

REGIONAL SPECIALIZATION IN THE CONTEXT OF DEINDUSTRIALIZATION: THE CASE OF TÜRKİYE

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Abstract

Deindustrialization is experienced in different forms and more deeply in developing countries where regional inequalities, an important component of deindustrialization, impose more structural and historical conditions than in developed countries. Deindustrialization has a deeper causality and impact especially in countries whose economies are based on agriculture and which begin to deindustrialize with global effect while their industrial development continues. The aim of this study is to investigate the regional nature of deindustrialization within the center-periphery relationship at the global and country level. Assuming that the international center-periphery relationship has similar characteristics on a national scale, in this study the regional character of deindustrialization at the level of sectoral specializations is investigated in Türkiye NUTS 2 regions by performing a long-term Location Quotient (LQ) analysis. The main results of the analysis demonstrate that: (i) while Türkiye is an agricultural society and its industrial development continues, it has entered the deindustrialization process with globalization effect; (ii) the pattern of deindustrialization can be exemplified by the regional cluster centered on Istanbul in the Northwest which shows high industrial specialization; (iii) agricultural production dominates throughout the country; and (iv) there is a tendency for industrial development to stagnate and for a direct transition from agriculture to services.

Keywords: Deindustrialization, Labor Market, Regional Specialization

JEL classification: J01, J08, J21, N90, O11, R12

1. Introduction

In the era of radical globalization, international trade and the transfer of industrial activities have become an important component of deindustrialization since the 1990s. During this process, deindustrialization occurred in different ways in developing countries compared to developed countries. It has a deeper causality and impact, especially in countries whose economies are based on agriculture and which begin to deindustrialize with global effect while their industrial development continues. Studies on different forms of deindustrialization, its consequences for developing economies, and regional differences at the national level are relatively new in the literature.

The aim of this study is to investigate deindustrialization with its regional nature within the center-periphery relationship at the global and country level. Deindustrialization research often focuses on measuring deindustrialization in a particular economic unit and/or seeking urban revitalization. In this study, an attempt was made to develop a holistic perspective on deindustrialization at the intersection of regional planning, sociology, economy and history. Thus, the historical-structural causality of the effects of deindustrialization on the ability or inability to change the economic geography is emphasized.

Against this background, the next section explains the definition of deindustrialization and its global meaning within the conceptual framework. The different causality and temporality of deindustrialization in developed and developing countries are emphasized. According to the information and data obtained, deindustrialization largely depends on capital mobility within the center-periphery relationship and the displacement of regional specializations. In the third part, by performing a Location Quotient (LQ) analysis, sectoral specializations were

found in 26 regions of Türkiye's NUTS 2 region. The analysis covers a 12-year period, 2009-2020. Findings are classified into regions of full, high and medium specialization and mapped in ArcGIS. In the fourth section, the results are explained and interpreted according to the analysis findings, and suggestions for countering deindustrialization are given.

2. Conceptual Framework: What is Deindustrialization?

Deindustrialization was defined within the scope of economic growth as a normal process primarily related to productivity in developed countries, in studies as early as the 1940s reflecting neoclassical economic thought. Definitions of deindustrialization are based on explanations defined in three sectors or the Clark-Fischer model in the works of Clark (1940) and Fischer (1939). Accordingly, structural change and development in the economy is explained by an expansion from the primary sector (agriculture) to secondary (industry) and tertiary (service) sectors. In this context, in its most basic definition in the classical view, deindustrialization refers to the situation where productivity in the industrial sector stimulates services and the service sector workforce increases while the industrial workforce decreases.

Studies of the 1960s also examined deindustrialization within the context of economic growth. Some of them shared the pioneering views of the 1940s and described this as a normal process (See Rostow 1959; Kuznets 1973). On the other hand, critical views have developed claiming that industry is a dynamic sector in economic development and that, despite the increase in the service sector, the decrease in production will impede economic growth (See Kaldor 1966).

Since the 1980s, deindustrialization has gained a global character and studies; focusing on regional changes, capital mobility, international trade, center-periphery relation between and within countries and regional inequalities, have developed (See Bluestone 1984; Krugman 1988,1991; Rowthorn and Ramaswamy 1997; Şenses 2004; Kollmeyer 2009a-b; Lorenzi and Berrebi 2016; Maslikhina 2018; Doğruel and Doğruel 2019; Duran 2019; Gubanov E, Voroshilov 2019; Pike 2020; Vu et al. 2021; Kozhevnikov 2021; Clark 2022; Uzsayılır and Baycan 2023; Liu and An 2023, Simic 2023).

Among these studies, Krugman brought a new perspective to neoclassical economics regarding the reasons for the concentration (agglomeration) of industrial activity, and introduced the center-periphery relationship into the discussion by questioning "Why and when does manufacturing become concentrated in a few regions, leaving others relatively undeveloped?" (Krugman 1991:484). In this context, Bluestone argued that there was a great capital mobility at the regional and sector level in America and that the loss of employment that occurred in this process was a serious economic problem (Bluestone 1984:43-51).

Among the studies on the causes of deindustrialization, according to Rowthorn and Ramaswamy, who share the classical economic view, the cause of deindustrialization is the increase in productivity in industrial production in developed countries, North-South trade has a minor role in its emergence, and deindustrialization in developing countries is more related to its internal dynamics (Rowthorn and Ramaswamy 1997:2-11). On the other hand, Kollmeyer emphasizes the importance of the globalization effect, the reason for his different views from Rowthorn and Ramaswamy being related to measurement methods. In his research, Kollmeyer acknowledged the impact of increased welfare and consumer demands in developed countries, but argued that North-South trade was a large part of deindustrialization and explained its regional impact in the context of "unequal exchange theory" (Kollmeyer 2009a:1644,1660-1970/ 2009b: 820-822).

The important component of North-South trade during the period of deindustrialization is the transfer of industrial activity. Lorenzi and Berrebi investigated the effects of offshoring from developed countries to emerging countries and revealed that industrial activity shifted sharply, especially in the 1995-2005 period, in a much more specific way and to a more specific set of regions than in the 1970s (Lorenzi and Berrebi 2016:76-79).

Şenses draws attention to the form of deindustrialization that differs between center and periphery countries in this process. He states that underdeveloped countries have deindustrialized before completing their industrial development, with a misleading similarity to the developed economies (See Şenses 2004:6-18). Accordingly, it can be argued that North-South trade became a major part of deindustrialization during the radical globalization phase, increasing regional inequalities. This process also differs temporally.

According to Doğruel and Doğruel, while deindustrialization before the 90s expressed structural changes due to internal factors in developed countries, the effect of globalization began to come to the fore after the 90s (Doğruel and Doğruel 2019:214-225). Focusing on regional development in Russia, Maslikhina, highlighted the increasing regional inequalities due to external influence and internal factors after 1990 until 2005, as well as the interrelationship between underdevelopment and economic growth (Maslikhina 2018). Vu and colleagues argue that deindustrialization became permanent by experiencing a significant structural change in the post-1990 period, when the acceleration of globalization with the rise of North-South trade had a significant impact. In countries with larger populations and where the trade balance tends to be in deficit, deindustrialization tends to be more severe and has become more pronounced in the post-1990 period (Vu et al. 2021). In their study focusing on the relationship between poverty and deindustrialization after 1990, Liu and An argue that deindustrialization followed different paths in developed and developing economies and increased poverty in developing countries during this period (Liu and An 2023).

On the regional differences of deindustrialization on a global scale, according to the study of Uzsayılır and Baycan (2023), deindustrialization took place at different times and in different forms in developed economies and developing ones. Developed countries started to deindustrialize while their industrial development was at a high level and largely completed this structural transformation by the 1990s. In developing countries, the global impact comes to the fore in deindustrialization and this gained momentum after the 1990s. In developing economies of the first category, China, India and Indonesia are the countries that industrialized rapidly, especially after the 2000s, with the influence of North-South trade. However, service employment has also increased due to specialization in China, and a trend towards deindustrialization has begun to be observed since 2012. In the second category, countries such as Russia and South Korea, which developed with statist policies during the industrialization period, and island countries such as Australia, Hong Kong and Singapore, which have long-established economic relations with developed economies, have also entered the process of deindustrialization due to global influence, but they are relatively advantageous because they entered this process while their industries were at a high level. In the third category, the main trend in Türkiye, Brazil and Mexico was their rapid and sudden transition from import substitution policies to the free market, while they were agricultural societies and their industrial development was still continuing. In this category, there is a relative increase in service employment against a sharp decline in agriculture and stagnation in industry. This means a direct transition from agriculture to services, thus increasing the problems of unemployment, regional inequality and rapid urbanization. In the second and third category countries, deindustrialization occurred significantly between 1990 and 2000 (Uzsayılır and Baycan 2023: 291-294).

Studies on the regional effects of deindustrialization at the country level mostly focus on the post-industrial situation in the major industrial regions and/or large cities of developed countries (See Lever 1991; Sieber 1991; Cowie and Heathcott 2003; O'Hanlon and Hamnett 2009; High et al. 2017; Taft 2018; Pike 2020; Walling 2022; Yazgan et al. 2022).

Regional studies in the context of deindustrialization in developing countries are relatively new and span a wide range of regions and scopes (See Silva 2019; Tahsin and Börü 2020; Karahasan 2020; Deineko and Tsyplitska 2020; Safronova and Zotovab 2021; Neto et al. 2022; Sakarya 2023; Lar and Taguchi 2024). This may be related to the fact that deindustrialization in developing countries occurs at different times, with different dynamics, and is divided into various forms compared to developed countries. On the other hand, this is precisely the main common point shared by developing countries. Based on this point, the increase in local-regional studies at the country level could provide more information about the collaborations and regional industrial policies that can be developed in non-Western economies or the Global South. Therefore, in the next part of the study, addressing Türkiye, the relationship between sectoral specializations and deindustrialization at the country level is investigated.

3. Regional Deindustrialization in Türkiye

3.1. Background

It can be argued that deindustrialization is continuous with the development problems that emerged with modern industry in Türkiye. The problem of development in Türkiye started with the dissolution of regional specializations in the Ottoman Empire from the 17th century. From this date onwards, Istanbul rapidly became the centralising focus and began to separate from the rest of Anatolia¹ (See Karpat 2006, 2008; Tekeli 2008; Keyder 2014, 2018; Boratav 2019).

The national economy in the early republican period was an exceptional period of development for Türkiye during which it determined its own role in the new world. After the Second World War, the Cold War period and the ongoing process with the oil economy changed the direction of economic policies all over the world. This period which started in the 1950s and lasted until the end of the 1970s was the liberalization period. Between 1960 and 1980, statist policies, which began to be seen at the global level, were reflected in import substitution policies in Türkiye, and this period witnessed the pangs of democracy on the one hand, and rapid industrialization-urbanization movements on the other.

The reflection of neoliberal ideology in Türkiye, which began to be effective in economic policies with the global oil crisis, can be seen in the decisions of January 24, 1980 and the IMF programs. This period was also the beginning of deindustrialization. After the 2000s, this process began to become institutionalized and gained momentum.

Industrial employment shares in Türkiye have gradually decreased since the 1990s. According to the study of Uzsayilir and Baycan (2023), it was 29.65% in 1991 and 25.31% in 2019. There was a more dramatic decrease in the agricultural employment share. While it was 29.76% in 1991, it had dropped to 18.11% by 2019. On the other hand, the service employment share increased from 40.58% in 1991 to 56.56% in 2019, a relative increase. During this period, unemployment rates were 8% in 1991 and 14% in 2019.

Under the conditions of radical globalization, the rise of the services sector in developed economies due primarily to productivity, rapid progress in technology, the accessibility of every part of the world and the distributability of manufacturing, and the international transfer of industrial activity have led to industrialization and the development of specializations in some emerging economies in Asia. This new form of international trade has caused stagnation of industrial development and premature deindustrialization in some developing countries. In this sense, although Türkiye continues to remain relatively stable in industrial income, it has begun to deindustrialize in employment, which is the main measurement unit of deindustrialization. This situation causes the development of industrial production and specializations in Türkiye to stagnate and a direct transition from agriculture to services.

3.2. Sectoral Specializations in NUTS 2 Regions

In this study about the local dynamics of change in regional specializations on a global scale, sectoral specializations in Türkiye's NUTS 2 regions were investigated by making a Location Quotient (LQ) analysis. The following calculations were used:

1. $(e_i)/(e_n)$: ratio of regional employment by sectors to total regional employment.

(The ratio of agriculture, industry and service employment figures in each of the Level 2 regions to the total employment figures in each of the Level 2 regions).

2. $(E_i)/(E_n)$: ratio of national employment by sectors to total national employment.

(Ratio of Türkiye's agriculture, industry and service employment figures to total employment)

3. $LQ = [(e_i/e_n) / (E_i/E_n)]$

LQ is a classical analysis method developed by Florence in 1939. It can be carried out using different variables and data sets. Essentially, it gives the ratio of employment in any sector in a region to employment in the same sector across the country. There are different

¹ Anatolia is also known as Asia Minor. The land mass of Anatolia constitutes most of the territory of Türkiye. In everyday language, it is used for all lands of Türkiye except the Istanbul region.

assumptions about the threshold value. According to general acceptance, in the region where the sector coefficient is above 1, there is specialization in that sector. An important cut-off point 1.25 is the limit where the agglomeration is concentrated and/or the lowest accepted limit required for an industry in a region to be considered an exporter. It is seen that in regions where specialization is very high, the threshold value can be accepted as 2 or even 3. Depending on the threshold value, different value ranges fall below or above the threshold value; Classifications such as none, weak, medium, upper middle, high and full specialization were used (See Levy 1985:98; Yardımcı 2014:58,59; Çiftçi 2018:555,556; Ergen and Oğuz 2018:118).

In the light of this information, the specialization threshold value was accepted as 1, considering the stagnation of regional specializations, which is the specific condition of the universe. Another important threshold value, 1.25, was determined as the high specialization limit and 2 as the full specialization limit.

$LQ \geq 2.00$ = Full specialization

1.25-2.00 = High specialization

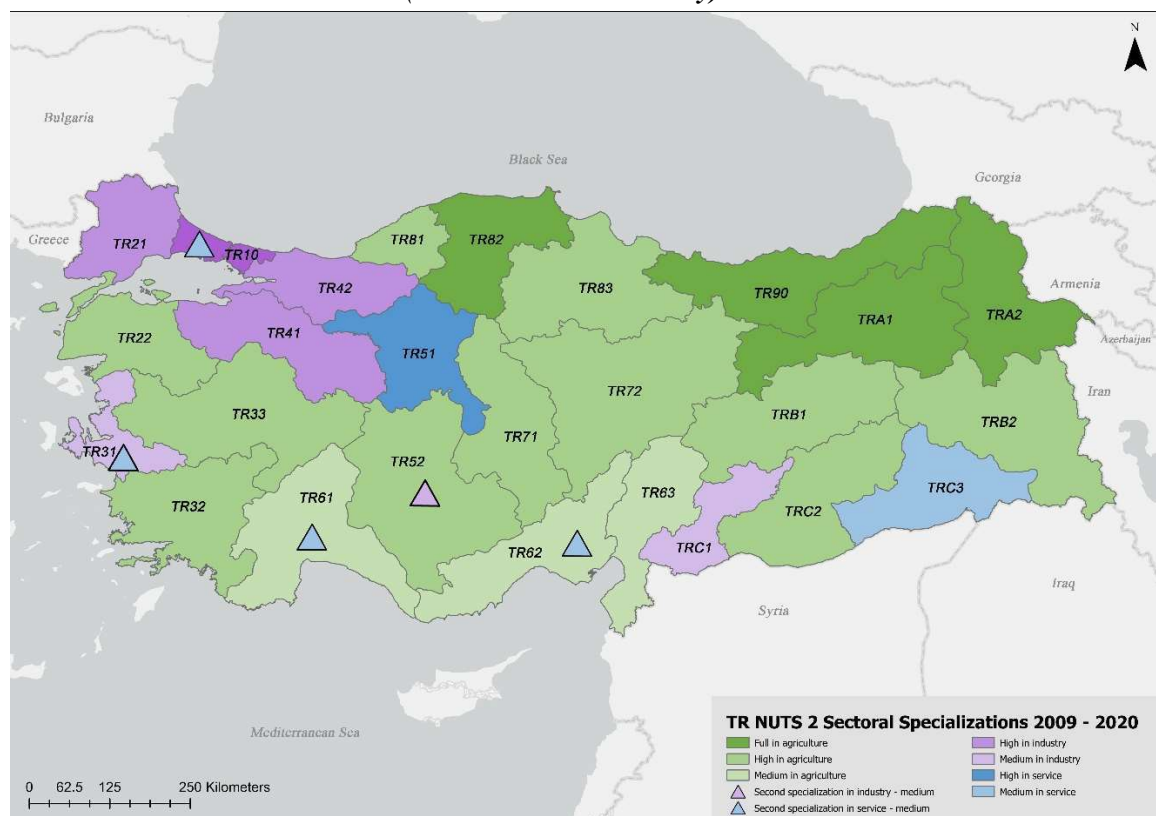
1.00-1.25 = Medium specialization

$LQ \geq 1.00$ = Specialization

A long time period was determined in the analysis to remove the effect of periodic changes. Post-2000 in Türkiye is the period when deindustrialization began to become institutionalized and gained momentum, an important change point especially after the 2008 financial crisis (See Doğruel and Doğruel 2019; Uzsayılır and Baycan 2023). For this reason, 2009 was taken as the starting date of the analysis, when the effects of deindustrialization started to be reflected in macro indicators and also NACE Rev. 2 started to be processed. The analysis process covers the period before 2021, when it is assumed that the effects of the Covid-19 pandemic had not yet begun to be seen. Accordingly, analysis was carried out for each year in a 12-year period starting from 2009 and including 2020, and the average value was taken.

Raw data were obtained from TURKSTAT database. Using the data set, first (e_i/en) and (E_i/En) were calculated and then $[(e_i/en)/(E_i/En)]$ was found. The obtained data were transferred to the GIS (ArcGIS) program and mapped (Map 1).

Fig. 1: Türkiye NUTS 2 Sectoral Specializations 2009-2020
(Produced within this Study)



3.3. Key Findings

The results of the analysis show that agriculture is the dominant production in Türkiye. 18 out of 26 NUTS-2 regions (TRA2, TR90, TR82, TRA1, TR83, TRB2, TR33, TR81, TRB1, TRC2, TR71, TR22, TR32, TR72, TR52, TR63, TR61, TR62) have specialization in the agricultural sector. Among these, three regions (TR52, TR61, TR62) specialize in a second sector, while the other 15 specialize only in agriculture. Of the 3 regions in question, TR52 specializes in agriculture and industry. This relatively successful region is one of the “Anatolian Tigers” of Central Anatolia whose industrial development has been supported since the 80s. However, industrial specialization has reached a limit and has not progressed at the expected level. TR61 and TR62 specialize in agriculture and services. These two regions are regions with fertile agricultural lands on the southern coasts of Türkiye where agriculture and especially agriculture-industry development potential is high. However, these two regions, which include the port cities (Antalya, Mersin, Adana) in the South, also have high trade and tourism potential, and with the focus on these, the problem of direct transition from agriculture to services has begun to be seen concretely in these regions.

There are seven regions (TR41, TR21, TR42, TR10, TR31, TRC1, TR52) with industrial specialization in Türkiye. Four of them have high specialization (TR41, TR21, TR42, TR10). These clustered regions are Istanbul-centered, with Istanbul (TR10) being the deindustrialized centre among them. Specialization (LQ) in the industrial sector in Istanbul was 1.49 in 2009 and had dropped to 1.19 by 2020.

3.4. Special Situation of Istanbul

Istanbul city-region accounts for 18.66% of the total country population, 30.73% of the total GDP and 20% of the total employment over the age of 15 (TURKSTAT 2019). According to export figures, 50.79% of Türkiye’s exports occur from the TR10-Istanbul region (Türkiye Ministry of Commerce 2021).

TR10 Istanbul region borders TR42 to the east and TR21 to the west. Both regions are regions of high specialization (agglomeration) in industry and are united with Istanbul as regions where the decentralization of industry takes place. Istanbul industry, together with these two neighboring regions, interacts with TR41, which shows the highest industrial specialization in this sub-region of Türkiye. Within this cluster, only Istanbul is deindustrializing and is specialized in the service sector along with high industrial specialization (Industry LQ=1.33, Service LQ=1.23).

Istanbul was the imperial capital for centuries and has become a “culturally global city” (See Keyder 2018), connecting the Asian and European continents. The industrialization phase in the 1960s was the city’s first modern period, the second being the radical deindustrialization phase up to the 2000s, a two-step process by which Istanbul rapidly integrated with the global economic system.

In the development plans (See Türkiye Presidency 2024) after 2000, attention was drawn to the services sector, the “transit” position that can be advantageous against global flows, and Istanbul and its surrounding regions in global integration.

The new global political economy has gradually changed the national economy, and the manufacturing-based economy has diminished and been replaced by a service sector expansion, mainly centered on Istanbul. Istanbul’s industrial transformation began in the late 1970s with decline in productivity, labor movements, and the rapid transition to a free market economy in the 1980s, with the decline in competitiveness. Starting from the 90s, with the application of planning decisions, major industry and therefore the industrial workforce began to be transferred from the center to the periphery. Under the pressure of the new political economy, a series of decisions were implemented to make room for the financial economy instead of decreasing production and for new urban classes to replace the working class. As industries have changed places, some have closed (e.g. leather and textiles), some have shrunk, especially in terms of employment with the introduction of technologies (e.g., automotive, machinery), and some have transferred to foreign capital and/or been incorporated (e.g., pharmaceutical companies).

Under these conditions, an urban transformation policy has begun to be implemented, starting from the lands of large industrial facilities that were closed and/or downsized and

moved to the periphery, and the old workers' neighborhoods around these lands, spreading throughout the city. Especially since the 2000s, the construction sector has become more profitable than production and the preferences of industrialists have begun to move in this direction. Therefore, it can be argued that the global political economy impact related to the form of deindustrialization seen in Istanbul in particular and in Türkiye in general has more spatial characteristics locally.

4. Conclusion

The dynamics of deindustrialization in Türkiye are the rapid transition from an agricultural society to a free market economy and the interruption of industrial development. This situation depends on the center-periphery relationship on a global scale. Productivity-related deindustrialization in developed countries, on the other hand, has created an industrialization effect in emerging economies. Countries outside this two-polar development have also begun to deindustrialize along with developed economies, but with different causes and consequences. The fact that deindustrialization began to occur in Türkiye while industrial development was still continuing can be associated with premature deindustrialization and negative deindustrialization theses in the literature.

However, the situation to which the newly emerged deindustrialization and its derivative definitions correspond should be considered as a continuity within modern industrial development beyond the definitions. Deindustrialization in Türkiye should be viewed as part of the development problem that started with the dissolution of traditional regional specializations from the 17th century as they confronted the changes brought by modern industry. Throughout this process, the development of Istanbul followed a different path from Türkiye in general, and this difference became radical during the deindustrialization period in the 21st century.

While deindustrialization at the international level means the change of industrial geography and the global restructuring of labor, there is a reproduction of this situation at the country level. The results of the study coincide with the views of Krugman (1991:484), who introduced the center-periphery relationship by asking "why and when does manufacturing become concentrated in a few regions, leaving others relatively undeveloped?"

According to the analysis results, the counterpart of the global center-periphery relationship is a cluster centered on Istanbul on the national level. While Istanbul is deindustrializing, its surrounding regions are industrializing. Secondly, industrial development in Anatolia is stagnant and there is a tendency to shift from agriculture directly to services.

For the whole of Anatolia, it is the interruption of industrial development rather than deindustrialization. Because, for deindustrialization to occur in a place, there must be high industrial development. In this sense, the region that can talk about deindustrialization in Türkiye is Istanbul. The deindustrialization of Istanbul and the regional clustering based on the industrialization of the periphery regions has affected Anatolia. Türkiye's sudden transition to a free market economy in 1980s, while its industrial development was still in progress, has weakened regional specializations in international competitiveness, but brought Istanbul and its periphery to the fore in integration with the global system.

The new political economy has gradually changed the Turkish economy, and the manufacturing economy has started to give way to an economy that is dependent on the service sector such as real estate, finance, insurance and banking, mainly through Istanbul. It can be argued that the deindustrialization of Istanbul is a transformation that takes place over its geographies and changes the macroeconomic indicators as a result of the integration relationship with its sub-regions. The basis of the industrial transformation in Istanbul is the city-regionalization process reflecting the new regionalism of a neoliberal political economy and a series of parallel administrative and legal regulations.

If it is necessary to make recommendations for avoiding deindustrialization, this can only be done through the realization of regional industrial potentials and the development of international cooperation and trade. Socioeconomic and spatial planning should focus on investigating possibilities specific to Türkiye rather than global models, and on reconsidering

the role of cities and regions in development by prioritizing the necessary industrial infrastructure and market share so that production can develop according to local dynamics.

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