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Foreign Investment, Domestic Savings, and Exchange Rates as Drivers of Per Capita Income and Financial Sector Development in OIC Countries

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Abstract

This study examines the roles of foreign investment, financial sector development, domestic savings, and exchange rates on per capita income in 25 Organization of Islamic Cooperation (OIC) countries. A panel data regression model is applied to annual data from 2010 to 2022. The results indicate that foreign investment and domestic savings positively influence financial sector development, while the exchange rate has no significant effect. Additionally, both foreign investment and savings positively impact economic growth, whereas the exchange rate and financial sector have a negative effect. Based on these findings, it is recommended that the governments of the OIC-25 countries enhance the attractiveness of foreign investment through policies that foster a conducive investment climate and increase awareness and incentives for domestic savings. This approach would strengthen the financial sector and boost per capita income growth. The study suggests that while foreign investment and domestic savings can drive financial sector development and economic growth, exchange rate fluctuations and inefficient financial sector management can hinder increases in per capita income.

Introduction

Economic growth is an important indicator of a country's development. According to Kamal et al. [1], economic growth is one of the main focuses for countries in the world to improve people's welfare and economic stability, especially in the long term. This is also supported by the era of globalization, which causes countries worldwide to design various strategies to increase the rate of economic growth. Kitov [2] revealed that each country has its own tips to achieve its growth target. Identifying whether a country's economy is growing can be seen from the Gross Domestic Product (GDP) growth rate, which is one of the main indicators in evaluating economic performance.

Cooper [3] revealed that developed countries, especially countries with high economic growth, show a weak linear trend in increasing their annual GDP per capita, while countries with an Islamic majority population face several challenges in increasing their GDP. The potential weaknesses in the economic systems of some Islamic-majority countries have resulted in the diversification of income sources. Therefore, economic growth can be considered one of the indicators that measure the welfare of a country. GDP per capita of developed countries and Islamic-majority countries show a positive relationship between financial development and economic growth [4].

The Organization of Islamic Cooperation (OIC) is the largest organization after the United Nations, with 57 Muslim-majority member states in Asia and Africa [5]. These member countries are spread across various regions, including Southeast Asia, the Middle East, Africa, and Europe, and they have a combined population of more than 1.8 billion. However, the high population is

inversely proportional to the GDP per capita in each country. OIC countries are not part of the OECD, a group of high-income countries with a very high Human Development Index [6]. In this case, Muslim-majority countries still face challenges in catching up with developed countries' GDP per capita levels [7].

According to the World Bank [8], GDP per capita data for OIC countries from 2020 to 2022 shows Qatar, Oman, and Malaysia as the top performers. Qatar leads with a significant increase in GDP per capita, rising from \$52,316 in 2020 to \$87,662 in 2022, averaging \$68,946, driven by the recovery of oil and gas prices, economic diversification, and investment in the non-oil sector [9,10]. Oman follows with an average GDP per capita of \$20,425, benefiting from rising oil prices, economic diversification, and increased foreign investment [11–14]. Malaysia secures the third spot with a steady upward trend, averaging \$11,098. On the lower end, Sudan, Niger, and Sierra Leone rank as the bottom three, with Sudan averaging \$821 as its economy undergoes restructuring after years of conflict and international sanctions [15]. Niger's average GDP per capita is \$581, largely due to its reliance on the vulnerable agricultural sector [16]. Sierra Leone ranks last with an average of \$492, similarly affected by dependence on agriculture [17].

The varying GDP per capita among OIC countries reflects that factors such as foreign investment [18], savings [19], the important role of exchange rates [20], and financial sector development [21] play an important role in driving GDP per capita growth in OIC countries. Countries with strong institutions, supportive policies, and good infrastructure can attract investment and increase productivity, contributing to economic growth. Therefore, factors other than natural conditions, such as financial sector development and foreign investment, prove that OIC countries have great potential for sustainable economic growth.

To achieve economic growth, developing countries accumulate capital receipts from two sources, namely financial development (FDV) and foreign direct investment (FDI). The financial sector and FDI are important factors for a country's economic growth and development, as is the case in the Organization of Islamic Cooperation countries. Hassan et al. [4], Nugroho & Herianingrum [22], and Samimi et al. [23] found that financial development, FDI, and exchange rates are significant factors in the economic growth of OIC countries. The positive impact of financial development and FDI indirectly affects economic growth. A well-functioning financial system is considered one of the key foundations for sustainable economic development [21].

World Bank [8] data on domestic credit to the private sector, provided by the banking sector as a percentage of GDP serves as a proxy for measuring financial sector development [24]. Malaysia and Qatar show the highest levels of financial sector development, with percentages exceeding 100% from 2020 to 2022. According to Duasa [25], financial stability is the primary driver of financial sector development in OIC countries such as Malaysia, Bahrain, and Saudi Arabia, with evidence of a causal relationship between financial development and economic growth in Egypt and Malaysia. Additionally, the financial sector development in Oman, Tunisia, Morocco, and Turkey remains relatively strong, with percentages above 50%. However, each OIC country has unique policies and economic conditions, leading to variations in financial sector development across nations.

Furthermore, foreign direct investment is currently the most preferred instrument for capital preparation in developing countries. Over the years, FDI has grown so rapidly that it has grown higher than the growth of exports, imports, and GDP in the world [26]. OIC countries recognize the importance of attracting FDI as a driver of economic growth and have implemented strategies to attract foreign investors. Kabbani & Mimoune [27] explain that OIC countries seek to diversify their economies by attracting foreign direct investment. This funding source is considered the best way to capture less volatile capital flows and attract multinational companies that can increase their productivity [28].

Foreign investment has a positive impact on economic growth, with the effect being more significant in countries that have better local conditions, such as more developed financial institutions and a higher level of human resources [18]. According to the World Bank [8], foreign investment into OIC countries has fluctuated significantly. Countries like Indonesia, Malaysia, Turkey, and Egypt received the highest levels of FDI during 2020-2022. In contrast, other developing OIC nations, such as Sierra Leone, Burkina Faso, Comoros, Togo, Qatar, and Azerbaijan, faced substantial shortages of capital sources.

Furthermore, negative foreign investment values indicate that investment outflows exceed inflows, as is the case in Burkina Faso, Togo, Qatar, and Azerbaijan, where the FDI receipts of these countries are negative. This indicates that the investment withdrawn by foreign investors is greater than the new investment coming in. This situation can be caused by various factors, such as political instability, unattractive economic policies, or unfavorable market conditions so that investors find it safer or more profitable to withdraw their capital than to invest it. This phenomenon indicates the challenges these countries face in creating a stable and attractive investment climate to maintain and increase the flow of incoming foreign investment.

Based on the problems of economic growth in the OIC-25 member countries can be seen from the current problems and the results of several previous studies. Islamic countries are not inherently anti-growth [29], as many of these countries have abundant natural resources, such as oil, natural gas, and minerals, which can be the economy's main drivers. The varying GDP per capita among OIC countries reflects that factors such as foreign investment [18], savings [19], the important role of exchange rates [20], and financial sector development [21] play an important role in driving economic growth. Countries with strong institutions, supportive policies, and good infrastructure can attract investment and increase productivity, contributing to economic growth. Therefore, factors other than natural conditions, such as quality of governance, financial sector development, and foreign investment, prove that OIC countries have great potential for sustainable economic growth.

This study aims to analyze the factors affecting economic growth in the OIC-25 member countries, focusing on how elements such as financial sector development, foreign investment, national savings and exchange rate stability contribute to GDP per capita. A panel data regression model is applied to annual data from 2010 to 2022. The study aims to identify the linkages between the quality of governance, economic policies, and infrastructure and the potential for sustainable economic growth in these countries. By understanding these factors, this study seeks to provide greater insight into the strategies OIC-25 countries can take to maximize their economic growth and provide policy recommendations that can support the improvement of economic welfare in the region.

Materials and Methods

This study utilizes quantitative data over a thirteen-year period, from 2010 to 2022, focusing on Islamic countries that are members of the Organization of Islamic Cooperation (OIC). The selected countries include Indonesia, Malaysia, Pakistan, Bangladesh, Kazakhstan, Azerbaijan, Oman, Qatar, Uganda, Senegal, Sudan, Côte d'Ivoire, Mali, Egypt, Morocco, Albania, Comoros, Benin, Togo, Sierra Leone, Burkina Faso, Niger, Tunisia, Algeria, and Türkiye. The research period of 2010 to 2022 was chosen because it encompasses the post-2008 crisis recovery, allowing for an analysis of the economic policies implemented since then. Additionally, this period includes significant events that have impacted the financial sector and the global economy, providing up-to-date data for relevant analysis. We selected these 25 OIC countries to ensure a representative sample that reflects the diverse economic landscapes and development levels within the organization. Data for this study were sourced from two primary sources: the World Bank and Transparency International. The World Bank provides comprehensive data on GDP per capita, foreign direct investment (FDI), domestic savings, and various macroeconomic

indicators, which are crucial for analyzing economic growth in OIC countries from 2010 to 2022. The description and explanation of variables are presented in Table 1.

Table 1. Description and definition of variables.

Variable	Definition	Unit
GDP per capita	The total value of all goods and services produced in a country in a given period, usually one year, divided by the country's population.	Dollar (USD)
Financial Sector (FDV)	The total amount of credit domestic banking institutions extend to private sector entities within a country. Foreign Direct Investment (FDI) is the entry of capital or investment from one country into another to make a profit.	Percentage of GDP
Foreign Direct Investment (FDI)	The entry of capital or investment from one country into another to make a profit.	Billion dollars (USD)
Savings per capita (SVG)	The average amount of money saved by each individual in a country in a given period, usually one year, is calculated by dividing total national savings by the country's population.	Dollar (USD)
Exchange Rate (EXR)	The value indicates how many local currency units it takes to buy one unit of US dollars.	Local currency per dollar (LCU)

This study employs two primary analytical methods: descriptive analysis and panel data regression analysis. Descriptive analysis is used to outline the basic characteristics of the data, including foreign investment, domestic savings, exchange rates, and other economic indicators in OIC countries. This approach provides an initial overview of patterns and trends over the 2010–2022 period. Following this, panel data regression analysis is conducted to explore the relationship between these variables and GDP per capita, as well as financial sector development. The panel data regression method offers a deeper analysis by capturing both temporal dynamics and cross-country differences [30–36], thus providing a comprehensive understanding of the influence of independent variables on dependent variables [37–39] and the factors influencing economic growth in OIC countries. The regression model equation is presented in Equation 1.

$$Y_{it} = \alpha_0 + \beta_1 X1_{it} + \beta_2 X2_{it} + \beta_3 X3_{it} + \varepsilon_{it} \quad (1)$$

Based on Equation 1, we transform it into our own model presented in Equation 2 (Model I), which analyzes the effect of foreign investment, savings, and exchange rates on the financial sector. The variables are transformed into logarithmic form to ensure consistent interpretation.

$$FDV_{it} = \beta_1 + \beta_{11} LFDI_{it} + \beta_{12} LSVG_{it} + \beta_{13} LEXR_{it} + \varepsilon_{it} \quad (2)$$

Furthermore, Equation 3 (Model II) is used to analyze the effect of foreign investment, savings, exchange rates, and the financial sector on economic growth.

$$LGDP_{it} = \alpha_1 + \alpha_{21} LFDI_{it} + \alpha_{22} LSVG_{it} + \alpha_{23} LEXR_{it} + \alpha_{24} FDV_{it} + \varepsilon_{it} \quad (3)$$

Where GDP is GDP per capita; FDV is the financial sector, measured using domestic credit to the private sector provided by the banking sector as a percentage of GDP; FDI is foreign direct investment; SVG is savings per capita; EXR is the exchange rate; β_1 is the constant; β_{11} to β_{13} are the independent variables' coefficients of Model I; α_1 is the constant; α_{21} to α_{24} are the independent variables' coefficients Model II; i is the country; t is the year; and ε is the error term.

This study conducts panel data regression analysis through several stages, starting with the estimation of model selection using the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The best model is determined using three tests: the Chow test for selecting between CEM and FEM, the Hausman test for choosing between FEM and REM, and the Lagrange Multiplier (LM) test for deciding between CEM and REM [34,37,40,41].

Results and Discussion

Descriptive Statistics

Descriptive statistics, detailed in Table 2, provide an overview of the data used in this study from 2010 to 2022. The average GDP per capita across OIC countries was \$6,752. Sierra Leone recorded the lowest GDP per capita at \$401 in 2010, while Qatar had the highest at \$98,041 in 2012. Financial development, measured by domestic credit to the private sector as a percentage of GDP, averaged 33.3%. Qatar demonstrated the highest financial development at 138.4% in 2020, whereas Sierra Leone had the lowest at 0.004% in 2013. Foreign direct investment (FDI) averaged \$3.1 billion, with Indonesia reporting the highest FDI of \$25.1 billion in 2014, and Azerbaijan the lowest at -\$4.5 billion in 2022. Average annual savings were \$1.2 billion, with Albania's savings peaking at \$11.4 billion in 2012, and Sierra Leone recording the lowest at -\$114.5 million in 2013. Concerning exchange rates, Indonesia had the highest rate at Rp14,849 in 2022, while Oman maintained a stable low rate of 0.384 Omani riyals throughout the study period. These statistics highlight the economic diversity among OIC countries and provide a foundation for analyzing economic growth factors during the study period.

Table 2. Descriptive statistics.

Variable	ECG (USD)	FDV (%)	FDI (USD)	SVG (USD)	EXR (LCU)
Mean	6752.422	33.393	3,139,325,295	1,186,943,515	827.164
Median	1903.000	26.257	1,069,744,879	352,820,444	108.650
Max.	98041.000	138.419	25,120,732,059	11,333,591,043	14,849.850
Min.	401.000	0.004	-4,474,481,000	-114,488,145	0.384
Std. Dev.	15076.090	26.746	5,199,300,140	2,193,262,074	2495.478
Obs.	325	325	325	325	325

Test Results of the Chow and Hausman Tests

Based on Table 3, which presents the results of the Chow test and Hausman test, the FEM model is identified as the most suitable panel data regression model for this study. Consequently, the analysis will be conducted using FEM.

Table 3. Determining the best model.

Model		Effects Test	Prob.	Decision
Model I	Uji Chow	Cross-section F	0.000	FEM
		Cross-section Chi-square	0.000***	
	Uji Hausman	Cross-section random	0.000***	FEM
Model II	Uji Chow	Cross-section F	0.000	FEM
		Cross-section Chi-square	0.000***	
	Uji Hausman	Cross-section random	0.000***	FEM

Note: *** indicates significance at the 1% confidence level.

Panel Data Regression Results

The estimation results presented in Table 4, which shows panel data regression Model I with FDV as the dependent variable, indicate that FDI has a positive and significant influence on FDV in the OIC-25 countries. The coefficient for FDI is 0.694, which implies that a 1% increase in FDI is associated with a 0.694% rise in the financial development sector. Additionally, SVG has a

coefficient of 0.824, indicating that a 1% increase in SVG corresponds to a 0.824% rise in FDV. In contrast, EXR does not have a significant impact on FDV.

Table 4. Panel data regression Model I (FDV as the dependent variable).

Variables	Coeff.	Std. Err.	t-Stat.	Prob.
C	3.525	6.861	0.513	0.607
Log(FDI)	0.694	0.211	3.290	0.001***
Log(SVG)	0.824	0.275	2.992	0.003***
Log(EXR)	0.173	0.272	0.634	0.526
R-squared	0.990		F-statistic	545.410
Adjusted R-squared	0.979		Prob (F-statistic)	0.000

Note: *** indicates significance at the 1% confidence level.

Furthermore, Table 5 presents the results from panel data regression Model II, where GDP is the dependent variable. The findings indicate that both FDI and SVG have a positive and significant effect on GDP per capita, with coefficient values of 0.033 and 0.093, respectively. This means that a 1% increase in FDI will raise GDP per capita by 0.033%, while a 1% increase in SVG will raise GDP per capita by 0.093%. Conversely, EXR and FDV have a negative impact on GDP per capita, with coefficient values of -0.059 and -0.003, respectively. Thus, a 1% increase in EXR or FDV will reduce GDP per capita by 0.059% and 0.003%, respectively.

Table 5. Panel data regression Model II (GDP as the dependent variable).

Variables	Coeff.	Std. Err.	t-Stat.	Prob.
C	5.700	0.443	12.865	0.000***
Log(FDI)	0.033	0.009	3.443	0.000***
Log(SVG)	0.093	0.017	5.471	0.000***
Log(EXR)	-0.059	0.032	-1.806	0.071**
FDV	-0.003	0.001	-2.678	0.007***
R-squared	0.993		F-statistic	1536.400
Adjusted R-squared	0.992		Prob (F-statistic)	0.000

Note: *** and ** indicate significance at the 1% and 10% confidence levels, respectively.

Multicollinearity Test

The results of the multicollinearity test, presented in Table 6, show that the correlation values between the independent variables are all less than 0.90. These results indicate that there is no multicollinearity problem in this study.

Table 6. Multicollinearity test results.

	LFDI	LSVG	LEXR	FDV
LFDI	1.000	0.450	-0.007	-0.296
LSVG	0.450	1.000	0.631	0.223
LEXR	-0.007	0.631	1.000	0.832
FDV	-0.296	0.223	0.832	1.000

Heteroscedasticity Test

Based on Table 7, it can be concluded that the test results for Models 1 and 2 indicate no heteroscedasticity. The Obs * R-squared value has a Chi-Square probability greater than 0.05, suggesting that there is no issue with heteroscedasticity.

Table 7. Heteroscedasticity test results.

Model	Effects Test	Prob.
Model 1		0.099
Model 2	Prob. Chi-Square	0.970

Discussion

Robust economic growth in OIC countries has significant positive implications for societal welfare. The estimation results from Model I demonstrate that both foreign investment and savings exert a positive and statistically significant influence on financial sector development within the OIC-25 countries. These findings underscore the necessity of implementing policies that support domestic investment, attract foreign investment, and foster a culture of saving. This is consistent with the research of Hanif & Shariff [42], Osei & Kim [43], Tran & Huynh [44], and Desbordes & Wei [45], which collectively highlight the positive impact of foreign investment on financial sector development. Specifically, Hanif et al. [42] assert that FDI improves access to finance and strengthens financial infrastructure, thereby facilitating broader economic growth. Furthermore, FDI contributes to the efficiency of the financial sector through technology transfer and enhanced management practices, which, in turn, boost market competitiveness. Desbordes & Wei [45] also emphasize that FDI not only provides essential capital but also introduces international knowledge and expertise, thereby reinforcing the stability and capability of the financial sector.

Similarly, increased per capita savings indicate that people in the OIC-25 countries have the ability and inclination to save more. This suggests that the presence of larger funds in the domestic financial system can be leveraged for further investment in developing the financial sector. This finding aligns with the study by Çetin et al. [46], who emphasized that financial sector development is influenced by savings in the long run. Higher savings also reflect greater economic stability and public confidence in the financial system. This implies that higher per capita savings not only provide a stable source of funds for the financial system but also contribute to the growth and stability of the financial sector over time. Furthermore, the exchange rate does not appear to influence financial sector development.

The analysis of Model II reveals that FDI, savings, exchange rates, and financial development significantly impact economic growth. Specifically, the partial panel data estimation shows that FDI and savings have a positive and significant effect on economic growth, underscoring their crucial role in promoting sustainable development and improving welfare in the OIC-25 member countries. These findings align with research by Khan [47] and Balamoune-Lutz [48], who also found that foreign investment significantly and positively influences economic growth. Khan [47] emphasized that a well-developed domestic financial sector can maximize the benefits of foreign investment, as increased FDI contributes to economic growth both directly, by increasing capital and technology transfer, and indirectly, by enhancing operational efficiency and lending to productive sectors. Balamoune-Lutz [48] further noted that FDI fosters economic growth by improving resource use efficiency and promoting integration with global markets, with the positive effects of FDI being more pronounced in countries with a favorable investment framework.

Furthermore, Ribaj & Mexhuani [49], Ifeany [50], and van Wyk & Kapingura [51] found a significant positive impact of savings on economic growth. According to Ribaj & Mexhuani [49], domestic savings are one of the primary sources of investment financing that drive economic growth. Savings enable countries to finance infrastructure projects and increase production capacity without relying on external sources of financing. Bijlsma et al. [52] also identified that savings significantly influence economic growth, particularly in sectors dependent on external financing. In this context, savings can provide the necessary funds for investment, reduce risks associated with dependence on external financing, and support economic growth. Ifeany [50] further argued that increasing domestic savings can provide a strong foundation for sustainable economic growth, as increased savings offer stable domestic funds to support economic activities and infrastructure development in OIC-25 countries. Additionally, van Wyk & Kapingura [51] found that savings play a crucial role in maintaining economic stability. Countries with higher savings rates tend to experience more stable and sustainable economic growth.

because they can finance domestic investments without relying on foreign exchange.

In contrast, exchange rates and financial sector development have a negative and significant effect on economic growth in OIC-25 countries. Unstable exchange rate fluctuations and suboptimal financial sector development can impede economic growth. This finding aligns with the research of Basirat et al. [53] and Morina et al. [54], who also observed a negative and significant impact of exchange rate fluctuations on economic growth. Basirat et al. [53] found that high exchange rate volatility significantly hinders economic growth, as it introduces uncertainty in investment and international trade. This uncertainty can disrupt economic activity and slow down growth. Similarly, Morina et al. [54] identified that exchange rate volatility negatively impacts economic growth in developing countries by affecting critical sectors such as international trade and investment. They emphasized the importance of stable monetary policy to support economic growth, as exchange rate instability creates uncertainty for businesses and investors. This uncertainty can deter investment, disrupt business planning, make the prices of goods and services unpredictable, and undermine the competitiveness of a country's exports and imports. Additionally, fluctuations in exchange rates can affect inflation and the cost of living, particularly when exchange rates are low, leading to higher prices for imported goods. In contrast, stable exchange rates contribute to relatively stable economic conditions [55].

Financial sector development, as measured by the proxy of domestic credit to the private sector from banks, shows a negative and significant effect on economic growth in OIC-25 countries. These findings are consistent with research by Cheng et al. [56], Mhadhbi et al. [57], and Nawaz et al. [58], who observed that financial development variables have a significant negative impact on economic growth. Cheng et al. [56] argue that financial instability and systemic risks associated with rapid financial development can disrupt economic growth. Additionally, excessive reliance on the financial sector may divert resources away from other productive sectors. Mhadhbi et al. [57] noted that while financial development can contribute to economic growth, its impact can be negative under certain conditions, particularly when financial development is not accompanied by appropriate structural and policy reforms. This imbalance can lead to economic instability, ultimately hindering growth.

Conclusions

This study examines the factors affecting economic growth in OIC-25 countries, focusing on financial sector development, foreign investment, national savings, and exchange rate. Using panel data from 2010 to 2022, the analysis reveals that foreign investment significantly drives financial sector development, underscoring the importance of policies that attract foreign capital to support economic growth. Domestic savings also play a crucial role, positively impacting both financial sector development and GDP per capita by enhancing financial stability and boosting investment and consumption. However, the study finds that exchange rate negatively affects GDP per capita, reflecting the sensitivity of OIC economies to exchange rate changes. Additionally, while financial sector development is generally associated with positive growth, this study shows a negative impact on GDP per capita, suggesting that rapid financial sector expansion without proper regulation may lead to instability. Moreover, the positive impact of foreign investment and savings on GDP per capita indicates that increases in these variables contribute to higher GDP in OIC countries.

Policymakers should adopt a balanced approach to foster sustainable economic growth in OIC-25 countries. This includes strategies to attract foreign investment and encourage domestic savings, both crucial for economic development. Enhancing the investment climate and providing savings incentives can strengthen financial stability and growth. Effective management of exchange rates is also vital to minimize their negative impact on GDP per capita. Additionally, robust regulation of the financial sector is essential to prevent instability from rapid

expansion. By integrating these measures, OIC-25 countries can support foreign investment and domestic savings while carefully managing exchange rates and financial sector development to achieve sustainable economic growth.

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