



EuroEconomica

The Impact of Domestic Investment and Trade on Economic Growth in North Africa Countries: New Evidence from Panel CS-ARDL Model

Nadia Ben Yedder¹, Malek El Weriemmi², Sayef Bakari³

Abstract: The aim of this work is to examine the impact of domestic investment and trade on economic growth in the case of North Africa countries during the period 1990 – 2021 by using Panel CS-ARDL Model. Empirical results indicate that domestic investment and exports don't have any impact on economic growth in the long run. However, we found that the impact of imports is positive in the long run. These results show that exports and national investments are not considered as a source of economic growth in the country of North Africa over this extended period and suffer from a miserable economic organization and many problems in terms of political and economic instabilities.

Keywords: Domestic Investment; Exports; Imports; Economic Growth; North Africa Countries; CS-ARDL Model

JEL Classification: E22; F14; O16; O47; O55

1. Introduction

In the case of developing countries, domestic investment and trade openness play a crucial role in economic growth. In fact, domestic investment and trade openness promote job creation in developing countries. These investments allow the establishment of local businesses that require labor, which reduces unemployment and improves the living conditions of the population. In addition, domestic investments in infrastructure, technology and worker training help increase productivity within firms. This allows developing countries to produce more goods and services, which stimulates economic growth. Also, trade openness promotes the transfer of know-how and technologies from more developed countries to developing countries. This enables local businesses to adopt more efficient and innovative practices, which improves their competitiveness and their ability to export. Otherwise, domestic investment and trade openness encourage economic diversification in developing countries. Instead of depending solely on traditional sectors such as agriculture or raw materials, these countries can develop new sectors such as manufacturing, services and information technology. This helps reduce their economic dependence and create a stronger foundation for long-term growth. Finally, trade openness

¹ Graduate College of Commerce of Tunis (ESCT), University of Manouba Tunisia, Corresponding author: Ben.yedder.nadia.90@gmail.com.

² Research Unit "Enterprise Economy Environment", Higher Institute of management, University of Gabes, Tunisia, E-mail: Malek.el-weriemmi@laposte.net.

³ LIEI, Faculty of Economic Sciences and Management of Tunis, University of Tunis El Manar, Tunisia; Faculty of Legal, Economic and Management Sciences of Jendouba, University of Jendouba, Tunisia, E-mail: bakari.sayef@yahoo.fr.



allows developing countries to access international markets, which gives them the opportunity to export their products and services. This stimulates economic growth by increasing revenues for local businesses and attracting foreign investment.

Examining the impact of domestic investment and trade openness on economic growth is of great importance for a North African country, for several reasons. First, domestic investments play a crucial role in the economic development of a country. They stimulate job creation, increase production and productivity, promote innovation, and contribute to the creation of a middle class and growing purchasing power. This improves the living conditions of citizens and reduces poverty. Examining the impact of these investments helps to identify priority sectors where local investment should be encouraged, as well as the policy measures needed to promote an investment-friendly environment. Second, trade openness is also a key driver of economic growth. When a North African country promotes trade with other countries, it can benefit from several advantages. Trade openness allows national companies to access new markets, expand their customer base, and take advantage of gains in scale and specialization. This encourages competition, drives efficiency and promotes innovation. The analysis of the impact of trade openness makes it possible to determine the sectors where the country has a comparative advantage, in order to develop appropriate export strategies.

Furthermore, it is important to note that domestic investment and trade openness are closely linked. Domestic investment can be encouraged by reforms aimed at improving the business environment and attracting foreign investors. In addition, foreign companies investing in the country can play an important role in trade openness by facilitating trade with other countries. For these reasons, examining the impact of domestic investment and trade openness on economic growth is essential to guide economic policies and promote sustainable development in a North African country. This helps identify priority sectors for domestic investment, promote a favorable investment environment, encourage trade with other countries and stimulate economic growth. The remainder of this paper will be organized as follows. In the second section, we will draw on a brief literature that describes the impact of domestic export investment on economic growth with a focus on developing countries. In the third section, we will present our empirical methodology. In the fourth section, we present our empirical results. Finally, we will present our conclusions and recommendations in the fifth section.

2. Literature Survey

Trade openness allows national companies to access new international markets. This can increase sales and growth opportunities for domestic businesses, allowing them to sell their products and services to more consumers overseas. Expanding international markets can boost production, incomes and jobs in domestic industries, which promotes economic growth. Otherwise, trade openness also allows countries to have access to new resources and raw materials from other countries. This can be beneficial for domestic industries that depend on these resources for their production. Access to new resources can boost the innovation, productivity and competitiveness of domestic industries, which promotes economic growth. In addition, trade openness also promotes the transfer of knowledge and technology between countries. When a country imports foreign goods and services, it also imports knowledge and technology embodied in those products. This can help domestic enterprises improve their own production processes, innovate and improve their competitiveness. The transfer of knowledge and

technology can stimulate long-term economic growth by promoting efficiency and productivity. Similarly, trade openness can also stimulate competition at the national level. When a country faces foreign competition, it can motivate domestic firms to improve efficiency, reduce costs, and innovate to stay competitive. This competitive pressure can increase the productivity and efficiency of domestic firms, which promotes economic growth. Finally, trade openness can also encourage foreign direct investment in a country. Foreign investment can bring capital, technology and jobs, which can stimulate economic growth and the development of domestic industries. In fact, several recent empirical works have shown that trade openness has a favorable effect on economic growth. Among these works, we can cite Bakari and Mabrouki (2017), Bakari and Tiba (2019), Bakari and Krit (2017), Bakari and Mabrouki (2016), Bakari (2016), Bakari (2017), Bakari (2017), Bakari and Tiba (2019), Bakari (2021), Bakari et al (2019). Azeez et al (2014), Sun and Heshmati (2010), Abendin and Duan (2021), Keho (2017), Makki and Somwaru (2004), Kali et al (2007), Agbo et al (2018), Amna Intisar et al (2020), Ali and Abdullah (2015), Malefane and Odhiambo (2018), Moyo et al (2017), Silberberger and Königer (2016), Abban et al (2022), Nuță (2008), Chen et al (2022), Gyimah et al (2022), Dada et al (2022), Wang et al (2022), Iqbal et al (2023), Zafar et al (2022), Mahmood (2022), Adedoyin et al (2022), Widarni and Bawono (2022), Huang et al (2022), Kwakwa et al (2022), Magazzino et al (2022), Azam et al (2022). It is important to emphasize that the positive effects of trade openness depend on how countries manage this openness and put in place appropriate trade and economic policies to maximize the potential benefits.

On the contrary, the opening of a country to international trade can have negative effects on economic growth. In fact, trade openness allows foreign products to enter the domestic market, which can increase competition for domestic industries. If domestic industries are not competitive, they may be unable to compete with cheaper or higher quality imported products. This can lead to lower production, income and jobs in these industries, which can harm economic growth. Moreover, trade openness may also lead to a reduction in domestic demand for domestic products. Consumers may choose to buy cheaper and better-quality imported products at the expense of domestic products. This can lead to lower domestic demand and lower domestic production, which can dampen economic growth. Alternatively, trade openness can also make a country more dependent on imports. If a country relies heavily on imports to meet its needs for consumer goods and raw materials, it may be vulnerable to international price fluctuations and supply chain disruptions. This can negatively affect economic stability and long-term growth. On the other hand, trade openness can also lead to a redistribution of economic resources. If some national industries become less competitive, economic resources can be shifted to more efficient sectors. However, this can take time and adjustment costs, which can lead to underutilization of resources during the transition period, which can harm economic growth. In fact, several recent empirical works have shown that trade openness has an adverse effect on economic growth. Among these works, we can cite Bakari et al (2022), Bakari (2022), Bakari (2017), Bakari et al (2021), Bakari (2017), Bakari (2017), Bakari et al (2018), Bakari (2020), Bakari (2019), Bakari and Tiba (2021), Bakari and Saaidia (2018), Bakari et al (2021), Brueckner and Lederman (2015), Mattoo et al (2001), Rahman et al (2020), Nursini (2017), Kim et al (2011), Duodu and Baidoo (2020), Ramzan et al (2019), Bunje et al (2022), Fatima et al (2020), Ampofo et al (2020), Soomro et al (2022), Ali et al (2016), Hasson and Masih (2017), Jalil and Rauf (2021), Sharma and Mishra (2022), Cigu et al (2020), Sarin et al (2022), Tabash et al (2022), Widarni and Bawono (2022), Ojekemi et al (2022), Yu et al (2023), Mahmood (2022), Mukhtarov et al (2022), Zhu et al (2022), Huang and Khan (2022), Kumari et al (2023). It is important to note that these negative effects are not necessarily permanent and can be mitigated by



appropriate economic policies. For example, investing in innovation, training, and the development of new industries can help improve national competitiveness and foster economic growth despite trade openness.

Domestic investments refer to investments made by domestic companies in their own country, can have a positive impact on economic growth in several ways. Domestic investments can contribute to job creation in the country. When a company invests in new facilities or projects, it creates employment opportunities for local workers. This increases the level of employment and reduces unemployment, which stimulates economic growth by increasing household income and consumption. Moreover, domestic investments can also stimulate domestic demand. When a business invests in new facilities or projects, it often requires the purchase of goods and services from other local businesses. This creates a demand for these local goods and services, which stimulates the production and income of other local businesses. An increase in domestic demand can support economic growth by encouraging the expansion of economic activity. Alternatively, domestic investments can contribute to strengthening the country's infrastructure. When a company invests in new facilities or projects, it may require the construction or improvement of infrastructure such as roads, power grids or telecommunications networks. A strong and well-developed infrastructure is essential to sustain economic activity and promote long-term economic growth. On the other hand, domestic investments can encourage innovation and the adoption of new technologies. When a company invests in new projects, it can also invest in research and development, which can generate new ideas and technologies. Innovation and the adoption of new technologies are important drivers of economic growth, as they improve business efficiency, productivity and competitiveness. Additionally, domestic investment can also make a country more attractive to foreign investment. When a domestic company invests and thrives in its own country, it can demonstrate the political stability, economic strength and competitiveness of the country, which can lead other foreign companies to invest as well. Foreign investment can bring in additional capital, technology and jobs, which can further stimulate economic growth. In fact, several recent empirical works have shown that investments have a favorable effect on economic growth. Among these works, we can cite Bakari and Mabrouki (2018), Bakari et al (2020), Bakari (2021), Bakari and Mabrouki (2017), Bakari (2021), Bakari (2017), Bakari (2017), Bakari (2022), Adams (2009), Tang et al (2008), Choe (2003), Ghazali (2010), Lean and Tan (2011), Ilegbinosa et al (2015), Ullah et al (2014), Miao et al (2021), Deok-Ki Kim and Seo (2003), Emmanuel and Kehinde (2018), Bayar, Y. (2014), Ndikumana and Verick (2008), Güngör and Ringim (2017), Ndikumana (2000), Al-Sadig (2013), Tran and Hoang (2019), Alfa and Garba (2012), Younsi et al (2021), Ogunjinmi (2022), Prasanna (2010), Abubakar and Bala (2016), Amadou (2011), Ang (2009), Makki and Somwaru (2004), Ridzuan et al (2014), Sooreea-Bheemul and Sooreea (2013). In conclusion, domestic investment can play an important role in economic growth by creating jobs, stimulating domestic demand, strengthening infrastructure, fostering innovation and attracting foreign investment. It is essential that governments encourage and support domestic investment by putting in place investment-friendly policies and creating a business environment conducive to the development of domestic businesses.

Although domestic investments generally have a positive impact on economic growth, there are also some potential negative impacts. When a national company invests heavily in its own country, this can absorb a considerable part of the financial resources available on the market, which can reduce investment opportunities for other companies or economic sectors. This can lead to inefficient resource allocation and slower economic growth in other sectors. Similarly, domestic investments can also cause

an economy to over-rely on one or more specific sectors. If a country is too dependent on one sector, such as mining or financial services, it may be vulnerable to a change in commodity prices or a financial crisis. This can lead to economic instability and limited economic growth. Another reason for this negative impact is protectionism. Domestic investment can be used as a form of protectionism, that is, policies aimed at protecting domestic firms from foreign competition. If domestic investments are supported by protectionist measures such as trade barriers or subsidies, this can limit competition and reduce economic efficiency. This could hamper long-term economic growth. Domestic investments supported by protectionist measures can create market distortions. Trade barriers or subsidies designed to protect domestic firms can result in inefficient resource allocation and reduce firms' competitiveness in global markets. This can slow overall economic growth and limit export opportunities. In fact, several recent empirical works have shown that investments have an adverse effect on economic growth. Among these works, we can cite Bakari (2017), Bakari (2016), Bakari (2019), Bakari et al (2019), Bakari and Bouchoucha (2021), Fakraoui and Bakari (2019), Lupu and Nuță (2023), Bakari and El Weriemmi (2022), Bakari (2017), Bakari (2018), Kolstad and Villanger (2004), John (2016), Kentor (1998), Yuliana et al (2019), Rahman (2015), Saqib et al (2013), Shabbir et al (2021), Kong et al (2016), Barro and Lee (1994), Phetsavong and Ichihashi (2012), Almfraji and Almsafir (2014), Umeora (2013), Zhao et al (2021), Jugurnath et al (2016), Saibu et al (2011), Dinh et al (2019), Meyer and Sanusi (2019), Boamah et al (2018), Purba et al (2019), Kong et al (2020), Kanu et al (2014), Qayyum and Zaman (2019), Oluwatobi and Ogunrinola (2011), Aslan and Altinoz (2021), Nuta et al (2015), Topcu et al (2020). In summary, while domestic investments can have benefits for national economic growth, it is important to consider potential negative impacts in order to promote efficient resource allocation and boost competitiveness in international markets. The objective of the following section is to explain our empirical methodology that will be used in our study.

3. Data and Empirical Methodology

In this work, we will examine the impact of domestic investment and trade on economic growth in the case of North Africa countries (Morocco, Algeria, Tunisia, Egypt et Sudan) during the period 1990 – 2021. Referring to the works of, Hussain and Haque (2016), Shaikh (2010), Kumari et al (2023), Rahman et al (2023), Ge et al (2022), Bakari (2022), Ciftci and Durusu-Ciftci (2022), Murshed et al (2022), Su et al (2019), Bakari (2017), Bakari et al (2018a), Bakari et al (2018b), Yusoff and Nuh (2015), Ridzuan et al (2018), Wiredu et al (2020), Cinar and Nulambeh (2018), Zamani and Tayebi (2022), Nguyen et al (2022), the basic model is written as follows:

$$Y_{it} = \alpha_0 + \alpha_1 K_{it} + \alpha_2 L_{it} + \alpha_3 X_{it} + \alpha_4 M_{it} + \gamma_i + \varepsilon_t$$

Where 'Y' designs economic growth, 'K' designs domestic investment, 'L' designs labor, 'X' designs exports, 'M' designs imports, ' γ ' is a country-specific effect not observed, ' ε ' is the term error, 'i' is the individual dimension of the panel (the country) and 't' is the temporal dimension. To linearize the equation, all variables are logarithmically changed. Table 1 shows the chosen variables and their sources. All variables are taken from the World Bank Indicators and Perspective Monde.

Table 1. Presentation of the Database

Variables	Descriptions	Measures	Sources
K	Domestic Investment	Gross fixed capital formation (constant 2015 US\$)	World Bank Indicators / Perspective Monde
X	Exports	Exports of goods and services (constant 2015 US\$)	World Bank Indicators / Perspective Monde
L	Labor	Labor force, total	World Bank Indicators / Perspective Monde
M	Imports	Imports of goods and services (constant 2015 US\$)	World Bank Indicators / Perspective Monde
Y	Economic growth	Gross Domestic Product (constant 2015 US\$)	World Bank Indicators / Perspective Monde

Source: Constructed by the authors

To estimate our Panel ARDL model, our empirical strategy is organized as follows. In the first step, we will apply the cross-sectional dependency analysis to verify the dependency of the variables included in our study. In the second step, we will determine the order of integration of each variable using a set of stationarity tests whose purpose is to verify the variation and volatility of the variables over time. In the third step, we will analyze the cointegration between the variables. In the fourth step, we will estimate our Panel ARDL model to detect the link between variables in the long run and in the short run.

4. Empirical Results

In fact, our methodology lies in studying the stationarity of variables on the one hand and analyzing cointegration among variables on the other. That is, if the variables are stationary and there is cointegration among the variables, it means that the ARDL model is maintained. Prior to this, we first performed descriptive statistical analysis and cross-sectional dependence analysis.

According to Table 2, the probability of rejection for all variables (economic growth ‘Y’, domestic investment ‘K’, labor force ‘L’, exports ‘X’ and imports ‘M’) was less than 5%, which indicates that they were considered during this work. The kurtosis coefficient values for all variables reflects the maximum values. Moreover, we notice that there is a large variation between the maximum and the minimum of each variable, which proves the existence of a large variation between the variables over time. Finally, the global skewness and kurtosis coefficients confirm that the variables follow a normal distribution.

Table 2. Descriptive Statistics

	LOG(Y)	LOG(K)	LOG(L)	LOG(X)	LOG(M)
Mean	25.13799	24.07575	16.04476	23.44972	23.38323
Median	25.14172	23.92195	16.10662	23.60149	23.51667
Maximum	26.77761	27.33924	17.24823	25.22645	25.12930
Minimum	23.59129	21.93791	14.74330	19.24182	18.20211
Std. Dev.	0.735609	1.264809	0.641500	1.161939	1.314486
Skewness	0.131841	0.765168	-0.046741	-1.461644	-1.307718
Kurtosis	2.468014	3.241686	2.491433	5.080424	4.956481
Jarque-Bera	2.350245	16.00229	1.782532	85.82516	71.12215
Probability	0.008781	0.000335	0.010136	0.000000	0.000000
Sum	4022.079	3852.120	2567.162	3751.955	3741.316

Sum Sq. Dev.	86.03826	254.3589	65.43204	214.6662	274.7318
Observations	160	160	160	160	160

Source: Authors' calculations using Eviews 12 software.

The cross-sectional dependence test is a mandatory step in any econometric analysis of panel data. Table 3 presents the result of a CSD test for weak cross-sectional dependence by Pesaran (2015). It demonstrates that panel data are subject to cross-sectional dependence. In other words, similar economic and political circumstances mean that Log (Y), Log (K), Log (L), Log (M) and Log (X) are all cross-dependent since the probability of all cross-sectional dependence tests have probabilities less than 1%.

Table 3. Cross-Section Dependence Test

Cross-Section Dependence Test				
Log (Y)				
Test	Statistic	d.f.	Prob.	
Breusch-Pagan LM	267.0204	10	0.0000	
Pesaran scaled LM	56.35347	10	0.0000	
Bias-corrected scaled LM	56.27283	10	0.0000	
Pesaran CD	16.26263	10	0.0000	
Log (K)				
Test	Statistic	d.f.	Prob.	
Breusch-Pagan LM	176.4890	10	0.0000	
Pesaran scaled LM	36.11004	10	0.0000	
Bias-corrected scaled LM	36.02939	10	0.0000	
Pesaran CD	8.215832	10	0.0000	
Log (L)				
Test	Statistic	d.f.	Prob.	
Breusch-Pagan LM	303.6362	10	0.0000	
Pesaran scaled LM	64.54102	10	0.0000	
Bias-corrected scaled LM	64.46037	10	0.0000	
Pesaran CD	17.42295	10	0.0000	
Log (X)				
Test	Statistic	d.f.	Prob.	
Breusch-Pagan LM	100.7267	10	0.0000	
Pesaran scaled LM	19.16907	10	0.0000	
Bias-corrected scaled LM	19.08843	10	0.0000	
Pesaran CD	6.725827	10	0.0000	
Log (M)				
Test	Statistic	d.f.	Prob.	
Breusch-Pagan LM	187.3234	10	0.0000	
Pesaran scaled LM	38.53269	10	0.0000	
Bias-corrected scaled LM	38.45204	10	0.0000	
Pesaran CD	12.35386	10	0.0000	

Source: Authors' calculations using Eviews 12 software.

The next step in our empirical analysis is the study of the stationarity of each variable which aims to determine the order of integration of each variable. In our case, we will use the two most appropriate which are the ADF Test and the PP Test.

Table 4. Units Roots Tests Results

PP Test						
<i>At Level</i>						
		LOG(Y)	LOG(K)	LOG(L)	LOG(X)	LOG(M)
C	t-Statistic	0.9552**	0.6447	0.0001***	0.8473	0.8835
CT	t-Statistic	0.2357	0.9857	0.9989	0.3726	0.6932
<i>At First Difference</i>						
		d(LOG(Y))	d(LOG(K))	d(LOG(L))	d(LOG(X))	d(LOG(M))
C	t-Statistic	0.0000***	0.0251**	0.0042***	0.0001***	0.0004***
CT	t-Statistic	0.0000***	0.0622***	0.0000***	0.0007***	0.0026***
ADF Test						
<i>At Level</i>						
		LOG(Y)	LOG(K)	LOG(L)	LOG(X)	LOG(M)
C	t-Statistic	0.9404*	0.5928	0.0006**	0.8444	0.8847
CT	t-Statistic	0.1912	0.9968	0.9999	0.4063	0.7253
<i>At First Difference</i>						
		d(LOG(Y))	d(LOG(K))	d(LOG(L))	d(LOG(X))	d(LOG(M))
C	t-Statistic	0.0000***	0.0251***	0.8570	0.0001***	0.0004***
CT	t-Statistic	0.0000***	0.0646***	0.0010**	0.0007***	0.0026***
<i>Notes: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1%. and (no) Not Significant</i>						
<i>C: With constant</i>						
<i>CT: With constant and trend</i>						

Source: Authors' calculations using Eviews 12 software.

Table 4 denotes the results of the stationarity of each variable. All the variables {Log (Y), Log (K), Log (L), Log (X) and Log (M)} are stationary in first difference. Similarly, we notice that the two variables Log (Y) and Log (L) are stationary in level and in first differences. In this case, the cointegration analysis will be retained. Cointegration is an important statistical methodology in economic and empirical analyzes because it allows considering long-term relationships between economic variables. In economics, many variables are interdependent and move together, but they can also exhibit temporary or short-term deviations.

Cointegration makes it possible to distinguish between short-term ties, which can be temporary and transitory, and long-term ties, which are more stable and durable. Cointegration thus makes it possible to capture long-term trends and to understand the economic relationships between variables. This is particularly important in economic and empirical models, as it allows short-term variations to be considered while analyzing long-term relationships. This gives a more complete and accurate view of economic dynamics. Moreover, cointegration is also used in econometric modeling to test the existence of causal relationships between variables. Using appropriate econometric methods, it is possible to test whether one variable causes the other, or whether both variables are caused by a common third variable. This helps to better understand the underlying economic mechanisms and to make informed policy decisions.

Table 5. Cointegration Analysis

Kao Residual Cointegration Test		
	t-Statistic	Prob.
ADF	-2.423244	0.0077
Residual variance	0.002067	
HAC variance	0.000407	

Source: Authors' calculations using Eviews 12 software.

In our case, we will use Kao's (1999) cointegration test. The econometric rule states that the probability of Kao's cointegration test must be less than 5% to confirm the existence of a cointegration relationship. The results of the cointegration analysis are presented in Table 5. It is clear to us that the probability of Kao's cointegration test is significant because it is less than 5% with a value equal to 0.0077. In this case, we confirm the existence of a cointegration relationship between the variables. For this, the ARDL model will be retained.

The estimation of the ARDL model is presented in table n°6. As we mentioned before that the ARDL model is able to detect the relationship between variables in the long run and in the short run. In our case, we will begin to explain the results related to the impact of domestic investments, exports and imports on economic growth in the long run. Table 6 indicates that exports {Log (X)} and domestic investments {Log (K)} have no effect on economic growth {Log (Y)} in the long run because they have insignificant coefficients and have probabilities greater than 5%. On the other hand, we note that imports {Log (M)} have a positive effect on economic growth {Log (Y)} in the long run because they have a positive coefficient equivalent to 0.098809 and a probability of less than 5% equivalent to 0.0003. Moreover, we notice that the labor force {Log (L)} has a negative effect on economic growth {Log (Y)} in the long run.

Table 6. Estimation of ARDL Model

Dependent Variable: LOG(Y)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
<i>Long Run Equation</i>				
LOG(K)	0.014574	0.026649	0.546881	0.5862
LOG(L)	-0.018654	0.007539	-2.474321	0.0157
LOG(X)	0.007688	0.018326	0.419512	0.6761
LOG(M)	0.098809	0.026152	3.778320	0.0003
ECT	-0.808464	0.142441	-5.675773	0.0000
<i>Short Run Equation</i>				
LOG(K)	0.088319	0.051434	1.717131	0.0885
LOG(L)	0.156217	0.214199	0.729311	0.4672
LOG(X)	0.079594	0.053518	1.487226	0.1396
LOG(M)	-0.039563	0.028887	-1.369576	0.1734
C	0.138311	0.027117	5.100444	0.0000
<i>ECT: Error Correction Term</i>				

Source: Authors' calculations using Eviews 12 software.

In the short term, Table 6 showed that exports, imports, labor force and domestic investments do not cause economic growth. In this case, we can confirm that exports and domestic investments have no



effect on economic growth in the long run and in the short run. Moreover, the estimate confirms that only imports have a positive effect on economic growth in the long term.

5. Conclusions and Recommendations

The objective of this paper is to study the effect of domestic investment and trade on economic growth in the case of North Africa countries during the period 1990 – 2021 by using Panel CS-ARDL Model. Empirical results confirm that domestic investment and exports don't have any impact on economic growth in the long run. However, we found that the impact of imports is positive in the long run. It is true that the countries of the North Africa region have often been confronted with economic and structural challenges which have limited the impact of domestic investments on growth. Here are some possible reasons. The North Africa region has been characterized by periods of political instability, conflicts and wars, which have hampered economic development and investor confidence. Domestic investments, as well as foreign investments, can be discouraged in such a context, which limits their effect on economic growth. Additionally, many countries in the North Africa region are highly dependent on natural resource exports, such as oil and gas. This dependence can hamper the development of other economic sectors, such as manufacturing and services, which could benefit more from domestic investment. Some countries in the North Africa region may experience difficulties in establishing strong infrastructures and transparent regulatory frameworks, which can deter investors, both domestic and foreign. Without these essentials, domestic investments can be less effective and have a limited impact on economic growth. Similarly, some North Africa countries have also faced education and workforce skills challenges. Low levels of education and skills can limit the ability of domestic investments to boost productivity and innovation, which could dampen economic growth. However, the importance of domestic investment in the North Africa region should not be underestimated. Despite the challenges faced, domestic investments can contribute to job creation, increased productivity and economic diversification, which can, in the long term, boost economic growth in the region.

Exports can sometimes have an adverse effect on economic growth in North Africa countries for different reasons. As mentioned earlier, many countries in the North Africa region are highly dependent on natural resource exports, such as oil and gas. This dependence is accompanied by several problems such as the volatility of the prices of raw materials and the imbalance of the trade balance. For commodity price volatility, revenues from natural resource exports may fluctuate with changes in prices in the international market. These fluctuations can make export earnings unstable and uncertain, making long-term planning and investment difficult. Regarding the imbalance in the trade balance, the dependence on exports of natural resources is accompanied by a weak diversification of exports. This means that countries import a large part of their consumer goods and rely heavily on natural resources for their export earnings. This can create an imbalance in the trade balance, where imports exceed exports, which hurts economic growth. In some North Africa countries, the focus on natural resource exports may lead to neglect of other economic sectors, including manufacturing. If natural resources are exported in large quantities, there may be little incentive to develop local manufacturing industry. This can lead to deindustrialization, increased import dependence and vulnerability to changes in commodity prices. Otherwise, North Africa countries may encounter structural barriers that limit their export competitiveness. This can include deficits in terms of infrastructure, logistics, taxation, regulation, governance and workforce skills. These barriers can make exports less competitive on the international



market, thus discouraging investments in this sector and limiting their effect on economic growth. However, it is important to note that exports can also play a positive role in the economic growth of North Africa countries. Exports can stimulate job creation, foster technology transfer, enable global market integration and encourage long-term economic diversification. It is therefore essential to put in place appropriate policies and measures to mitigate the adverse effects and maximize the benefits of exports for economic growth.

Imports can have a positive impact on economic growth in North African countries in several ways. First, imports allow North African countries to access a variety of goods and services from other countries. This promotes economic diversification by allowing local businesses to import technologies, machinery, equipment and inputs to improve their productivity and efficiency. It can also foster the development of new economic sectors and encourage innovation. Alternatively, imports can act as a catalyst for investment in North African countries. When businesses have access to high-quality, lower cost imported goods and services, they can improve their competitiveness and productive capacity. This can attract domestic and foreign investment to these countries, which in turn stimulates economic growth. Similarly, imports allow consumers in North Africa countries to have access to a greater variety of goods including manufactured goods, food, everyday consumer goods and luxury goods. This can improve people's standard of living by offering them better quality products at competitive prices and giving them more choice in their consumption. On the other hand, imports promote the integration of North African countries into the 'Mondial economy. By relying on imports to meet certain needs, countries can focus on their comparative advantages and develop industries where they are competitive in the global market. This can boost exports, increase export earnings and promote long-term sustainable economic growth. To improve domestic investment and trade openness in North African countries in order to stimulate economic growth, several measures can be taken:

- ✓ It is essential to put in place a transparent and predictable legal and regulatory framework, efficient administration, simplified procedures for setting up businesses and obtaining permits, as well as attractive tax incentives. This will encourage businesses to invest and operate in the region.
- ✓ Improving infrastructure, such as roads, ports, airports, energy, telecommunications, is essential to facilitate trade and attract investment. These quality infrastructures contribute to the competitiveness of the countries of the region and promote economic growth.
- ✓ Building human capital is crucial to boosting economic growth. There is a need to invest in quality education, vocational training and skills development to improve the productivity and employability of the local workforce. This will attract investors who need a skilled workforce.
- ✓ Promote trade openness by reducing tariff and non-tariff barriers, simplify customs procedures and trade formalities, as well as strengthen regional integration. This will allow companies to access foreign markets, increase their exports and reap the benefits of globalization more easily.
- ✓ It is important to develop a sound, transparent and inclusive financial system, with reliable financial institutions, access to credit for businesses, the development of capital markets and the promotion of venture capital investment. This will facilitate the financing of domestic investments and encourage business creation.
- ✓ Encouraging research and development, technological innovation and entrepreneurship is essential to stimulate long-term economic growth. This can be achieved by supporting universities and research



centers, promoting collaboration between businesses and academic institutions, as well as setting up incentive policies to encourage innovation activities.

By implementing these measures, North African countries can improve domestic investment and trade openness, which will boost economic growth and contribute to the region's sustainable development.

References

- Abban, O. J.; Hongxing, Y.; Nuta, A. C.; Dankyi, A. B.; Ofori, C. & Cobbinah, J. (2022). Renewable energy, economic growth, and CO2 emissions contained Co-movement in African oil-producing countries: A wavelet-based analysis. *Energy Strategy Reviews*, 44, pp. 100977.
- Abendin, S. & Duan, P. (2021). International trade and economic growth in Africa: The role of the digital economy. *Cogent economics & finance*, 9(1), p. 1911767.
- Abubakar, A. B. & Bala, A. J. (2016). Nexus between domestic investment, FDI and economic growth: Empirical evidence from India. *International Journal of Management, Accounting and Economics*, 3(3), pp. 174-184.
- Adams, S. (2009). Foreign direct investment, domestic investment, and economic growth in Sub-Saharan Africa. *Journal of policy modeling*, 31(6), pp. 939-949.
- Adedoyin, F. F.; Afolabi, J. O.; Yalçiner, K. & Bekun, F. V. (2022). The export-led growth in Malaysia: Does economic policy uncertainty and geopolitical risks matter? *Journal of Public Affairs*, 22(1), e2361.
- Agbo, E. I.; Agu, A. E. & Eze, L. O. (2018). Impact of international trade on the economic growth of Nigeria. *European journal of business and management*, 10(18), pp. 22-30.
- Alfa, A. B. & Garba, T. (2012). The relationship between domestic investment and economic growth in Nigeria. *International Journal of Research in Social Sciences*, 2(3), pp. 256-279.
- Ali, S.; Alam, K. J. & Islam, M. S. (2016). Effects of trade openness and industrial value added on economic growth in Bangladesh. *International Journal of Sustainable Development Research*, 2(2), pp. 6-11.
- Ali, W. & Abdullah, A. (2015). The impact of trade openness on the economic growth of Pakistan: 1980-2010. *Global Business and Management Research*, 7(2), pp. 120.
- Almfraji, M. A. & Almsafir, M. K. (2014). Foreign direct investment and economic growth literature review from 1994 to 2012. *Procedia-Social and Behavioral Sciences*, 129, pp. 206-213.
- Al-Sadig, A. (2013). The effects of foreign direct investment on private domestic investment: evidence from developing countries. *Empirical Economics*, 44(3), pp. 1267-1275.
- Amadou, A. (2011). The effect of foreign capital on domestic investment in Togo. *International journal of economics and finance*, 3(5), pp. 223-226.
- Amna Intisar, R.; Yaseen, M. R.; Kousar, R.; Usman, M. & Makhdum, M. S. A. (2020). Impact of trade openness and human capital on economic growth: a comparative investigation of Asian countries. *Sustainability*, 12(7), p. 2930.
- Ampofo, G. K. M.; Cheng, J.; Asante, D. A. & Bosah, P. (2020). Total natural resource rents, trade openness and economic growth in the top mineral-rich countries: New evidence from nonlinear and asymmetric analysis. *Resources Policy*, 68, p. 101710.
- Ang, J. B. (2009). Do public investment and FDI crowd in or crowd out private domestic investment in Malaysia? *Applied Economics*, 41(7), pp. 913-919.
- Aslan, A. & Altinoz, B. (2021). The impact of natural resources and gross capital formation on economic growth in the context of globalization: evidence from developing countries on the continent of Europe, Asia, Africa, and America. *Environmental Science and Pollution Research*, 28, pp. 33794-33805.
- Azam, M.; Rehman, Z. U. & Ibrahim, Y. (2022). Causal nexus in industrialization, urbanization, trade openness, and carbon



emissions: empirical evidence from OPEC economies. *Environment, Development and Sustainability*, pp. 1-21.

Azeez, B. A.; Dada, S. O. & Aluko, O. A. (2014). Effect of international trade on Nigerian economic growth: The 21st century experience. *International Journal of Economics, Commerce and Management*, 2(10), pp. 1-8.

Bakari, S. & Bouchoucha, N. (2021). The impacts of domestic and foreign direct investments on economic growth: fresh evidence from Tunisia. *Journal of Smart Economic Growth*, 6(1), pp. 83-102.

Bakari, S. & Mabrouki, M. (2018). *The impact of agricultural trade on economic growth in North Africa: econometric analysis by static gravity model*.

Bakari, S. & Saaidia, F. (2018). Assessment of Commerce Potency on Economic Growth in Italy: Empirical Analysis. *Management*, 5(1), pp. 64-79.

Bakari, S. & Tiba, S. (2019). *Long run and Short run Macroeconomics Determinants of Economic Growth in the USA: Cointegration and VECM Analysis* (No. 96618). University Library of Munich, Germany.

Bakari, S. & Tiba, S. (2019). The Impact of Trade Openness, Foreign Direct Investment and Domestic Investment on Economic Growth: New Evidence from Asian Developing Countries. *Economic Research Guardian*, 9(1), pp. 46-54.

Bakari, S. (2016). *Does Domestic Investment Produce Economic Growth in Canada: Empirical Analysis Based on Correlation, Cointegration and Causality* (No. 75966). University Library of Munich, Germany.

Bakari, S. (2016). *Impact of Exports and Imports on Economic Growth in Canada: Empirical Analysis Based on Causality* (No. 75910). University Library of Munich, Germany.

Bakari, S. (2017). Appraisal of Trade Potency on Economic Growth in Sudan: New Empirical and Policy Analysis. *Asian Development Policy Review*, 5(4), pp. 213-225.

Bakari, S. (2017). The impact of domestic investment on economic growth: New evidence from Malaysia. *Journal of Smart Economic Growth*, 2(2), pp. 105-121.

Bakari, S. (2017). The impact of olive oil exports on economic growth: Empirical analysis from Tunisia. *BİLTÜRK Journal of Economics and Related Studies*, 2(3), pp. 441-458.

Bakari, S. (2017). The Impact of Vegetables Exports on Economic Growth in Tunisia. *Economic Research Guardian*, 7(2), pp. 72-87.

Bakari, S. (2017). The Long Run and Short Run Impacts of Exports on Economic Growth: Evidence from Gabon. *Economic Research Guardian*, 7(1), pp. 40-57.

Bakari, S. (2017). *The Nexus between Export, Import, Domestic Investment and Economic Growth in Japan* (No. 76110). University Library of Munich, Germany.

Bakari, S. (2017). The relationship between export, import, domestic investment and economic growth in Egypt: Empirical analysis. *Euro Economica*, 36(02), pp 34-43.

Bakari, S. (2017). The three-way linkages between export, import and economic growth: New evidence from Tunisia. *Journal of Smart Economic Growth*, 2(3), pp. 13-53.

Bakari, S. (2017). *Trade and Economic Growth in Germany* (No. 77404). University Library of Munich, Germany.

Bakari, S. (2017). *Why is South Africa Still a Developing Country?* (No. 80763). University Library of Munich, Germany.

Bakari, S. (2018). The impact of domestic investment on economic growth new policy analysis from Algeria. *Bulletin of Economic Theory and Analysis*, 3(1), pp. 35-51.

Bakari, S. (2019). If France Continues This Strategy, Taxes Will Destroy Domestic Investment and Economic Growth. *Journal of Smart Economic Growth*, 4(1), pp. 31-45.

Bakari, S. (2019). The relationship between economic growth, exports and imports in Morocco: An empirical validation based on VAR modeling techniques and causality in the meaning of Granger. *Journal of Smart Economic Growth*, 4(3), pp. 47-55.

Bakari, S. (2020). *Domestic Investment and Economic Growth in Tunisia: Causality, Trends and Challenges*. Scholars' Press.



- Bakari, S. (2021). *Are Domestic Investments in Spain a Source of Economic Growth?* (No. 105526). University Library of Munich, Germany.
- Bakari, S. (2021). *Reinvest the relationship between exports and economic growth in African countries: New insights from innovative econometric methods* (No. 108785). University Library of Munich, Germany.
- Bakari, S. (2021). The Nexus Between Domestic Investment and Economic Growth in G7 Countries. Does Internet Matter? *Journal of Applied Economic Sciences (JAES)*, 16(72), pp. 238-243.
- Bakari, S. (2022). On the Relationship Between Domestic Investment, Exports and Economic Growth: Evidence from Greece. *Journal of Smart Economic Growth*, 7(3), pp. 13-34.
- Bakari, S. (2022). *The Impact of Natural resources, CO2 Emission, Energy use, Domestic Investment, Innovation, Trade and Digitalization on Economic growth: Evidence from 52 African Countries* (No. 114323). University Library of Munich, Germany.
- Bakari, S. (2022). *The Nexus between Domestic Investment and Economic Growth in Developed Countries: Do Exports matter?* (No. 114394). University Library of Munich, Germany.
- Bakari, S. & El Weriemmi, M. (2022). *Causality between Domestic Investment and Economic Growth in Arab Countries* (No. 113077). University Library of Munich, Germany.
- Bakari, S. & Krit, M. (2017). The nexus between exports, imports and economic growth: Evidence from Mauritania. *International Journal of Economics and Empirical Research*, 5(1), pp. 10-17.
- Bakari, S. & MABROUKI, M. (2016). *The Relationship among Exports, Imports and Economic Growth in Turkey* (No. 76044). University Library of Munich, Germany.
- Bakari, S. & Mabrouki, M. (2017). Impact of exports and imports on economic growth: New evidence from Panama. *Journal of smart economic growth*, 2(1), pp. 67-79.
- Bakari, S. & Mabrouki, M. (2017). The effect of agricultural exports on economic growth in South-Eastern Europe: An empirical investigation using panel data. *Journal of Smart Economic Growth*, 2(4), pp. 49-64.
- Bakari, S. & Tiba, S. (2021). *The impact of Combustible Renewables and Waste on Economic Growth and Environmental Quality in Tunisia* (No. 108616). University Library of Munich, Germany.
- Bakari, S.; Ahmadi, A. & Tiba, S. (2020). The Nexus among Domestic Investment, Taxation, and Economic Growth in Germany: Cointegration and Vector Error Correction Model Analysis. *Journal of Smart Economic Growth*, 5(1), pp. 37-47.
- Bakari, S.; El Weriemmi, M. & Mabrouki, M. (2022). *The Impact of Digitalization and Trade Openness on Economic Growth: New Evidence from Richest Asian Countries* (No. 113816). University Library of Munich, Germany.
- Bakari, S.; Fakraoui, N. & Tiba, S. (2021). Domestic Investment, Export, Import and Economic Growth in Brazil: An Application of Vector Error Correction Model. *Journal of Smart Economic Growth*, 6(1), pp. 31-48.
- Bakari, S.; Mabrouki, M. & Elmakki, A. (2018). The nexus between industrial exports and economic growth in Tunisia: Empirical analysis. *Journal of Smart Economic Growth*, 3(2), pp. 31-53.
- Bakari, S.; Mabrouki, M.; & Elmakki, A. (2018). The Impact of Domestic Investment in the Industrial Sector on Economic Growth with Partial Openness: Evidence from Tunisia. *Economics Bulletin*, 38(1), pp. 111-128.
- Bakari, S.; Mabrouki, M. & Othmani, A. (2018). The six linkages between foreign direct investment, domestic investment, exports, imports, labor force and economic growth: new empirical and policy analysis from Nigeria. *Journal of Smart Economic Growth*, 3(1), pp. 25-43.
- Bakari, S.; Othmani, A. & Mabrouki, M. (2021). Pollution and economic growth: a new vision for the tunisian economy. *Journal of Smart Economic Growth*, 6(2), pp. 1-17.
- Bakari, S.; Saaidia, F. & Soualhia, A. (2019). Evaluation of Trade Influence on Economic Growth in China: A Time Series Analysis. *Journal of Smart Economic Growth*, 4(3), pp. 57-72.
- Bakari, S.; Tiba, S. & Fakraoui, N. (2019). Does Domestic Investment Contribute to Economic Growth in Uruguay? What did



- the Empirical Facts Say? *Journal of smart economic growth*, 4(2), pp. 53-69.
- Barro, R. J. & Lee, J. W. (1994, June). *Sources of economic growth. In Carnegie-Rochester conference series on public policy*, Vol. 40, pp. 1-46. North-Holland.
- Bayar, Y. (2014). Effects of foreign direct investment inflows and domestic investment on economic growth: Evidence from Turkey. *International Journal of Economics and Finance*, 6(4), pp. 69-78.
- Boamah, J.; Adongo, F. A.; Essieku, R. & Lewis Jr, J. A. (2018). Financial depth, gross fixed capital formation and economic growth: Empirical analysis of 18 Asian economies. *International Journal of Scientific and Education Research*, 2(04).
- Brueckner, M. & Lederman, D. (2015). Trade openness and economic growth: Panel data evidence from Sub-Saharan Africa. *Economica*, 82, pp. 1302-1323.
- Bunje, M. Y.; Abendin, S. & Wang, Y. (2022). The effects of trade openness on economic growth in Africa. *Open Journal of Business and Management*, 10(2), pp. 614-642.
- Chen, S.; Zhang, H. & Wang, S. (2022). Trade openness, economic growth, and energy intensity in China. *Technological Forecasting and Social Change*, 179, 121608.
- Choe, J. I. (2003). Do foreign direct investment and gross domestic investment promote economic growth? *Review of development economics*, 7(1), pp. 44-57.
- Ciftci, C. & Durusu-Ciftci, D. (2022). Economic freedom, foreign direct investment, and economic growth: The role of sub-components of freedom. *The Journal of International Trade & Economic Development*, 31(2), pp. 233-254.
- Cigu, E.; Petrișor, M. B.; Nuță, A. C.; Nuță, F. M. & Bostan, I. (2020). The nexus between financial regulation and green sustainable economy. *Sustainability*, 12(21), p. 8778.
- Cinar, M. & Nulambeh, N. A. (2018). Foreign direct investment, trade openness and economic growth: A panel data analysis for sub-Saharan Africa. *Business and Economics Research Journal*, 9(4), pp. 749-760.
- Dada, J. T.; Adeiza, A.; Noor, A. I. & Marina, A. (2022). Investigating the link between economic growth, financial development, urbanization, natural resources, human capital, trade openness and ecological footprint: evidence from Nigeria. *Journal of bioeconomics*, pp. 1-27.
- Deng, R. T. India-Africa Investment, Trade and Economic Cooperation: Challenges and Perspective. DCR, 31.
- Deok-Ki Kim, D. & Seo, J. S. (2003). Does FDI inflow crowd out domestic investment in Korea? *Journal of economic studies*, 30(6), pp. 605-622.
- Dinh, T. T. H.; Vo, D. H.; The Vo, A. & Nguyen, T. C. (2019). Foreign direct investment and economic growth in the short run and long run: Empirical evidence from developing countries. *Journal of Risk and Financial Management*, 12(4), p. 176.
- Duodu, E. & Baidoo, S. T. (2020). How does quality of institutions affect the impact of trade openness on economic growth of Ghana? *Cogent Economics & Finance*, 8(1), 1812258.
- Emmanuel, O. G. & Kehinde, A. J. O. S. E. (2018). Domestic investment and economy growth in Nigeria: An empirical investigation. *International Journal of Business and Social Science*, 9(2), pp. 130-138.
- Fakraoui, N. & Bakari, S. (2019). Tie Among Domestic Investment, Exports and Economic Growth: Empirical Analysis from India. *Journal of Smart Economic Growth*, 4(1), pp. 1-15.
- Fatima, S.; Chen, B.; Ramzan, M. & Abbas, Q. (2020). The nexus between trade openness and GDP growth: Analyzing the role of human capital accumulation. *Sage Open*, 10(4), 2158244020967377.
- Ge, M.; Kannaiah, D.; Li, J.; Khan, N.; Shabbir, M. S.; Bilal, K. & Tabash, M. I. (2022). Does foreign private investment affect the clean industrial environment? Nexus among foreign private investment, CO2 emissions, energy consumption, trade openness, and sustainable economic growth. *Environmental Science and Pollution Research*, 29(18), pp. 26182-26189.
- Ghazali, A. (2010). Analyzing the relationship between foreign direct investment domestic investment and economic growth for Pakistan. *International Research Journal of Finance and Economics*, 47(1), pp. 123-131.
- Güngör, H. & Ringim, S. H. (2017). Linkage between foreign direct investment, domestic investment and economic growth:



evidence from Nigeria. *International Journal of Economics and Financial Issues*, 7(3), pp. 97-104.

Gyimah, J.; Yao, X.; Tachega, M. A.; Hayford, I. S. & Opoku-Mensah, E. (2022). Renewable energy consumption and economic growth: New evidence from Ghana. *Energy*, 248, 123559.

Hasson, A. & Masih, M. (2017). *Energy consumption, trade openness, economic growth, carbon dioxide emissions and electricity consumption: evidence from South Africa based on ARDL*.

Huang, Y. & Khan, J. (2022). Has the information and communication technology sector become the engine of China's economic growth? *Review of Development Economics*, 26(1), pp. 510-533.

Huang, Y.; Chen, F.; Wei, H.; Xiang, J.; Xu, Z. & Akram, R. (2022). The impacts of FDI inflows on carbon emissions: Economic development and regulatory quality as moderators. *Frontiers in Energy Research*, 9, 820596.

Hussain, M. E. & Haque, M. (2016). Foreign direct investment, trade, and economic growth: An empirical analysis of Bangladesh. *Economies*, 4(2), 7.

Ilegbinosa, I. A.; Micheal, A. & Watson, S. I. (2015). Domestic investment and economic growth in Nigeria from 1970-2013: An econometric analysis. *Canadian Social Science*, 11(6), pp. 70-79.

Iqbal, A.; Tang, X. & Rasool, S. F. (2023). Investigating the nexus between CO2 emissions, renewable energy consumption, FDI, exports and economic growth: evidence from BRICS countries. *Environment, Development and Sustainability*, 25(3), pp. 2234-2263.

Jalil, A. & Rauf, A. (2021). Revisiting the link between trade openness and economic growth using panel methods. *The Journal of International Trade & Economic Development*, 30(8), pp. 1168-1187.

John, E. I. (2016). Effect of foreign direct investment on economic growth in Nigeria. *European Business & Management*, 2(2), pp. 40-46.

Jugurnath, B.; Chuckun, N. & Fauzel, S. (2016). Foreign direct investment & economic growth in Sub-Saharan Africa: an empirical study. *Theoretical Economics Letters*, 6(4), pp. 798-807.

Kali, R.; Méndez, F. & Reyes, J. (2007). Trade structure and economic growth. *The Journal of International Trade & Economic Development*, 16(2), pp. 245-269.

Kanu, S. I.; Ozurumba, B. A. & Anyanwu, F. A. (2014). Capital expenditures and gross fixed capital formation in Nigeria. *Journal of Economics and Sustainable development, the International Institute for Science, Technology and Education (IISTE)*.

Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of Econometrics*, 90, pp. 1-44.

Keho, Y. (2017). The impact of trade openness on economic growth: The case of Cote d'Ivoire. *Cogent Economics & Finance*, 5(1), 1332820.

Kentor, J. (1998). The long-term effects of foreign investment dependence on economic growth, 1940-1990. *American Journal of Sociology*, 103(4), pp. 1024-1046.

Kim, D. H., Lin, S. C. & Suen, Y. B. (2011). Nonlinearity between trade openness and economic development. *Review of Development Economics*, 15(2), pp. 279-292.

Kolstad, I. & Villanger, E. (2004). *How does social development affect FDI and domestic investment?* Chr. Michelsen Institute.

Kong, Y.; Glascock, J. L. & Lu-Andrews, R. (2016). An investigation into real estate investment and economic growth in China: A dynamic panel data approach. *Sustainability*, 8(1), 66.

Kong, Y.; Nketia, E. B.; Antwi, S. K. & Musah, M. (2020). Scrutinizing the complex relationship between financial development gross fixed capital formation and economic growth in Africa by adopting CCEMG and AMG estimation techniques. *International Journal of Science and Business*, 4(11), pp. 160-174.

Kumari, R.; Shabbir, M. S.; Saleem, S.; Yahya Khan, G.; Abbasi, B. A. & Lopez, L. B. (2023). An empirical analysis among foreign direct investment, trade openness and economic growth: evidence from the Indian economy. *South Asian Journal of Business Studies*, 12(1), pp. 127-149.



- Kumari, R.; Shabbir, M. S.; Saleem, S.; Yahya Khan, G.; Abbasi, B. A. & Lopez, L. B. (2023). An empirical analysis among foreign direct investment, trade openness and economic growth: evidence from the Indian economy. *South Asian Journal of Business Studies*, 12(1), pp. 127-149.
- Kwakwa, P. A.; Adzawla, W.; Alhassan, H. & Achaamah, A. (2022). Natural resources and economic growth: does political regime matter for Tunisia? *Journal of Public Affairs*, 22, e2707.
- Lean, H. H. & Tan, B. W. (2011). Linkages between Foreign Direct Investment, Domestic Investment and Economic Growth in Malaysia. *Journal of Economic Cooperation & Development*, 32(4).
- Lupu, D. & Nuță, F. M. (2023). The impact of public education spending on economic growth in Central and Eastern Europe. An ARDL approach with structural break. *Economic research-Ekonomska istraživanja*, 36(1), pp. 1261-1278.
- Magazzino, C. Mele, M., Schneider, N. & Shahzad, U. (2022). Does export product diversification spur energy demand in the APEC region? Application of a new neural networks experiment and a decision tree model. *Energy and Buildings*, 258, 111820.
- Mahmood, H. (2022). Consumption and Territory Based CO₂ Emissions, Renewable Energy Consumption, Exports and Imports Nexus in South America: Spatial Analyses. *Polish Journal of Environmental Studies*, 31(2).
- Mahmood, H. (2022). The spatial analyses of consumption-based CO₂ emissions, exports, imports, and FDI nexus in GCC countries. *Environmental Science and Pollution Research*, 29(32), pp. 48301-48311.
- Makki, S. S. & Somwaru, A. (2004). Impact of foreign direct investment and trade on economic growth: Evidence from developing countries. *American journal of agricultural economics*, 86(3), pp. 795-801.
- Malefane, M. R. & Odhiambo, N. (2018). Impact of Trade Openness on Economic Growth: Empirical Evidence from South Africa. *Economia Internazionale/International Economics*, 71(4), pp. 387-416.
- Mattoo, A.; Rathindran, R. & Subramanian, A. (2001). *Measuring services trade liberalization and its impact on economic growth: An illustration* (Vol. 2655). World Bank Publications.
- Meyer, D. F. & Sanusi, K. A. (2019). A causality analysis of the relationships between gross fixed capital formation, economic growth and employment in South Africa. *Studia Universitatis Babeş-Bolyai Oeconomica*, 64(1), pp. 33-44.
- Miao, M.; Borojo, D. G.; Yushi, J. & Desalegn, T. A. (2021). The impacts of Chinese FDI on domestic investment and economic growth for Africa. *Cogent Business & Management*, 8(1), p. 1886472.
- Moyo, C.; Kolisi, N. & Khobai, H. (2017). The relationship between trade openness and economic growth: The case of Ghana and Nigeria.
- Mukhtarov, S.; Aliyev, F.; Aliyev, J. & Ajayi, R. (2022). Renewable energy consumption and carbon emissions: evidence from an oil-rich economy. *Sustainability*, 15(1), p. 134.
- Murshed, M.; Nurmakhanova, M.; Al-Tal, R.; Mahmood, H.; Elheddad, M.; & Ahmed, R. (2022). Can intra-regional trade, renewable energy use, foreign direct investments, and economic growth mitigate ecological footprints in South Asia?. *Energy Sources, Part B: Economics, Planning, and Policy*, 17(1), p. 2038730.
- Ndikumana, L. & Verick, S. (2008). The linkages between FDI and domestic investment: Unravelling the developmental impact of foreign investment in Sub-Saharan Africa. *Development Policy Review*, 26(6), pp. 713-726.
- Ndikumana, L. (2000). Financial determinants of domestic investment in Sub-Saharan Africa: Evidence from panel data. *World Development*, 28(2), pp. 381-400.
- Nguyen, A. T.; Anwar, S.; Alexander, W. R. J. & Lu, S. H. (2022). Openness to trade, foreign direct investment, and economic growth in Vietnam. *Applied Economics*, 54(29), pp. 3373-3391.
- Nursini, N. (2017). Effect of fiscal policy and trade openness on economic growth in Indonesia: 1990-2015. *International Journal of Economics and Financial Issues*, 7(1), pp. 358-364.
- Nuta, A. C.; Nuta, F. M.; Chirila, V.; Roman, A. & Pusca, A. C. (2015). Testing the relationship between public expenditure and economic growth in Romania. *Acta Universitatis Danubius. Economica*, 11(4).
- Nuță, A. C.; Turtureanu, A. G. & Nuță, F. M. (2012). Does Economic Crisis Affect Sustainable Development? *EIRP*



Proceedings, 7.

Ogunjinmi, O. O. (2022). The impact of domestic investment on economic growth in Nigeria: Further evidence. *Asian Research Journal of Current Science*, pp. 134-142.

Ojekemi, O. S.; Rjoub, H.; Awosusi, A. A. & Agyekum, E. B. (2022). Toward a sustainable environment and economic growth in BRICS economies: do innovation and globalization matter? *Environmental Science and Pollution Research*, 29(38), pp. 57740-57757.

Oluwatobi, S. O. & Ogunrinola, I. O. (2011). Government expenditure on human capital development: Implications for economic growth in Nigeria. *Journal of sustainable development*, 4(3), p. 72.

Pesaran, M. H. & Yamagata, T. (2008). Testing slope homogeneity in large panels. *Journal of Econometrics*, 142(1), pp. 50-93.

Pesaran, M. H. (2004). General diagnostic tests for cross-section dependence in panels. *CESifo Working Paper* (No. 1229).

Pesaran, M. H. (2006). Estimation and inference in large heterogeneous panels with a multifactor error structure. *Econometrica*, 74(4), pp. 967-1012.

Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross-section dependence. *Journal of applied econometrics*, 22(2), pp. 265-312.

Pesaran, M. H.; Ullah, A. & Yamagata, T. (2008). A bias-adjusted LM test of error cross-section independence. *The Econometrics Journal*, 11(1), pp. 105-127.

Phetsavong, K. & Ichihashi, M. (2012). *The impact of public and private investment on economic growth: Evidence from developing Asian countries*. Hiroshima University.

Prasanna, N. (2010). Direct and indirect impact of foreign direct investment (FDI) on domestic investment (DI) in India. *Journal of Economics*, 1(2), pp. 77-83.

Purba, B.; Masbar, R.; Maipita, I. & Jamal, A. (2019, May). The effect of capital expenditure and gross fixed capital formation on income disparity in West Coast Region of North Sumatera. In *IOP Conference Series: Earth and Environmental Science* (Vol. 260, No. 1, p. 012022). IOP Publishing.

Qayyum, A. & Zaman, K. (2019). Dynamic linkages between international trade, gross fixed capital formation, total labor force and economic growth: empirical evidence from Pakistan. *Acta Universitatis Danubius. Œconomica*, 15(1).

Rahman, A. (2015). Impact of foreign direct investment on economic growth: Empirical evidence from Bangladesh. *International Journal of Economics and Finance*, 7(2), pp. 178-185.

Rahman, M. M.; Saidi, K. & Mbarek, M. B. (2020). Economic growth in South Asia: the role of CO2 emissions, population density and trade openness. *Heliyon*, 6(5).

Rahman, P.; Zhang, Z. & Musa, M. (2023). Do technological innovation, foreign investment, trade and human capital have a symmetric effect on economic growth? Novel dynamic ARDL simulation study on Bangladesh. *Economic Change and Restructuring*, 56(2), pp. 1327-1366.

Ramzan, M.; Sheng, B.; Shahbaz, M.; Song, J. & Jiao, Z. (2019). Impact of trade openness on GDP growth: Does TFP matter? *The Journal of International Trade & Economic Development*, 28(8), pp. 960-995.

Ridzuan, A. R.; Khalid, M. W.; Zarin, N. I.; Razak, M. I. M.; Ridzuan, A. R.; Ismail, I. & Norizan, N. (2018). The impact of foreign direct investment, domestic investment, trade openness and population on economic growth: evidence from asean-5 countries. *International Journal of Academic Research in Business and Social Sciences*, 8(1), pp. 128-143.

Ridzuan, A. R.; Razak, M. I. M.; Ibrahim, Z.; Noor, A. H. M. & Ahmed, E. M. (2014). Household consumption, domestic investment, government expenditure and economic growth: new evidence from Malaysia. *Journal of Scientific Research and Reports*, 3(17), pp. 2373-2381.

Saibu, M. O.; Agbeluyi, A. M. & Nwosa, I. P. (2011). Financial development, foreign direct investment and economic growth in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences*, 2(2), pp. 146-154.



- Saqib, N.; Masnoon, M. & Rafique, N. (2013). Impact of foreign direct investment on economic growth of Pakistan. *Advances in Management & Applied Economics*, 3(1), pp. 35-45.
- Sarin, V.; Mahapatra, S. K. & Sood, N. (2022). Export diversification and economic growth: A review and future research agenda. *Journal of Public Affairs*, 22(3), e2524.
- Shabbir, M. S.; Bashir, M.; Abbasi, H. M.; Yahya, G. & Abbasi, B. A. (2021). Effect of domestic and foreign private investment on economic growth of Pakistan. *Transnational Corporations Review*, 13(4), pp. 437-449.
- Shaikh, F. M. (2010, August). Causality relationship between foreign direct investment, trade and economic growth in Pakistan. *International Conference on Applied Economics ICOAE*, Vol. 2010, pp. 717-722.
- Sharma, C. & Mishra, R. K. (2022). On the good and bad of natural resource, corruption, and economic growth nexus. *Environmental and Resource Economics*, 82(4), pp. 889-922.
- Silberberger, M. & Königer, J. (2016). Regulation, trade and economic growth. *Economic Systems*, 40(2), pp. 308-322.
- Soomro, A. N.; Kumar, J. & Kumari, J. (2022). The dynamic relationship between FDI, ICT, trade openness, and economic growth: Evidence from BRICS countries. *The Journal of Asian Finance, Economics and Business*, 9(2), pp. 295-303.
- Sooreea-Bheemul, B. & Sooreea, R. (2013). Missing causality links between foreign direct investment, exports, domestic investment and economic growth. *International Journal of Business and Emerging Markets*, 5(4), pp. 322-340.
- Su, D. T.; Nguyen, P. C. & Christophe, S. (2019). Impact of foreign direct investment, trade openness and economic institutions on growth in emerging countries: The case of Vietnam. *Journal of international studies*, 12(3).
- Sun, P. & Heshmati, A. (2010). International Trade and its Effects on Economic Growth in China (No. 5151). *Institute of Labor Economics (IZA)*.
- Tabash, M. I.; Mesagan, E. P. & Farooq, U. (2022). Dynamic linkage between natural resources, economic complexity, and economic growth: Empirical evidence from Africa. *Resources Policy*, 78, p. 102865.
- Tang, S.; Selvanathan, E. A. & Selvanathan, S. (2008). Foreign direct investment, domestic investment and economic growth in China: A time series analysis. *World Economy*, 31(10), pp. 1292-1309.
- Topcu, E.; Altinoz, B. & Aslan, A. (2020). Global evidence from the link between economic growth, natural resources, energy consumption, and gross capital formation. *Resources Policy*, 66, p. 101622.
- Tran, H. T. T. & Hoang, H. T. (2019). An investigation into the impacts of fdi, domestic investment capital, human resources, and trained workers on economic growth in vietnam. In *Beyond Traditional Probabilistic Methods in Economics 2*, pp. 940-951. Springer International Publishing.
- Ullah, I.; Shah, M & Khan, F. U. (2014). Domestic investment, foreign direct investment, and economic growth nexus: A case of Pakistan. *Economics Research International*.
- Umeora, C. (2013). *Effects of foreign direct investment (FDI) on economic growth in Nigeria*. Available at SSRN 2285329.
- Wang, W.; Rehman, M. A. & Fahad, S. (2022). The dynamic influence of renewable energy, trade openness, and industrialization on the sustainable environment in G-7 economies. *Renewable Energy*, 198, pp. 484-491.
- Widarni, E. L. & Bawono, S. (2022). Technology Investment, Consumption, and Economic Growth in Poverty Eradication Efforts in Indonesia. *Modeling Economic Growth in Contemporary Indonesia*, pp. 217-223. Emerald Publishing Limited.
- Wiredu, J.; Nketiah, E. & Adjei, M. (2020). The relationship between trade openness, foreign direct investment and economic growth in West Africa: Static panel data model. *Journal of Human Resource and Sustainability Studies*, 8(1), pp. 18-34.
- Younsi, M.; Bechtini, M. & Khemili, H. (2021). The effects of foreign aid, foreign direct investment and domestic investment on economic growth in African countries: Nonlinearities and complementarities. *African Development Review*, 33(1), pp. 55-66.
- Yu, Z.; Ridwan, I. L.; Tanveer, M.; & Khan, S. A. R. (2023). Investigating the nexuses between transportation Infrastructure, renewable energy Sources, and economic Growth: Striving towards sustainable development. *Ain Shams Engineering Journal*, 14(2), p. 101843.



Yuliana, S.; Bashir, A. & Rohima, S. (2019). The effect of investment toward economic growth in the local economy. *Jurnal Ekonomi dan Studi Pembangunan*, 11(1), pp. 28-39.

Yusoff, M. B. & Nuh, R. (2015). Foreign direct investment, trade openness and economic growth: Empirical evidence from Thailand. *Foreign Trade Review*, 50(2), pp. 73-84.

Zafar, M. W.; Saleem, M. M.; Destek, M. A. & Caglar, A. E. (2022). The dynamic linkage between remittances, export diversification, education, renewable energy consumption, economic growth, and CO2 emissions in top remittance-receiving countries. *Sustainable Development*, 30(1), pp. 165-175.

Zamani, Z. & Tayebi, S. K. (2022). Spillover effects of trade and foreign direct investment on economic growth: An implication for sustainable development. *Environment, Development and Sustainability*, pp. 1-15.

Zhao, J.; Madni, G. R.; Anwar, M. A. & Zahra, S. M. (2021). Institutional reforms and their impact on economic growth and investment in developing countries. *Sustainability*, 13(9), p. 4941.

Zhu, Y.; Bashir, S. & Marie, M. (2022). Assessing the relationship between poverty and economic growth: does sustainable development goal can be achieved? *Environmental Science and Pollution Research*, 29(19), pp. 27613-27623.