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Analyzing Macroeconomic Indicators that May Affect Economic Growth in Sub-Saharan African Countries: A Panel Data Analysis in the Context of Income Level Classification (1990-2019)

Eylül KABAKÇI GÜNAY¹, & Meltem INCE YENİLMEZ²

Abstract

The purpose of the study was to ascertain whether the export-import coverage ratio (EXIM), the income of natural resources (NATR), labour force participation rate (LFPR), and foreign direct investment (FDI) had a positive or negative impact on economic growth for 34 Sub-Saharan African countries using data from 1990 to 2019. The change in Gross Domestic Product Per Capita (%) is used in the study as a proxy for the economic growth variable, and Sub-Saharan African nations were categorized based on the United Nations' income classification system to create more homogeneous groups and consequently more accurate analysis results. To do this, 34 Sub-Saharan African nations were divided into three income categories: lower-middle-income, upper-middle-income, and low-income. The income categories established by the UN were considered while drawing this distinction. This divide led to the analysis of 18 low-income nations, 12 lower-middle-income countries, and 4 upper-middle-income countries. One of the dynamic panel data analysis techniques, the two-step system GMM panel data analysis, was used as the econometric analysis approach. According to the estimations, FDI in lower-middle-income sub-Saharan African countries was statistically significant and inversely related to economic growth; it was observed that the coverage ratio of exports to imports has a statistically significant and linear relationship. None of these independent variables were found to influence economic growth in low-income sub-Saharan African countries. There is a statistically significant correlation between the LFPR and NATR and economic development in the upper-middle income category of nations analyzed. As a result, the influence of factors varied and fluctuated on economic growth based on the income levels of different groups.

Keywords: Economics growth, Sub-saharan Africa, Export-import coverage ratio, Foreign direct investment, Income classification

Gelir Gruplarına Göre Sınıflandırılmış Sahra Altı Afrika Ülkelerinin Ekonomik Büyümesini Etkileyen Seçilmiş Makroekonomik Göstergelerin Panel Veri Analizi ile Sınanması (1990-2019)

Öz

Çalışmada 1990-2019 yılları arasındaki veriler kullanılarak, seçilmiş Sahra altı Afrika ülkeleri için doğrudan yabancı sermaye yatırımları, işgücüne katılım oranı, ihracatın ithalatı karşılama oranı ve doğal kaynak gelirlerinin ekonomik büyümeyi artırıcı ya da azaltıcı yönde etkisi bulunup bulunmadığı tespit edilmiştir. Ekonomik büyüme değişkenini Kişi Başına Gayri Safı Yurtiçi Hasıla Yıllık Değişim (%)’in temsil ettiği çalışmada, gelir farklılıklarının da etkisi görebilmek amacıyla Sahra Altı Afrika ülkeleri Birleşmiş Milletlerin gelir sınıflandırmasına göre sınıflandırılmış, düşük gelirli ülkeler, alt-orta gelirli ülkeler, üst orta gelirli ülkeler olarak ayrılmıştır. Bu ayrım yapılırken Birleşmiş Milletlerin belirlemiş olduğu gelir aralıkları dikkate alınmıştır. Bu ayrım sonucunda düşük gelir sınıfında 19, alt-orta gelir sınıfında 12, üst-orta gelir sınıfında ise 4 ülke analiz edilmiştir. Ekonometrik analiz yöntemi olarak dinamik panel veri analiz yöntemlerinden olan iki aşamalı sistem GMM panel veri analizi kullanılmıştır. Gerçekleştirilen tahminler sonucunda düşük gelirli Sahra altı Afrika ülkelerinde ekonomik büyüme üzerinde söz konusu bağımsız değişkenlerden hiçbirinin etkisine rastlanmamışken; alt-orta gelirli sahra altı Afrika ülkelerinde doğrudan yabancı yatırımların ekonomik büyüme üzerinde istatistiksel olarak anlamlı ve ters yönde; ihracatın ithalatı karşılama oranının ise istatistiksel olarak anlamlı ve doğrusal yönde ilişkiye sahip olduğu görülmüştür. Üst-Orta gelir grubundaki ülkeler ile yapılan analizde ise işgücüne katılım oranının ve doğal kaynak gelirlerinin ekonomik büyüme ile istatistiksel olarak anlamlı bir ilişkiye sahip olduğu görülürken, ilişkinin yönüne bakıldığında ise işgücüne katılım oranının doğrusal, doğal kaynak gelirlerinin ise ters yönde ilişkiye sahip olduğu anlaşılmıştır. Sonuç olarak denilebilir ki gelir gruplarına göre ekonomik büyüme üzerinde etkisi olan değişkenler farklılaşmaktadır.

Anahtar Kelimeler: Ekonomik büyüme, Sahra Altı Afrika, İhracatın ithalatı karşılama oranı, Doğrudan yabancı yatırım, Gelir sınıflandırması

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Introduction

A significant mechanism that conveys the shift in a nation's productive capacity is economic growth. To be sure, the main source of income in both established and emerging nations is a hotly contested question. Furthermore, a primary priority for governments worldwide needs to be maintaining a steady pace of economic expansion (Higgins, 2015). Greater per capita income, more employment opportunities due to increased competition among economic agents, higher levels of foreign direct investment, an overall improvement in people's living standards and well-being, and other benefits are frequently the aim of developing economies.

This study examined the link between the rate of labour force participation, total revenues from natural resources, and export-import coverage about the GDP per capita rate, which is a measure of economic growth. In addition, Sub-Saharan African nations were split into low-income, lower-middle-income, and upper-middle-income categories based on the United Nations' definition of income. The United Nations-established standards were considered while drawing this distinction. As per the United Nations, nations having a per capita income using the Atlas method below \$1,046 are classified as low-income, while those between \$1,066 and \$4,095 are classified as lower middle-income, those between \$4,096 and \$12,695, and those between \$4,096 and \$12,695 are classified as upper-middle-income.

Literature Review

The relationship between economic growth and its factors has not been conclusively demonstrated. Among these, Gardner (2006) conducted a thorough analysis of growth in sub-Saharan African nations from 1961 to 1996. The study looked at average growth rates as well as growth rates by decade, peak income years, deep income years, and variation in growth rates. His analysis found that low investment rates, faulty institutions and policies for the economy, ethnic fragmentation, and unfavourable geographic location were all contributing factors to Africa's poor performance in terms of economic growth.

Barry (2010) used panel data and the KOF globalization index for 41 Sub-Saharan African nations between 1995 and 2005 to compare globalization with conventional drivers of economic growth such as trade, foreign direct investment, credit, aid, natural resources, corruption, and rule of law. In this investigation, he employed the ordinary least squares (OLS) model. The findings demonstrated that, although not statistically significant, globalization can have a favourable impact on economic growth in Sub-Saharan African nations. Nonetheless, it has been noted that globalization has a statistically significant beneficial impact on economic growth in African nations with limited natural resources (Barry, 2010).

Chang and Lee (2010) examined the connection between economic growth and globalization in different research. The research was conducted for 23 OECD nations between 1970 and 2006 using the Pedroni cointegration approach. The analysis concluded that there is a long-term, bidirectional causal link between growth and the social, economic, and globalization index (Chang & Lee, 2010).

In 21 low-income African nations between 1970 and 2005, Rao and Vadlamannati's (2011) study on the link between globalization and economic growth found that, overall, globalization had a significant and favourable impact on these countries.

The goal of Açıkgöz and Mert's (2011) study was to determine whether globalization has any impact on Turkey's process of economic growth. This study employed data from 1970 to 2008 using the ARDL bounds test technique. This study concluded that Turkey's economy may thrive because of its political and economic integration with the outside world.

In Sakyi's (2012) study, 31 Sub-Saharan African nations were examined using the panel co-integration method between 1980 and 2005. Based on the findings, it was determined that economic globalization has a long-term favourable impact on economic growth.

According to Osterloh (2012), who also examined the possibility of a relationship between liberal discourses and economic growth, there is a negative correlation between liberalization and overall economic growth based on data from his study in 23 OECD countries and data from 1971 to 2004. Nonetheless, he concluded that economic performance and economic globalization are positively correlated.

The study by Yanar and Şahbaz (2013) examined the connection between globalization, poverty, and income inequality in 102 developing nations in 2013. Using data from the nations under examination in 2010, a cross-sectional analysis was conducted for this study. The study's findings suggest that globalization helps to lessen economic disparity and poverty.

Samimi and Jenatabadi (2014) did research in which they attempted to ascertain the impact of economic globalization on the growth of 33 member nations of the Organization of Islamic Cooperation from 1980 to 2008. GMM analysis and dynamic panel data analysis were employed in the examination of this impact. The study's findings indicate that these nations' economies have grown because of economic globalization. In nations with deeper financial development and larger levels of human capital, this beneficial effect is more pronounced. Economic globalization has an impact on nations based on their income levels as well. While high- and middle-income nations get the most benefits from globalization, low-income nations feel as though they are left out of this benefit.

In Kılıç's (2015) study, for instance, 74 developing nations' data from 1981 to 2011 was examined. Using the Granger causality test and the fixed effect least squares approach, which Dumitrescu-Hurlin (2012) devised, he examined the impacts of economic, social, and political globalization on the growth rates of emerging nations as well as the causal link between factors. The analysis's findings showed that although social globalization had a detrimental impact on economic growth, political and economic globalization had a favorable impact on the developing nations that were the focus of the analysis's economic growth rates. Furthermore, the analysis's findings show that, whereas social globalization and economic growth have a one-way causal link, political and social globalization have a two-way causal relationship with economic growth. Nonetheless, Kılıç's research indicates that political and economic globalization sustain the development of emerging nations.

Asafo, Matuko, and Dominic (2019) use a two-step method General Method of Moments (GMM) technique to investigate the link between foreign debt and economic development in a panel of 48 Sub-Saharan African (SSA) countries during the period 1990-2017. Their research demonstrates that foreign debt concurrently has a statistically significant negative effect on GDP growth.

Over a two-decade period (2001–2019), Batrancea, Rathnaswamy, and Batrancea (2021) looked at the economic factors influencing economic growth in 34 African countries. Through a multimodal method based on panel data modeling, they demonstrated that economic variables including imports, exports, gross capital formation, and gross domestic savings had a significant impact on economic growth, which was measured by the GDP growth rate.

Hussen (2023) investigates the effects of several institutional quality index characteristics on the economic growth of nations in Sub-Saharan Africa (SSA). The study uses a two-step system-GMM (Generalized Method of Moments) estimate approach using a panel data set of 31 SSA nations from 1991 to 2015. The empirical findings of the study show that democratic, regulatory, and investment-promoting institutions significantly boost economic development.

Methodology

Using data from 1990 to 2019, the study examined the relationship between certain sub-Saharan African nation's economic development and foreign direct investments, labour force participation rate, export-import coverage ratio, and natural resource revenues. The Gross Domestic Product Per Capita's yearly change (%) serves as a representation of the economic growth variable. Data collected after 2019 were excluded from the research in order to isolate the analysis from the impact of COVID-19.

Sub-Saharan African nations were separated into low-income, lower-middle-income, and upper-middle-income categories based on the UN's income categorization system to demonstrate the impact of economic disparities. The income ranges established by the UN were considered for considering this differentiation. Due to this differentiation, an analysis was conducted on 18 low-income nations, 12 lower-middle-income countries, and 4 upper-middle-income countries. One of the dynamic panel data analysis methods, GMM panel data analysis, was chosen as the two-step system econometric analysis approach.

Table 1. *Sub-Saharan African Countries Classification According to Income Level*

<i>Sub-Saharan African Countries</i>	<i>Low Income Sub-Saharan African Countries</i>	<i>Lower-Middle Income Sub-Saharan African Countries</i>	<i>Upper-Middle Income Sub-Saharan African Countries</i>
Angola	Burkina Faso	Angola	Botswana
Benin	Burundi	Ivory Coast	Gabon
Botswana	Central African Republic	Ghana	Namibia
Burkina Faso	Chad	Nigeria	South Africa Republic
Burundi	Democratic Republic of the Congo	Kenya	
Cameroon	Gambia	Republic of the Congo	
Central African Republic	Guinea	Mauritania	
Chad	Guinea Bissau	Senegal	
Democratic Republic of the Congo	Madagascar	Benin	
Republic of the Congo	Malawi	Zimbabwe	
Ivory Coast	Mozambique	Tanzania	
Gabon	Niger	Cameroon	
Gambia	Rwanda		
Ghana	Sierra Leone		
Guinea	Sudan		
Guinea Bissau	Togo		
Kenya	Uganda		
Madagascar			
Malawi			
Mauritania			
Mauritius			
Mozambique			
Namibia			
Niger			
Nigeria			
Rwanda			
Senegal			
Sierra Leone			
South Africa			
Sudan			
Tanzania			
Togo			
Uganda			
Zimbabwe			

Source: <https://blogs.worldbank.org/opendata/new-world-bank-country-classifications-income-level-2021-2022> (Access Date: 03.11.2022)

Econometric Model

$$GDPPC = \alpha_1 + \beta_1(GDPPC)_{t-1} + \beta_2(LFPR) + \beta_3(NATR) + \beta_4(EXIM) + \beta_5(FDI) + \varepsilon_{it}$$

The variables in the econometric model are explained in Table 2 in detail.

Table 2. *Variables in the Econometric Model*

<i>Variables</i>	<i>Explanation of Variables</i>	<i>Sources</i>
GDPPC	Gross Domestic Product (per capita) Annual Difference (%)	World Data Indicators (WDI)
LFPR	Labor Force Participation Rate (%)	World Data Indicators (WDI)
NATR	Total Natural Resource Revenues (as a percentage of GDP)	World Data Indicators (WDI)
EXIM	Ratio of Exports to Imports	World Data Indicators (WDI)
FDI	Foreign Direct Investment	World Data Indicators (WDI)

Cross-Section Dependence

In this investigation, we employed the Pesaran and Yamagata (2008) test to denote heterogeneity in the slope coefficient. Selecting the best test for cointegration and coefficient estimation requires knowing the slope coefficient heterogeneity. The p-value in this case is 0.000, which is less than 0.05. We must disprove the null hypothesis. Slope coefficients for our model are hence diverse. To determine if there is cross-sectional dependency or correlation between units, the Pesaran CD (2004) cross-sectional dependence test was used. This test permits both homogeneity and heterogeneity.

When assessing whether a shock to the analysis's section units will influence each series equally, cross-section dependence is crucial. The Pesaran CD test or the Breusch-Pagan (1980) LM test can be used to ascertain the cross-section dependency among the series. When the temporal dimension ($T > N$)

exceeds the cross-sectional dimension, the Breusch-Pagan (1980) LM test can be applied. The temporal dimension ($T > N$) in our investigation is larger than the cross-sectional dimension. This result has led us to use the Pesaran CD test. If both the time dimension and the cross-sectional dimension are bigger than the time dimension ($T > N, N > T$), the Pesaran CD test can be applied.

Table 3. *Cross Section Dependency Test Results for Pesaran CD Test*

<i>Cross Section Dependence</i>	<i>Low Income Countries</i>		<i>Lower-Middle Sub-saharan Countries</i>		<i>Upper-Middle Income Sub-saharan Countries</i>	
<i>Variables</i>	<i>Pesaran CD</i>	<i>Prob.</i>	<i>Pesaran CD</i>	<i>Prob.</i>	<i>Pesaran CD</i>	<i>Prob.</i>
GDPPC	6.017	0.000	7.705	0	2.31	0.021
LFPR	18.287	0.000	-1.87	0.061	-2.399	0.016
NATR	16.95	0.000	10.127	0.000	5.385	0.000
EXIM	1.088	0.276	2.18	0.029	2.831	0.005
FDI	2.089	0.000	3.156	0.000	5.012	0

Unit Root Test

Pesaran (2003) was the recommended unit root test in this investigation. Pesaran (2003) presented a novel and straightforward method for testing unit roots in dynamic panels with cross-section dependency and serial reliance on correlated errors. The Cross-Sectionally Augmented IPS-CIPS (Cross-Sectionally Augmented IPS-CIPS) test was employed in the unit root test of variables. This test may be applied in situations when there is a dependency across horizontal sections. The CADF (Cross-Sectional Augmented Dickey-Fuller) test is the source of this assessment. Pesaran added the cross-sectional averages of lag levels and the initial differences of individual series to the usual DF (or ADF) regressions. Schwarz Info Criteria (SIC) has been taken into consideration to determine the proper lag lengths for the variables while using the Pesaran CADF-CIPS statistics.

H_0 : has unit root (Non-Stationary)

H_1 : no unit root (Stationary)

As we can see in Table 4, most variables' p -p-values are greater than 0,05. So, we cannot reject the null hypothesis. Therefore, we accept H_0 meaning that there are unit roots for our variables.

Table 4. *Unit Root Test Results for Variables and Models*

<i>Variables</i>	<i>Low-Income Sub-saharan Countries</i>		<i>Lower-Middle Sub-saharan Countries</i>		<i>Upper-Middle Income Sub-saharan Countries</i>	
	<i>Schwarz Info Criteria</i>	<i>Unit root Prob</i>	<i>Schwarz Info Criteria</i>	<i>Unit root Prob</i>	<i>Schwarz Info Criteria</i>	<i>Unit root Prob</i>
GDPPC	1	0.000	1	0.014	0	0.000
LFPR	1	0.950	2	1.000	2	0.998
NATR	6	1.000	8	1.000	1	0.024
EXIM	1	0.348	1	0.955	3	0.392
FDI						

A dynamic panel data test without a cointegration relationship was favored, based on the findings of this descriptive test statistic. The system Generalized Method of Moments (GMM) estimator of Arellano-Bover/Blundell-Bond (1998) was tested using panel data. Arellano-Bover/Blundell-Bond (1998) created the GMM approach, which produces reliable findings, particularly when dealing with data that has a narrow time span and a large cross-section size. When compared to the difference GMM estimator, the generated coefficient estimators are more undedicated because the system GMM contains delayed level values of the variables in the model, reducing finite sample deviation (Baltagi, 2005). A finite sample adjustment to the two-step covariance matrix was later included by Bun and Windmeijer (2010). It has been demonstrated that a two-step estimator produces more consistent results than a single-step estimator (Bun and Windmeijer, 2010). Because of this, among the dynamic panel data estimation techniques, the two-step system GMM was chosen for estimating the model's probability values and coefficients.

Table 5. *Two-Step GMM Coefficient Estimation Results for the Model*

<i>Variables</i>	<i>Low Income</i>	<i>Lower-Middle</i>	<i>Upper- Middle</i>
<i>GDP_{t-1}</i>	0.000.1867 (0,997)	0.3386051 (0.000)	-0.9656107 (0.258)
<i>LFPR</i>	0,0090183 (0,840)	-0.0332959 (0.175)	0.059857 (0.023)
<i>NATR</i>	-0,0576425 (0,337)	-0.0167824 (0.461)	-0.1646116 (0.017)
<i>EXIM</i>	0,0717303 (0,205)	0.0512183 (0.096)	0.0503288 (0.339)
<i>FDI</i>	0,1004302 (0,175)	-0,0278186 (0.070)	0.868589 (0.270)
<i>Diagnostic Test</i>			
<i>Sargan Test (ov.id)</i>	0,27 (0,873)	2.09 (0.352)	1.39 (0.498)
<i>Hansen Test (ov.id)</i>	0,29 (0,866)	0.42 (0.812)	0.001 (0.000)
<i>AB Test AR(1)</i>	-2.72 (0.007)	-2.46 (0.014)	0.02 (0.982)
<i>AB Test AR(2)</i>	-0.72 (0.472)	-0.82 (0.410)	-0.73 (0.467)
<i>Waldx2</i>	6.77	173.65	101.97
<i>Number of Groups</i>	18	12	4
<i>Number of Instrument</i>	8	8	8

According to the estimations, FDI in lower-middle income sub-Saharan African countries was statistically significant and inversely related to economic growth; it was observed that EXIM has a statistically significant and linear relationship with economic growth. None of these independent variables were found to affect economic growth in low-income sub-Saharan African countries. The LFPR and natural resource earnings are shown to have a statistically significant link with economic growth in the upper-middle income category of nations. Consequently, it may be said that different income groups are affected by different variables that affect economic growth.

Conclusion

Every nation group has a different set of data when it comes to the independent variables that affect economic growth, based on the classification of income levels. We have investigated the outcome of economic growth for the Sub-Saharan nations, which are categorized by income levels, using four independent variables in this study.

The labour force participation rate (LFPR), total natural resource revenues (NATR) as a proportion of GDP, the ratio of exports to imports, and foreign direct investment (FDI) have little bearing on economic growth in low-income nations due to the statistically negligible outcomes.

However, the rising influence of wealth related to income level presents a distinct perspective when we investigate lower medium-income nations. Thus, we have two statistically significant variables in the group of countries: FDI (foreign direct investment) and EXIM (ratio of exports to imports). Therefore, a 1% rise in the export-to-import ratio corresponds to a 0.05% gain in GDP. GDP falls by 0.02% with a 1% increase in FDI. The unique circumstances faced by African nations should be considered while assessing this scenario. Despite having an abundance of natural resources, African nations are unable to sell them to markets for high-value commodities. Upon examining the export-capable enterprises, we find that they are often international partnerships. This explains why the increased value generated does not raise the standard of living for the nation's population.

However, we find that there is a statistically significant correlation between economic growth and both the labour force participation rate and natural resource earnings in upper-middle-income nations. GDP increases by 0.05 percent for every 1% rise in the labour force participation rate. Thus, the GDP and labour force participation rate have a linear connection. However, the revenue from natural resources does not fit into this type of connection. GDP falls by 0.16 percent for every 1% rise in natural resource receipts. Despite having an abundance of natural resources, African nations are unable to sell them to markets for high-value commodities. Upon examining the export-capable enterprises, we find that they are

often international partnerships. This helps to explain why the extra value produced does not raise the standard of living for the nation's population.

Ethical Declaration

During the writing process of the study “*Analyzing Macroeconomic Indicators that May Affect Economic Growth in Sub-Saharan African Countries: A Panel Data Analysis in the Context of Income Level Classification (1990-2019)*” scientific rules, ethical and citation rules were followed. No falsification was made on the collected data and this study was not sent to any other academic publication medium for evaluation. Since the data analysis in this study was conducted using an econometric secondary data set, no ethics committee permission was obtained.

Statement of Contribution Rate of Researchers

The contribution rates of the authors in the study are equal.

Declaration of Conflict

There is no potential conflict of interest in the study.

Resources

- Açıkgöz, Şenay and Mert, Merter. 2011. “Küreselleşme ekonomik büyümeyi etkiliyor mu? Türkiye örneği”. *12.Uluslararası Ekonometrik Yöneylem Araştırması ve İstatistik Sempozyumu*, Denizli: Pamukkale Üniversitesi, s.701-716.
- Arellano, Manuel and Bover, Olympia. 1998. “Another look at the instrumental variable estimation of error-components models”, *Journal of Econometrics*, 68 (1), 29-51.
- Baltagi, Badi. 2005. *Econometric Analysis of Panel Data*. Sussex: John Wiley and Sons Ltd.
- Barry Hادیاتو. 2010. “Globalization and economic growth in Sub-Saharan Africa”. *Gettysburg Economic Review*, 4 (4) <http://cupola.gettysburg.edu/ger/vol4/iss1/4>
- Batrancea, Larissa, Malar Mozhi Rathnaswamy, and Ioan Batrancea. 2021. "A Panel Data Analysis of Economic Growth Determinants in 34 African Countries" *Journal of Risk and Financial Management* 14, no. 6: 260. <https://doi.org/10.3390/jrfm14060260>
- Blundell, Richard and Bond, Stephen. 1998. Initial conditions and moment restrictions in dynamic panel data models. *Journal of econometrics*, 87(1), 115-143.
- Bun, Maurice and Windmeijer, Frank. 2010, “The weak instrument problem of the system GMM estimator in dynamic panel data models”, *Econometrics Journal*, 13, (1), 95-126
- Chang, Chun-Ping and Lee, Chien-Chang. 2010. “Globalization and economic growth: a political economy analysis for OECD countries”, *Global Economic Review*, 39(2), 151-173.
- Garner, Phillip, Economic Growth in Sub-Saharan Africa (January 2006). Available at SSRN: <https://ssrn.com/abstract=853184> or <http://dx.doi.org/10.2139/ssrn.853184>
- Higgins, K. L. (2015). *Economic Growth and Sustainability: Systems Thinking for a Complex World*. San Diego: Academic Press.
- Hussen, M.S. (2023), "Institutional quality and economic growth in Sub-Saharan Africa: a panel data approach", *Journal of Economics and Development*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JED-11-2022-0231>
- Kılıç, Cüneyt. 2015. “Effects of globalization on economic growth: panel data analysis for developing countries”. *Economic Insights- Trends and Challenges*, 9(1), 1-11.
- Osterloh, Steffen. 2012. “Words speak louder than actions: the impact of politics on economic performance”, *Journal of Comparative Economics*, 40(3), 318–36.
- Pesaran, Muhammed Hashem. 2004. “General diagnostic tests for cross section dependence in panels”. *Cambridge Working Papers in Economics*, 0435.
- Pesaran, Muhammed Hashem. 2003. “A simple panel unit root test in the presence of cross section dependence”. *Cambridge Working Papers in Economics*, 0346. <http://www.econ.cam.ac.uk/research-files/repec/cam/pdf/cwpe0346.pdf>
- Pesaran, M. H. and Yamagata, T.(2008). Testing Slope Homogeneity in Large Panels, *Journal of Econometrics*, 142(1), (pp.50-93).
- Rao, Bhaskara and Vadlamannati, Krishna Chaitanya. 2011. “Globalization and growth in the low income African countries with the extreme bound analysis”, *Economic Modelling*, 28, 795-805.
- Sakyi, Daniel. 2012. “Economic globalization, democracy and income in Sub-Saharan Africa: a panel cointegration analysis”, *Global Economy and Finance Journal*, 5(1), 1-16.
- Samimi, Parisa ve Jenatabadi Hashem Salarzadeh. 2014. “Globalization and economic growth: empirical evidence on the role of complementarities”. *PloS ONE*, 9(4). <http://journals.plos.org/plosone/article/metrics?id=10.1371/journal.pone.0087824>

Seyram, Asafo Matuka, Adelajda and Dominic Nyendu. 2019. "External debt and economic growth: two-step system GMM evidence for sub-Saharan Africa countries" International Journal of Business, Economics and Management, Vol. 6, No. 1, pp. 39-48.

UNCTAD (2021). World investment report 2021: Investing in sustainable recovery. Geneva.

Yanar Rüstem. ve Şahbaz Ahmet. 2013. "Gelişmekte olan ülkelerde küreselleşmenin yoksulluk ve gelir eşitsizliği üzerindeki etkileri." *Eskişehir Osmangazi Üniversitesi İİBF Dergisi*, 8(3), 55- 74.

EXTENDED ABSTRACT

Sahra Altı Afrika ülkelerinde ekonomik büyümeyi etkileyebilecek makroekonomik göstergelerin analiz edilmesi, bölgenin ekonomik çeşitliliği, kendine özgü zorlukları ve küresel ekonomideki rolü göz önüne alındığında kritik bir alandır. Bu ülkelerde ekonomik büyümeyi etkileyen makroekonomik göstergelere ilişkin literatürde bölgenin karşı karşıya olduğu zorluklara ve fırsatlara ilişkin çalışmalar mevcuttur. Çalışmalarda doğal kaynaklar, siyasi istikrar, enflasyon, doğrudan yabancı yatırımlar, ticaret dengeleri ve finansal kalkınma gibi faktörleri dikkate alan çok yönlü bir ekonomik kalkınma yaklaşımının önemini vurgulamaktadır. Sahra Altı Afrika, Dünya Bankası'nın gelir sınıflandırmasına göre düşük gelirli, alt-orta gelirli ve üst-orta gelirli ülkeleri kapsayan, ekonomik çeşitliliğiyle bilinen bir bölgedir. Bu bağlamda çeşitli makroekonomik faktörlerin ekonomik büyümeyi nasıl etkilediğini anlamak, bölgede sürdürülebilir kalkınmayı teşvik etmek isteyen politika yapımcılar, yatırımcılar ve uluslararası kuruluşlar için hayati önem taşımaktadır. Bu analizdeki temel göstergelerden biri Gayri Safı Yurtiçi Hasıla (GSYİH) büyüme oranıdır. Belirtilen dönem boyunca Sahra Altı Afrika, emtia fiyatlarındaki dalgalanmalar, siyasi istikrarsızlık ve küresel ekonomik ortam gibi faktörler nedeniyle ekonomik büyümede dalgalanmalar yaşamıştır. Bu analiz, düşük gelirli ülkeler dış şoklara karşı daha savunmasız olabileceğinden, gelir seviyesi sınıflandırmasının bölgedeki Gayri Safı Yurtiçi Hasıla büyüme oranlarını nasıl etkilediğini inceleyecektir. Ticaret dengesi de analiz edilmesi gereken önemli bir göstergedir. Sahra Altı Afrika ülkeleri genellikle birincil emtia ihracatına dayanır ve bu da onları ticaret hadleri şoklarına karşı hassas hale getirir. Gelir seviyelerinin ticaret dengeleriyle nasıl ilişkili olduğunun ve bu dengelerin ekonomik büyümeyi nasıl etkilediğinin araştırılması, bölgenin ekonomik dinamikleri hakkında değerli bilgiler sağlayabilir. Son olarak, krediye erişim ve finansal gelişme ekonomik büyümeyi teşvik etmek için hayati önem taşımaktadır. Sahra Altı Afrika'daki gelir düzeyi sınıflandırmalarının ve finansal kalkınmanın karşılaştırmalı bir analizi, finansal sistemlerdeki eşitsizliklere ve bunların gelir yelpazesi boyunca ekonomik büyüme üzerindeki sonuçlarına ışık tutabilir. Krediye erişim, ekonomik kalkınmayı teşvik edebilecek girişimcilik faaliyetleri ve yatırımlar için elzemdir. Bu çalışma, makroekonomik göstergeler ile ekonomik büyüme arasındaki ilişkiyi Sahra Altı Afrika ülkeleri bağlamında 1990'dan 2019'a kadar uzanan önemli bir zaman diliminde incelemektedir. Bu bölgenin ekonomik kalkınması hem bölgesel hem de küresel paydaşlar için büyük önem taşıdığından, araştırma dört önemli makroekonomik faktörün etkisini ortaya çıkarmaya çalışmaktadır: ihracat-ithalat karşılama oranı (EXIM), doğal kaynaklardan elde edilen gelir (NATR), işgücüne katılım oranı (LFPR) ve doğrudan yabancı yatırım (FDI). Temel amaç, bu değişkenlerin 34 Sahra Altı Afrika ülkesinde ekonomik büyümeyi nasıl etkilediğini analiz etmek ve daha sonra bunları Birleşmiş Milletler'in gelir sınıflandırma sistemine göre kategorize etmek ve böylece derinlemesine analiz için daha homojen gruplar oluşturmaktır. Bu inceleme için, ekonomik büyümenin bir göstergesi olarak Kişi Başına Gayri Safı Yurtiçi Hasıla (%) kullanılmıştır. Seçilen ekonometrik yaklaşım olarak iki aşamalı bir sistem olan Genelleştirilmiş Momentler Yöntemi (GMM) panel veri analizi kullanılmıştır. Metodolojiyi geniş bir veri setiyle birleştiren bu çalışma, seçilen makroekonomik göstergelerin ekonomik büyüme üzerindeki etkilerine dair kapsamlı ve güvenilir bir değerlendirme sunmaktadır. Bulgular, Sahra Altı Afrika'da bu makroekonomik göstergelerin etkisine dair incelikli ve çeşitli bir bakış açısı sunmaktadır. Alt-orta gelirli ülkeler arasında, doğrudan yabancı yatırım ekonomik büyüme ile ters orantılı istatistiksel olarak anlamlı bir faktör olarak ortaya çıkmaktadır; bu da artan yatırımın bu alt grupta sürekli olarak artan ekonomik kalkınmaya yol açmadığını göstermektedir. Ayrıca, ihracatın ithalatı karşılama oranı ile ekonomik büyüme arasında istatistiksel olarak anlamlı bir doğrusal ilişki gözlenmektedir. Bu da ticaret dinamiklerinin, ihracat yöneliminin ve ithalat stratejilerinin ekonomik sonuçları şekillendirmede önemli bir rol oynadığını göstermektedir. Bunun tam aksine, araştırma, seçilen makroekonomik göstergelerin hiçbirinin düşük gelirli Sahra Altı Afrika ülkelerinde ekonomik büyüme üzerinde önemli bir etkiye sahip olmadığını ortaya koymaktadır. Bu gözlem, diğer yapısal faktörlerin ekonomik büyüme üzerinde daha belirgin etkilere sahip olabileceği bu ülkelerdeki ekonomik manzaranın karmaşıklığının altını çizmektedir. Üst-orta gelir kategorisinde, işgücüne katılım oranı ile doğal kaynaklardan elde edilen gelir arasında önemli bir korelasyon gözlenmektedir. Bu bağlantı, işgücü piyasası dinamikleri ile kaynaklara dayalı gelir kaynakları arasındaki etkileşimin bu özel gelir grubunda farklı bir öneme sahip olduğunu göstermektedir. Bu araştırma, farklı makroekonomik

göstergelerin ekonomik büyüme üzerindeki farklı etkilerinin altını çizmekte ve ülkelerin gelir düzeylerinin bu etkileri belirlemede oynadığı kritik rolü vurgulamaktadır. Ülkeleri Birleşmiş Milletler'in gelir sınıflandırma sistemine göre kategorize eden bu çalışma, Sahra Altı Afrika'da makroekonomik değişkenler ile ekonomik büyüme arasındaki ilişkiye daha incelikli ve özel bir bakış açısı getirmektedir. Sonuçlar, bu bölgede sürdürülebilir ekonomik büyüme için hedefli ve etkili stratejiler formüle etmeyi amaçlayan politika yapımcılar için de bilgiler sunmaktadır. Sonuç olarak, bu çalışma Sahra Altı Afrika ekonomik ortamına ilişkin bilgi birikimine katkıda bulunmakta ve politika formülasyonu, sürdürülebilir ekonomik büyümenin teşvik edilmesi ve bölgedeki genel refahın artırılması için ilgili, gerçek dünyadan çıkarımlar sunmaktadır. Özgün ekonomik stratejilere duyulan ihtiyacın ve her gelir grubunun kendine özgü ekonomik dinamiklerini hesaba katmanın öneminin altını çizmektedir. Ayrıca Sahra Altı Afrika'nın ekonomik ortamının dinamiklerini anlamak için bir temel teşkil etmekte ve bölgede sürdürülebilir, kapsayıcı ve dirençli ekonomik büyümeyi teşvik etmek için kanıta dayalı politika formülasyonu için rehberlik sunmaktadır. Bu öngörülerini geliştirmek ve Sahra Altı Afrika'da gelişen ekonomik zorlukları ele alacak stratejileri uyarlamak için yapılacak çalışmalara ışık tutacaktır.