Research Article

Empirical Analysis of Kaldor's Growth Law: The Sample of OECD Countries

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Abstract: Nicholas Kaldor has made important contributions to forming and developing the foundation of Post Keynesian economics. The industrial growth model is a fundamental contribution of Nicholas Kaldor to economic theory. Kaldor's growth law has a significant place in the economic growth literature. Kaldor laws explore the relationships between the industrial sector, economic growth, and labor productivity. According to Kaldor's law of growth, the economy's growth rate is positively related to the increase in production in the manufacturing industry sector. Kaldor stated that the engine of economic growth is the industrial sector. In this study, the validity of Kaldor's first law was analyzed using the panel data method for 38 OECD countries (the USA, Canada, the UK, Australia, Belgium, Austria, Chile, Czech Republic, Colombia, Estonia, Costa Rica, Denmark, Germany, Finland, Hungary, France, Ireland, Greece, Iceland, Israel, Portugal, Italy, Lithuania, Korea Rep., Latvia, Luxembourg, Mexico, Norway, Netherlands, New Zealand, Japan, Poland, Slovakia, Switzerland, Slovenia, Sweden, Spain, and Türkiye). 1997-2020 annual data were used in the study. According to the analysis, Kaldor law is valid for OECD countries. This result revealed in the analysis reveals that the industrial sector is very important for economic growth. Therefore, since the industrial sector is so important in economic growth, policies that will encourage the development of the industrial sector should be implemented.

Keywords: Kaldor's Law, Economic Growth, Panel Data Analysis
Jel Codes: C23, E60, O47

Kaldor Büyüme Yasasının Ampirik Analizi: OECD Ülkeleri Örneği

Öz: Nicholas Kaldor'un Post Keynesyen ekonominin temelinin oluşmasında ve gelişmesinde önemli katkıları bulunmaktadır. Sanayiye dayalı büyüme modeli Nicholas Kaldor'un iktisat teorisine yaptığı temel bir katkıdır. Kaldor'un büyüme yasası ekonomik büyüme literatüründe önemli bir yere sahiptir. Kaldor yasaları sanayi sektörü, ekonomik büyüme ve işgücü verimliliği arasındaki ilişkileri araştırmaktadır. Kaldor'un büyüme yasasına göre ekonominin büyüme oranı imalat sanayi sektörünün üretim artışı ile pozitif ilişkilidir. Kaldor ekonomik büyümenin motorunun sanayi sektörü olduğunu belirtmiştir. Bu çalışmada Kaldor'un birinci yasasının geçerliliği 38 OECD ülkesi (Avustralya, Avusturya, Belçika, Kanada, Şili, Kolombiya, Kosta Rika, Çek Cumhuriyeti, Danimarka, Estonya, Finlandiya, Fransa, Almanya, Yunanistan, Macaristan, İzlanda, İrlanda, İsrail, İtalya, Japonya, Kore Cumhuriyeti, Letonya, Litvanya, Lüksemburg, Meksika, Hollanda, Yeni Zelanda, Norveç, Polonya, Portekiz, Slovak Cumhuriyeti, Slovenya, İspanya, İsveç, İsviçre, Türkiye, Birleşik Krallık ve ABD) için panel veri yöntemi kullanılarak analiz edilmiştir. Çalışmada 1997-2020 yıllık verileri kullanılmıştır. Analiz sonucunda OECD ülkeleri için Kaldor yasasının geçerli olduğu sonucuna ulaşılmıştır. Analizde ulaşılan bu sonuç ekonomik büyüme için sanayi sektörünün oldukça önemli olduğunu ortaya koymaktadır. Dolayısıyla ekonomik büyümede sanayi sektörü bu kadar önemli olduğu için sanayi sektörünün gelişimini teşvik edecek politikalar uygulanmalıdır.

Anahtar Kelimeler: Kaldor Yasası, Ekonomik Büyüme, Panel Veri Analizi
Jel Kodları: C23, E60, O47

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1. Introduction

After the Second World War, development economics emerged as a discipline, and industrialization began to be seen as one of its primary goals. The industrial sector plays a leading role in economic growth and development. Hence, the relationship between industrialization and economic growth has been examined in theoretical and applied economics (Arısoy, 2013, p. 144).

According to Kaldor, in the industrial sector, which is the assumption of neoclassical economics, the returns on capital or investments do not decrease but, on the contrary, increase. The increase in the industrial sector's share of GNP will have an accelerating effect on economic growth. In addition to Kaldor, Verdoorn Law claims that a rise in production in the industrial sector will increase productivity in the industrial sector at a faster rate (Terzi & Oltulular, 2004, p. 219).

Nicholas Kaldor provided significant contributions to the progress of Post Keynesian economics. Kaldor was interested in growth and economic policy. Kaldor analyzed the factors that determine economic growth (Esen & Yıldırım, 2019, p. 390). Kaldor distinguished between the concepts of consumption-oriented and export-oriented growth. According to Kaldor, export-oriented growth is more preferred than consumption-oriented growth. According to Kaldor, consumption-oriented growth adversely affects productivity and international competition in the long term. This is because consumption-oriented growth increases the weight of non-increasing return sectors in the economy's productive structure (Esen & Yıldırım, 2019, p. 399-400).

Nicholas Kaldor is an important economist who emphasizes the importance of the industrial sector in economic growth. Kaldor's three basic growth laws are among his most important contributions to the economic growth literature (Çetin, 2009, p. 357).

The three basic laws of Kaldor are (Kaldor, 1966):

1. The quicker the manufacturing segment’s this growth rate, the faster the gross domestic product growth rate will be.

2. The quicker the growth rate of manufacturing throughput, the faster the growth rate of labor throughput in manufacturing will be because of rising returns to scale.

3. The quicker the manufacturing throughput’s growth rate, the quicker this labor transfer rate from the economy’s different segments will raise throughput in different segments and the economy as a whole.

Nicholas Kaldor has researched the relationship between industrialization and economic growth. Post-Keynesian economist Kaldor (1966) has expressed the industrial segment as the engine of economic growth. His analysis indicated that this economic growth is positively associated with increased production rates in the sector. In the literature, this view of Kaldor is known as KEG (Kaldor's Engine of Growth) and is called Kaldor's first law.

The statistical relationship between the industry's increase in production and labor productivity constitutes Kaldor's second law of growth. It is accepted that there is a causative relationship between increased industrial production and labor productivity. Verdoorn has empirically tested this relationship for the first time. However, it did not receive the necessary attention until Kaldor's work in 1966 (Çetin, 2009, p. 359). According to the second law of Kaldor, called the Kaldor-Verdoorn law, as production increases in the industrial sector, the worker's productivity in the industrial sector will also increase. In other words, this industrial sector has increasing returns to scale (Pata, 2017, p. 16).

Nicholas Kaldor's 3. law explains that the comprehensive productiveness growth of the economy is glowingly related to the increase in manufacturing industry output. There is a negative connection between employment in non-manufacturing sectors and the total productiveness of the economy's growth (Çetin, 2009, p. 359).

This study aims to test Kaldor's first law's availability, which explains that the economic growth's engine is this industrial sector in this sample of OECD countries. The study differs from other studies in terms of the range of years analyzed, the method used, and the country sample. This constitutes the original value of the study. In this respect, the study differs from others and contributes to the literature. First, empirical studies that test Kaldor's laws are included in this literature. Afterward, Kaldor's first law's validity within this scope of OECD countries was analyzed using the panel data method. In the conclusion part, recommendations were made to policymakers based on the evidence obtained from the analysis.

2. Literature Review

Kaldor stated that his model impressed Keynesian analysis methods and follows a dynamic approach with the rates of income and capital change, which are the dependent variables of the system, similar to the Harrod model. Also, he emphasized that it has essential differences from Harrod's model. These differences can be listed as follows (Kaldor, 1957, p. 593):

1. According to Kaldor, in a growing economy, the overall output level at any given time is restricted by existing resources, not by active demand. In Keynesian thought, the model supposes full employment, a situation in which the short-dated procurement of services and goods is inflexible and does not respond to the increase in monetary demand (Kaldor, 1957, p. 593).

2. The second key point in which the model differs is that it avoids any distinction between alterations in the supply of capital relative to labor and changes affected by innovation or technical innovation. Kaldor argued that using more capital per worker requires superior techniques, which inevitably require some form of creativity. Kaldor stated that adaptation progresses and technical change slowly, producers are unwilling to renounce conventional methods, and a society that does not use new techniques is a society with low capital accumulation. Kaldor argued that the converse of this proposition is also true. Accordingly, a society's ability to adopt and use new techniques is limited by its ingenuity to accumulate funds (Kaldor, 1957, p. 595).

3. The model is based on easy aggregate notions such as wages, capital, income, investment, profit, and savings expressed in terms of constant purchasing power values (Kaldor, 1957, p. 598).

4. Kaldor stated that the most essential factors in economic growth are the willingness to invest in venture capital and the readiness to embrace technical change (Kaldor, 1957, p. 599).

5. Kaldor assumes that monetary policy is passive in his mode (Kaldor, 1957, p. 602).

6. Kaldor ignored the effect of the change in the share of profits. He also stated that Neo-Classical theory ignores a difference in capital or interest rates in selecting techniques that are considered the focus of attention (Kaldor, 1957, p. 602).

The importance of the industrial sector was first analyzed empirically by Nicholas Kaldor (1966). Kaldor (1966) tested his first law, which states that industry is the economic growth's engine, and his second law, which expresses that a rise in industrial sector production raises industry productivity. In the study of Kaldor (1966), cross-section regression analysis was performed with data from 1954-1964 for 12 OECD countries (the USA, Austria, the UK, Belgium, Denmark, Canada, Germany, France, Italy, Norway, Japan, and the Netherlands). As a consequence of the analysis, it was found that there is a statistically important relationship between economic growth and industrial growth. This industrial sector has been found to increase economic growth and labor productivity.

When the works in the literature are investigated, it has been stated that the industrial sector is an important factor for economic growth, as stated in studies conducted after Kaldor (1966). After Kaldor's study, many empirical studies have been conducted in the literature testing Kaldor's laws. Among these studies, Parikh (1978) is among the first to deal with Kaldor's growth laws. One of Parikh's results (1978) studies is that the manufacturing industry production's growth rate determines the manufacturing sector's employment growth rate. Another result of the paper is that the technological diffusion hypothesis is widely supported in the empirical study of the cross-sectional data of twelve OECD countries.

In this research of Necmi (1999), Kaldor's laws on manufacturing as this growth engine were examined using data from 45 countries, especially developing countries, from 1960 to 1994. As a result of the study, Kaldor's laws were found to apply to most developing countries. In addition, as a result of the study, it was found that this manufacturing thruput growth rate is an external variable that determines both manufacturing employment growth rates and manufacturing productivity. Also, it was concluded that the quicker the manufacturing throughput growth, the quicker this labor's transition from the economy's different segments to this manufacturing segment, and the quicker this growth in this economy's productiveness. Besides, it has been deduced that the growth in the manufacturing segment is the most influential segment determining this GDP growth rate.

Pons-Novell & Viladecans-Marsal (1999) examined Kaldor laws for the European region from 1984 to 1992. The study showed that Kaldor's second and third laws are coherent with the economic growth of European countries.

Terzi & Oltulular (2004) searched for a causal connection between industrialization and economic growth in Türkiye using quarterly data for the period 1987:2-2001:3. The analysis found a bilateral causality and positive relation between economic growth and industrialization.

Çetin (2009) tests this validity of the Kaldor law in Türkiye and EU countries between 1981 and 2007. The study analyzes the connection between industrial sector growth and economic growth using OLS and Granger causality tests. According to OLS results, industrial growth positively and significantly affects economic growth in 11 of 15 countries. The results show that Kaldor's growth law is valid for Türkiye and 10 EU countries.

Castiglione (2011) used quarterly US data from 1987 to 2007 for his study. The relationship between industrial output and labor productivity was analyzed using the Granger causality and cointegration method. The analysis's consequences confirmed that the Verdoorn-Kaldor law was valid in the USA during the analysis period.

Guo, Dall'Erba, & Gallo (2012) tested Kaldor's laws with data for the 1996-2006 period for regions of China. In the study, they concluded that Kaldor's laws are valid.

Arısoy (2013) analyzed the empirical validity of the law of Kaldor for the Türkiye economy using the 1963-2005 period data and the cointegration and causality method. As a result, findings supporting the Kaldor law were reached.

Mercan, Kızılkaya, & Ökde (2015) analyzed the law of Kaldor's validity for 1965-2012 within the scope of NIC (Newly industrialized countries) countries. The panel data method analysis concluded that Kaldor's law is valid.

Cantore, Lennon, & Clara (2016) investigate whether specialization in high-tech industries contributes to growth in addition to industrialization, which increases economic growth. In this regard, in their analysis of 146 countries with data for 1971-2011, they concluded that high-tech manufacturing industries increased economic growth more than low- and medium-technology industries.

Marconi, De Borja Reis, & Araujo (2016) examined Kaldor's first and second laws with econometric analysis using data for the period 1990-2011 for 63 middle-and upper-income countries. They explain that Kaldor's first and second laws are valid, especially in middle-income countries.

Altun & İşleyen (2019) analyzed the relationship between economic growth and employment in the industry for Türkiye from 1991 to 2017. According to ARDL Cointegration analysis, it was found that there is a long-term relationship between economic growth and employment in the industrial sector. As a consequence of the Granger causality test, it was concluded that there is a unidirectional causality from employment in the industrial sector to economic growth.

Doruk (2019) conducted a panel VAR analysis in a study of 118 countries from 1990 to 2016. Causality analysis, impulse response analysis, and variance decomposition were performed in this work. As a consequence of the impulse response analysis, although industrialization significantly affects economic growth for developing countries, the impact is temporary in the long term. The panel Granger causality result shows that there is a causality connection between industrialization and economic growth. Also, it was found that there is a two-sided causality connection between growth and the agricultural sector. The panel variance error decomposition analysis results also support the idea that industrial production is the engine of economic growth.

Akgündüz (2020) used the regression method to test the empirical validity of this Kaldor law from 1985 to 2018. The analysis for Türkiye, the USA, and South Korea reached results that supported the Kaldor law.

Pata & Zengin (2020) analyzed the validity of Kaldor’s first and second laws in Türkiye from 1980 to 2014. They used asymmetric causality and symmetric methods. The symmetric causality test result shows that Kaldor’s first and second laws are valid for Türkiye. According to the asymmetric causality test, Kaldor’s first law was valid, but the second law was not. The analyses they have done in their studies show that the validity of Kaldor’s laws can alter according to the applied analysis.

Sarıdoğan (2020) analyzes the validity of Kaldor’s first law in Türkiye using annual data from 1986 to 2018. The study performed a time series analysis. The results of the analysis show a positive connection between economic growth and the manufacturing industry sector. It was concluded that when the manufacturing industry production increased by 1%, the economic growth increased by 0.62%.

Kopuk (2021) analyzes the validity of Kaldor’s first law for Türkiye and German economies from 1997 to 2018. The study investigated the cointegration and coefficients of two different data sets for Türkiye and Germany using the ARDL bounds test. As a consequence of the analysis, it was concluded that there is a positive connection between industrial production indices and GDP in both Türkiye and Germany. The study has proven that Kaldor’s first law is valid in Türkiye and German economies.

Sarı (2022) investigated the relationship between industrialization and economic growth in this frame of the first law of Kaldor’s law. For Türkiye, VAR analysis was carried out using quarterly data from 2007-2021. As a consequence of the analysis, it was found that there is a positive connection between this industrial production index and growth.

The findings obtained as a result of this study also support the studies in the literature made after Kaldor’s (1966) study (Parikh, 1978; Necmi, 1999; Çetin, 2009; Doruk, 2019; Akgündüz, 2020; Pata & Zengin, 2020; Sarıdoğan, 2020; Kopuk, 2021; Sarı, 2022, etc.).

3. Data

The research seeks to answer whether Kaldor's first law is valid in OECD countries located in different parts of the world with different characteristics. Data from 38 OECD countries were used in the study. OECD countries whose data are used in the study: the USA, Australia, the UK, Austria, Spain, Belgium, Mexico, Canada, Chile, Colombia, Costa Rica, Czech Republic, Denmark, Estonia, Finland, France, Netherlands, Germany, Greece, Hungary, Iceland, Israel, Japan, Latvia, Ireland, Luxembourg, Norway, Italy, Lithuania, Poland, Portugal, Korea Rep., Slovakia, Slovenia, Sweden, Switzerland, Türkiye, and New Zealand. GDP and manufacturing data were used in the research. The data used in the research cover the period from 1997-2020. Real and annual data were used in the research.

Table 1. Data informations

Name	Source	Rate/ Number
GDP	The World Bank	Number
Manufacturing	The World Bank	Number

4. Methodology

The panel data method collects cross-sectional observations of firms, households, and countries over a period of time (Hsiao, 2003, p. 3; Baltagi, 2005, p. 237). Due to the large sample size of the selected country, the panel data method was used in this study.

Panel data is based on time series observations and has a hierarchical and complex structure (Hsiao, 2006, p. 1). The reasons for this can be explained as follows (Hsiao, 2006, p. 3-6): The panel data method enables testing more accurate model parameters. Panel data is a suitable model to handle complex behavioral models. Problems with regression results can be solved if the panel data model is configured correctly.

The panel data model is written as follows (Baltagi, 2005, p. 11):

$$y_{it} = \alpha + X_{it}^{I}\beta + u_{it} \quad i = 1, \dots\dots, N; \quad t = 1, \dots, T \tag{1}$$

where α is a scalar, y is denoting the dependent variable, X is i,t, the observation on K explanatory variables. t denotes time and β =Kx1, i denotes the cross- section dimension (individuals, firms, countries, households).

The following model was established in the analysis to determine the connection among industrial sector, the economic growth in the 1997-2020 period.

The variables used in the model as follow:

$$fg_{it} = \alpha + \beta_1 fm_{it} + \varepsilon_{it} + u_{it} \tag{2}$$

fg : GDP

fm: Manufacturing

Panel data unit root tests are divided into two generations of first-generation and second-generation tests. Before the panel unit root test, whether there is a relation among the horizontal sections that generate the panel should be controlled. There is no correlation between cross-section units in first-generation tests. However, in the second-generation tests, the cross-section units are supposed to be related (Bektaş, 2017, p. 59).

First-generation panel unit root tests presume no cross-sectional dependence in cross-section units. Besides, the assumption that there is a cross-section dependency between cross-sectional units due to the interrelatedness of countries and that other countries are affected at different levels by the shock experienced in one country is considered a more rational approach. Thus, second-generation panel unit root tests have been improved, considering the cross-sectional dependence among cross-sectional units (Mercan, 2014, p. 236).

Pesaran panel unit root test (second-generation) suggested a way to remove the correlation among units. The advanced version of the ADF regression with delayed cross-sectional means is used. The first difference of the regression removes this correlation among units and is called CADF. The CADF regression is shown in the form below (Yerdelen Tatoğlu, 2012, p. 223):

$$\Delta Y_{it} = \alpha_i + p_i^* Y_{it-1} + d_0 \bar{Y}_{t-1} + d_1 \Delta \bar{Y}_t + \varepsilon_{it} \tag{3}$$

The Hausman test decides whether to choose random effects or fixed effects models. In addition, this Hausman test is also implemented to determine whether there is a relationship between independent variables and individual effects. In this Hausman test, if the H_0 hypothesis (random effect dominates) is refused, this fixed effects model is chosen; if accepted, the random effects model is preferred (Clark & Linzer, 2012, p. 11). When calculating the Hausman test statistic, the distinctness among the covariance matrices and variance of this generalized least squares estimator and this within-group estimator is used. Thus, this H statistic is calculated. The Hausman test tests whether the distinctness is equal to zero. This random effects model is appropriate if the distinctness between the parameters is not systematic. If the difference between the parameters is systematic, this fixed effects model is proper. This statistic is calculated as follows (Yerdelen Tatoğlu, 2012, p. 180):

$$H = (\widehat{\beta_{FE}} - \widehat{\beta_{RE}})[\,A\ var\,(\widehat{\beta_{FE}}) - A\ var(\widehat{\beta_{RE}})]^{-1}\,(\widehat{\beta_{FE}} - \widehat{\beta_{RE}}) \quad (4)$$

In this equation, the RE subscript implies to the estimators of the random effects model, and this FE subscript implies to the estimators of the fixed effects model. It also A var $(\widehat{\beta_{FE}})$ - A var $(\widehat{\beta_{RE}})$ indicates this covariance matrices and asymptotic variance haved from the fixed and random effects model estimation, respectively (Yerdelen Tatoğlu, 2012, p. 180).

In cases where at least one of the heteroscedasticity, autocorrelation, and inter-unit correlation assumption deviations, this variance-covariance matrix of the error terms loses its feature of being the unit matrix. There is also heteroscedasticity, autocorrelation, and inter-unit correlation in this analysis. Driscoll-Kraay Test was applied to solve these existing problems.

5. Empirical Results

In this study, the panel data method was applied. In the first stage, the cross-section dependency test was conducted. After that, the 2nd generation panel unit root test was implemented since dependency was detected between cross-sections.

Table 2. Cross-Section Dependency Test (Pesaran-2004 CD Test)

Variables	CD-test	p-value	corr	abs(corr)
lng	113.43	0.000	0.873	0.878
lnm	78.95	0.000	0.608	0.671

Since the p-values of the lng and lnm variables are less than the critical value of 0.05, both variables have a cross-section dependency. Also these variables are logarithmic. Therefore, a second-generation unit root test was used for both variables (Table 2).

Table 3. Panel Unit Root Test

Variables	CIPS	10%	5%	1%
fg	-3.006	-2.04	-2.11	-2.23
fm	-3.619	-2.04	-2.11	-2.23

Firstly, by taking the difference of the logarithmic values, f values were obtained. Since the CIPS values of fg and fm variables are greater than the critical values of 10%, 5%, and 1%, fg and fm variables are considered stationary (Table 3). With the Hausman test, the value of "Prob>chi2" is 0.4428. The random effects model will be used since the prob>chi2 value is greater than the critical value (0.05).

Table 4. Heteroskedasticity, autocorrelation, cross sectional independence

Tests				
Heteroskedasticity		**Autocorrelation**		**Cross Sectional Independence**
W Values	Pr>F	Tests	Values	Pr value
W0	0.000	Bhargava et al. Durbin Watson	1.190852	0.000
W50	0.000	Baltagi-Wu LBI	1.459062	
W10	0.000			

According to the results of the heteroskedasticity test (Levene-Brown & Forsythe test), there is a heteroskedasticity problem because the "Pr>F" values of W0, W50, and W10 values are less than the critical value "0.05". According to the autocorrelation test results, Bhargava et al. Since Durbin-Watson (1.190852) and Baltagi-Wu LBI (1.4590622) values are less than the critical value "2", there is an autocorrelation problem in the model. According to the inter-unit correlation test result, H_0 is refused because the Pr value (0.000) is less than the critical value (0.05). In other words, the inter-unit correlation problem is present in the model (Table 4). Since all three problems are included in the model, the Driscoll-Kraay test, a robust panel data analysis, was applied to eliminate the adverse effects of these problems.

Table 5. Panel data analysis

fg	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
fm	0.392494	0.0320672	12.24	0.000	0.3259914 0.458998
cons	0.014411	0.0031403	4.59	0.000	0.0078985 0.020923
R-squared	0.5597		Prob > F	0.000	

One-unit increase in the independent variable fm provides 0.39-unit increase in the dependent variable fg (Table 5). In other words, one unit of increase in the industrial sector increases economic growth by 0.39 units. The circumstance is suitable for Kaldor's Law. GDP increases if manufacturing increases in a country.

6. Conclusion

Economic growth is one of the most important goals of countries' economic activities. Many factors affect economic growth. The economic growth literature emphasizes the view that the sustainability of economic growth depends on the growth of the industrial sector. Nicholas Kaldor (1966), one of the pioneers of post-Keynesian economics, made the first study explaining this connection between economic growth and the industrial sector. Kaldor has three existing laws based on this connection.

This study examines the validity of Kaldor's first law, which states that the industrial sector is the engine of economic growth in OECD country economies. For this purpose, this model of Kaldor's first law was analyzed using the panel data method. The findings from the analysis support Kaldor's first law.

In addition, the findings obtained as a result of the study also support the studies in the literature made after Kaldor's (1966) study (Parikh, 1978; Necmi, 1999; Çetin, 2009; Doruk, 2019; Akgündüz, 2020; Pata & Zengin, 2020; Sarıdoğan, 2020; Kopuk, 2021; Sarı, 2022). The study contributes to the literature because it differs from other studies regarding the period it covers and sample selection.

Considering the study's empirical findings, the industrial sector should be given more importance. There are three sectors: Industry, agriculture, and service. The industrial sector can mobilize domestic and foreign demand. More investment in the industrial sector and increasing labor productivity will increase economic growth. Since this industrial sector is so important for economic growth, policies that encourage the development of the industrial sector should be implemented. In this direction, policies such as providing low-interest credits to industrialists, reducing the customs tax rates on intermediate goods and raw materials, and informing business humans about export opportunities in different countries should be implemented.

As stated in Kaldor's laws, industrialization must be technically advanced and knowledge-intensive. In this context, developing R&D investments becomes essential. Directing production towards industrial areas with higher added value instead of industrial areas with low returns is also important.

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