Hatay region. There was not such a high increase for the Manisa region (Figure 6 (H). The number of top 500 firms in the Denizli region, which is seen as a success story among Anatolian Tiger regions in terms of economic growth, is almost constant after 2010, and the number of second top 500 firms decreases after 2003, which shows the transformation of the regional economy. Analyses show that by 2019, the Denizli region is far behind the Konya, Kayseri, and Gaziantep regions.

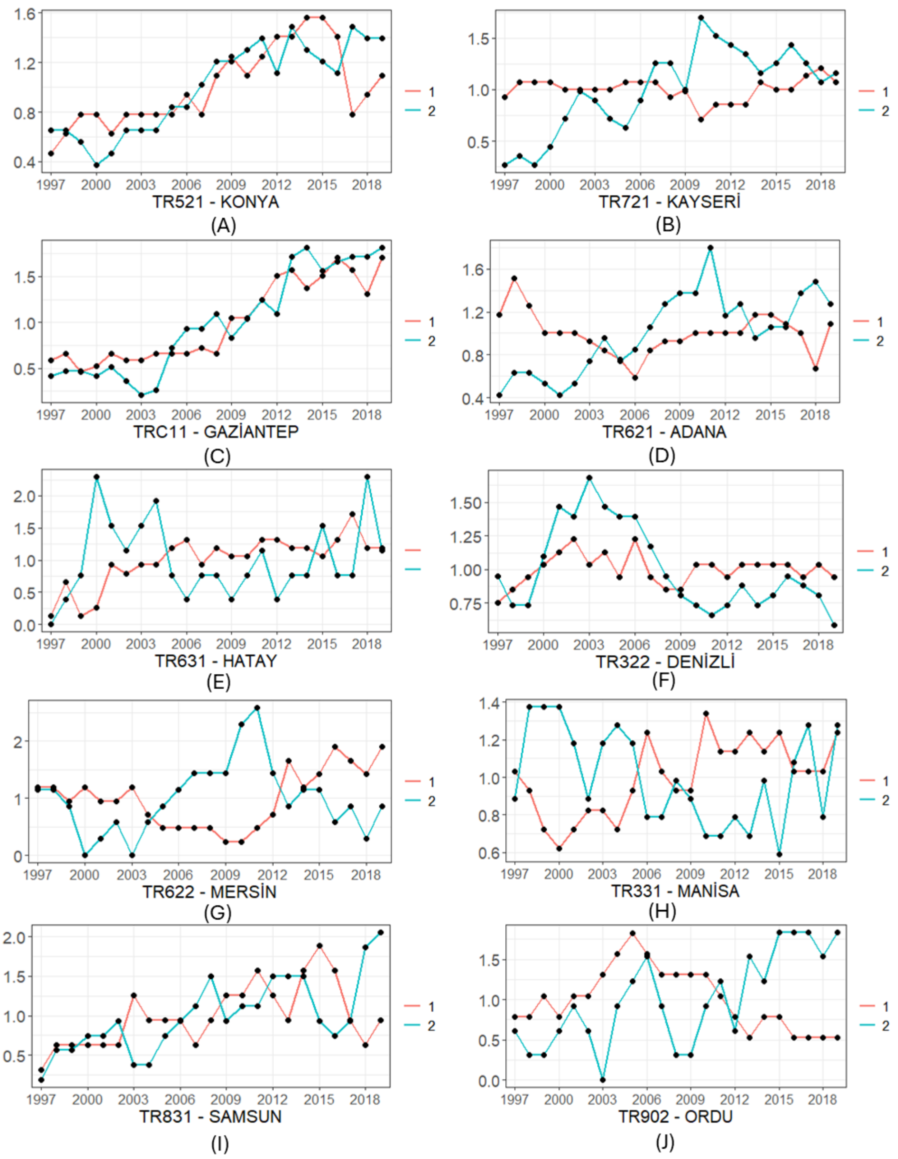

Figure 6. Evolution of top 500 and second top 500 industrial firms in Anatolian Tigers (New Industrial spaces) regions of Türkiye for the period of 1997 - 2019. Note: The red line refers to the top 500 firms, and the blue line refers to the second top 500 firms. The cross-sectional average is 1 in all figures. Source: Own Calculations

While these regions initially had a few firms far below their average values of the 1997-2019 period, their firm numbers are later much higher than their averages. This provides information about the traces of capital

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accumulation in the regions. Capital accumulation processes are path-dependent and formed by decision makers and capital groups. In these regards, the analyses show that regional policies that favoured the regions with the subsidization policies and the redistribution processes of the wealth created throughout the country can create capital accumulation in these regions.

DISCUSION AND CONCLUSION

The concept of regional disparities is not an old fact for a country like Türkiye, many developing countries suffer from regional imbalances. However, our paper differs from the existing literature by approaching the regional disparities of capital accumulation as a dynamic process. Indeed, the east-west duality is well documented in the literature. What is neglected by the studies dealing with regional disparities is that such duality is changing according to the dynamics that are embedded into regions and intervention policies formed by governments and capital fractions.

It can be stated that east-west duality still maintains its validity in general, but we want to draw attention to the fact that regional disparities regarding capital accumulation are not static but dynamic in Türkiye. The east-west duality was restructured between 1997 and 2019. Our main finding and argument in this study is that interregional inequalities in Türkiye are changing and transforming spatially. However, despite such changes and transformations, the level of inequalities between regions remains high. This is consistent with studies reporting club convergence across regions of Türkiye like Aksoy et al. (2019) and Duran & Erdem (2017). This process has changed and transformed by social and economic policies embedded in the dynamic processes of the regions, which are not easy to measure and capture because of the lack of proper data. Therefore, this study fills an important gap in the literature that focuses on regional capital accumulation disparities. The assessment of uneven geographical capital accumulation spatiality and historically is crucial because unbalanced accumulation of capital, regional disparities in other words, leads to cohesion and stability problems for the countries. The novelty of this paper is based on the use of top 1000 firm data as a proxy for the spatial configuration of capital accumulation across regions.

Analyses show that the increases and decreases in the top 1000 firms in regions are not random but very location specific. At first glance, the analyses revealed that the number of firms (among the top 1000 firms) is decreasing in core regions of Türkiye like İstanbul, Ankara, and İzmir, which means that the number of firms among the top 1000 firms is increasing in other regions. In the core regions, where the top 1000 companies owned almost 70% in 1997, the number of top 500 and second top 500 companies is decreasing significantly, which is consistent with the results of Özarslan (2006), which showed the decentralization of the manufacturing Industry and the rise of the service sector in traditional regional centers (İstanbul, İzmir, Ankara). As discussed

[7] Urban continuum is a concept that refers to urban areas consisting of urban integrity with little or no intervening natural areas. For more information on urban continuum please see https://vizyon2050.istanbul/haberdetay-1-7-istanbul_metropoliten_alan_plan_surecleri

[8] The shift from Fordism to Post-Fordism refers to the emergence of the globalizing urban system and a new form of worldwide restructuring of capitalism that began to appear in the 1970s. The analysis is made with reference to two socio-political transformations. One is demand and production elasticity resulting from the emergence of a new international division of labour controlled by industrial districts consist of small and medium scale firms instead of global firms. The other is the crisis of the Fordist-Keynesian technological institutional system that dominated the old, industrialized world in the post-World War II period which refer to a shift from mass production to flexible production.

[9] The concept of Anatolian Tigers refers to the regions that rise after 1980s in Turkey mainly by the emergence of small and medium sized enterprises. The term itself comes from the Asian Tiger that is used for calling the countries of Hong Kong, Singapore, South Korea, and Taiwan that grew more than 7 percent annually with the rapid industrialization for more information please see: https://www.economist.com/special-report/2019/12/05/after-half-a-century-of-success-the-asian-tigers-must-reinvent-themselves?utm_medium=cpc.adword.pd&utm_source=google&ppccampaignID=18151738051&ppcadID=&utm_campaign=a.22brand_pmax&utm_content=conversion.direct-response.anonymous&gad_source=1&gclid=Cj0KCQjwqP2pBhDMARIsAJQ0CzpQcPe-xEDYH4YtIOqCL7Bcos5_uUb-Yv8Vqm2TvkKimEI6XCuC6dkaAk-REALw_wcB&gclsrc=aw.ds

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earlier, the financialization of the core regions and relocation of the industries in line with the deindustrialization policies may explain the decrease in the number of top firms in the İstanbul (Erbil, 2017), İzmir (Özatağan and Eraydın, 2014), and Ankara (Bostan et al., 2010) regions.

As for the regions where the number of large firms increases, the number of top firms is mostly increasing in the regions that are border neighbors of the İstanbul region. Currently, an urban continuum[7] exists between the cities of Tekirdağ, İstanbul, Kocaeli, and Sakarya (from west to east). It is not wrong to suggest that the spatial configuration of the top firms in these regions is dominated by the İstanbul capital (Evren and Sakarya, 2018). The trend we revealed in this study using data between 1997 and 2019 has been discussed in the literature with different conceptualization attempts like "industrial growth in the hinterland provinces" (Ataay, 2004) and "development-oriented regions" (Albayrak and Erkut, 2010).

Our findings are consistent with the literature that analyzes the industrialization processes of Türkiye. Ataay (2004) reports that the Marmara region is the most developed and developing region of Türkiye, and the industry, which was concentrated in İstanbul, Kocaeli, and Bursa before 1980, has spread to the hinterland of neighboring provinces. These hinterland neighboring provinces were classified as second-stage developed provinces by the Ministry of Industry and Technology (Ministry of Industry and Technology, 2017), which surround the first-stage developed provinces. Our findings are also consistent with the Kazancık (2007) report that İstanbul is dominant in almost all sub-sectors in the manufacturing industry, and neighboring regions within İstanbul's sphere of influence resemble the sectoral structuring of İstanbul.

The number of top 1000 firms is also increasing obviously in new industrial spaces of Türkiye (Anatolian Tiger regions). Eraydın (2002) suggests that the shift from Fordism to Post-Fordism[8] is an important dynamic of the rise of new industrial spaces in Türkiye. The top firms in the Anatolian Tiger[9] regions are SMEs that are flexibly able to adapt their mode of production, and their technology upgrades are easier than the big industrial complexes. In addition, subsidy policies were applied by the governments to these regions to increase the cluster externalities in these regions. Our findings are consistent with the emergence of New Industrial Zones defined as Anatolian Tigers by Özaslan (2006), the conceptualization of "development-oriented regions" by Albayrak and Erkut (2010), and the rise of Konya, Kayseri, Karaman, and Yozgat provinces that have become competitive in some sectors with "green capital" investments after 1980 by Ataay (2004).

Additionally, the TÜSAD-MÜSİAD duality is an important factor in the increase in capital accumulation in the Anatolian Tiger regions. Although we wanted to examine the changes in the members of TÜSAD and MÜSAD, among the top 1000 companies, according to regions during the study period, we could not access the member lists within the scope of the law

[10] We would like to encourage the researchers to for the research questions like how many companies are members of TÜSİAD-how many companies are members of MUSIAD? Has the distribution of the memberships of the top 1000 companies in these two organizations changed over time? Did this change have an impact on the geographic distribution of capital accumulation?

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on access to information[10]. However, the distribution of TÜSIAD members by region provides us with data supporting our argument that TÜSAD members are predominantly concentrated in western regions and that the majority of the new firms that are entered into the top 1000 list are from eastern regions.

When the results of the study are examined, we see that both tools from the economic geography literature and those from the Marxist geography literature can be used to reveal the unequal spatial distribution dynamics of capital accumulation in Türkiye. Based on the assumption that regional unequal capital accumulation in Türkiye involves a changing and transforming spatiality and causality, we would like to underline the necessity of considering the process as evolutionary, as we did in the study. Both approaches can reveal different reasons for explaining the historical causality of regional capital concentration inequality in Türkiye. However, a data set such as the rankings of companies cannot reveal sufficient correlation and causality to make different readings about how the process is shaped. For this purpose, in-depth interviews with companies and representatives of different capital fractions are required.

New regional development policies that can balance the regional disparities in Türkiye can be formed using the results derived from analyses of the evolution of the spatial distribution of the top 1000 firms. These policies will help decision-makers manage the diversification of the regions by developing strategies that support the specialization of a new sector that it has not previously specialized in.

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