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Article

The cyclicality of fiscal policy during Covid-19 pandemic in the OIC countries

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Abstract: The purpose of this research is to explore the cyclical behavior of fiscal policy during Covid-19 pandemic in 42 countries under Organization of Islamic Cooperation (OIC). Most of the OIC countries experienced doubled fiscal deficit along with slower growth during this unprecedented pandemic, which then led them to deal with an increase in debt burden. We use fixed effect panel estimation procedure to investigate macroeconomic determinants of fiscal deficits. The paper focused on secondary data of the democracy index, population, GDP growth, FDI, inflation, interest rate, current account balance, grant and expenditure variables between 2001 to 2022 period. The study revealed that macroeconomic variables determine the fiscal deficit, while good governance which is represented by the voice accountability and democracy index don't. Further analysis showed that public participation, government accountability, and the democracy index strengthen the relationship between government spending and FDI in dealing with fiscal deficits. However, if good governance has interacted with the current account balance and grant funds, it turns out to have a significant negative effect. The findings are appropriate for the OIC country's decision-makers to incorporate the need for recovery funds and fiscal deficit policy.

Keywords: cyclicality; fiscal deficit; OIC countries; Covid-19 pandemic

1. Introduction

Most developing countries have experienced an increase in the amount of debt over the past few years, led to uncertain future economic growth, macroeconomics instability, and fiscal deficit trap (Kassouri et al., 2021; Kose et al., 2022; Omodero and Alpheaus, 2019). Multiple factors, such as reduced interest rates, decelerating economic expansion, and significant investments in infrastructure across numerous nations, serve to strengthen these conditions (World Bank, 2022). Even strengthened by people's fears that the pandemic shock and fiscal deficit enlargement could lead many countries into a debt trap condition that exacerbates economic growth and macroeconomic disparities (International Monetary Fund, 2021). Consequently, scholars have exhibited growing curiosity in examining the factors and factors affecting fiscal deficit policy (Mawejje and Odhiambo, 2020, 2022b).

The Organization of Islamic Cooperation (OIC) member countries encountered a doubled fiscal deficit in 2021–2022 amid a slowdown in growth and higher pandemic-related policy support which then led to an increase in debt burden (OIC, 2022). The

increase in fiscal vulnerability has arisen as nations have pursued broader fiscal strategies, prioritizing public investment financed through borrowing (Mawejje and Odhiambo, 2021, 2022b). In 2021, Saudi Arabia registered a fiscal deficit of −2.2%, while Indonesia experienced a deficit of −2.6% during the same period. In contrast, Lebanon started with a deficit of −7.6% in 2000, which subsequently declined to −0.7% by 2021 (IMF, 2020). It is widely recognized that the rapid escalation of fiscal deficits can result in macroeconomic instability, characterized by substantial money growth, elevated inflation rates, and significant depreciation of the exchange rate (Mawejje and Odhiambo, 2020).

Throughout economic and political crises, Muslim-majority countries have consistently introduced various policy reforms aimed at addressing persistent macroeconomic imbalances. However, empirical literature shows that these policies have not been fully optimized (Elbadawi, 2016; Ihsan, 2021; Wusqo, 2022). These countries experienced political and economic turmoil after gaining independence, which led to serious macroeconomic problems including widening budget deficits, pressure from inflation, and slow development. For instance, Uganda's growth rate fell below zero in the 1984–1985 era of political unrest (Mawejje and Odhiambo, 2021). In some areas, to restore the sustainability of fiscal growth, the policies implemented must be prudent, which then need to be supported by a structural adjustment program, together with a sizeable debt reduction operation (Kose et al., 2022). However, more recent studies have shown the contrary, indicating that fiscal deficits can result in the accumulation of assets and debt (Jalles, 2020; Mawejje and Odhiambo, 2021).

However, risks that emerged in the aftermath of the global financial crisis have made it more difficult to achieve fiscal convergence (Mbu et al., 2021; Okombi, 2021). To keep gross public debt levels below 50% of net GDP, member nations have pledged to maintain fiscal deficits below 3% of GDP (Huang and Ho, 2020). However, risks that emerged after the global financial crisis have made it more difficult to achieve fiscal convergence (Ibrahim, 2021). Members of the Organization of Islamic Cooperation (OIC) are now much more vulnerable as a result of the pandemic's recent effects on growth and rising funding demands (OIC, 2022). Therefore, a thorough examination of the variables impacting the cyclical patterns of fiscal policy is necessary for developing policies meant to foster fiscal resilience and restore fiscal sustainability. Economic failures have resulted from the shift to democracy in countries with a majority of Muslims, especially in countries like Egypt, Tunisia, Libya, Syria, and Yemen. Elections and other such democratic milestones are, in fact, often linked to increasing public debt and budget deficits (Arayssi et al., 2019). The many difficulties that newly elected governments face, such as growing calls for redistribution and rising salaries and employment in the public sector, might be the cause of this tendency. Governments have often implemented measures aiming at boosting incomes, expanding public employment, and increasing pensions and subsidies in reaction to social discontent and to ease tensions (Arayssi et al., 2019).

Prolonged declines in economic growth are a contributing factor to high levels of debt, in addition to severe deficits (IMF, 2022). In addition, political turmoil in Muslim countries has created an unpredictable and precarious economic environment, which has lowered public confidence and trust and impeded economic progress (Kasmaoui

et al., 2018). The goal of the research is to examine how democracy and fiscal deficits are related in Muslim nations, emphasizing how democracy acts as a moderator of variables that affect fiscal deficits. The objective is to explore how specific macroeconomic factors impact fiscal policy within Organization of Islamic Cooperation (OIC) member nations.

The study takes a novel approach to the empirical analysis of the factors influencing fiscal deficits by combining the ARDL panel technique with the pooled mean group (PMG) estimate. The empirical model also includes several macroeconomic variables to clarify the cyclical trends in fiscal policy in Muslim nations. To provide further context, democracy is also included as a moderating element. This research adds to the body of knowledge in the following ways: first, it deepens our awareness of the factors that influence fiscal policy in Muslim nations; second, it advances our knowledge of the cyclical nature of fiscal policy; third, it sheds light on the management and conditions of fiscal policy in OIC member countries; and finally, it extends the literature on democracy's moderating effect on macroeconomic variables influencing fiscal policy. The structure of the paper is organized as follows: The introduction provides background information and outlines the study's objectives. The literature review presents a concise review of relevant literature and formulates hypotheses. Methodology introduces the empirical methodology employed in the study. The results section interprets the findings and explains the significance of each outcome. Finally, the conclusion summarizes the analysis and provides insights drawn from the study.

2. Literature review

Theoretical literature outlines four paradigms regarding fiscal policy. According to Keynesian theory, the fiscal deficit is designed to be countercyclical, expanding during periods of economic slowdown to enable the government to boost national income and consumption, as well as savings and investment, thereby fostering economic growth (Bernheim, 1989; Eisner, 1989). Alternatively, in times of slow development, the government may fall short of its tax collection projections, which would leave a budget deficit. The budget deficit is portrayed as a procyclical policy under the Ricardian equivalency theory (Barro, 1974). According to the neoclassical perspective, budget deficits boost consumption, stifle capital accumulation, and impede economic expansion (Bernheim, 1989).

The last paradigm explains how political economy factors and the caliber of budgetary institutions influence the way that the fiscal system performs (Alesina and Perotti, 1995). Numerous studies have looked at the macroeconomic causes and consequences of fiscal deficits in emerging nations based on this theoretical framework (Mawejje and Odhiambo, 2020; Notolegowo and Saleh, 2019). Our paper's first portion reviews the research on the macroeconomic environment and how it affects fiscal policy in Muslim nations. For example, Studies by León et al. (2019) looked at the factors influencing the volatility of public deficits in Latin American nations. This research concludes that trade openness and hyperinflation increase the volatility of the budget deficit. Other studies on the subject, such as Guerguil et al. (2017), which demonstrate a positive relationship between inflation and the budget

balance, support similar conclusions. Apart from inflation, another macroeconomic variable that has been proven to affect the balance of the budget is interest rates. Eita et al. (2021) used data from OIC countries for research related to this matter. Similarly, Notolegowo and Saleh (2019) show that a one percent increase in macroeconomic variables leads to a decrease in the budget balance in the OIC countries.

The second segment of our literature review centers on external macroeconomic conditions. The long-term co-movement that is commonly seen between budget deficits and the trade balance is explained by the twin deficit theory (Abbaset et al., 2021). According to Fufa and Kim (2018), the twin divergence theory posits a correlation between the growth in the current account deficit and the budget deficit. The Granger causality approach is used by Mawejje and Odhiambo (2022a) to show how the current account balance affects a budget deficit. Similar findings are echoed in the work of Helmy (2018) in Egypt and Wibowo (2017) in ASEAN. Nevertheless, Okombi (2021) using the threshold cointegration approach, researchers in nine African nations discovered cointegration connections between the current account and the budget deficit that were both positive and negative. According to Cooray et al. (2017), To demonstrate how trade openness raises a nation's susceptibility to external shocks and exacerbates the detrimental impacts of trade volatility on budget balances across 126 nations, researchers used the GMM panel data estimation technique in their study. Recent years have seen a significant increase in the attention given to the financial effects of help. An excellent summary of the research explaining how assistance affects government expenditure, tax receipts, and developing nations' ability to fund their budgets is given by Addison et al. (2017). Aid provides the financial resources to support higher spending and budget imbalances (Mbu et al., 2021).

According to this narrative, the expanding corpus of studies on developing countries has emphasized the dynamic equilibrium relationship between aid and fiscal aggregates. Using yearly time series data from Indonesia, Abdurohman and Resosudarmo (2017) demonstrate how aid and fiscal variables have a stable, long-term cointegration relationship. Furthermore, Kassouri et al. (2021) literature, they examine explore the cycle of fiscal policy in emerging nations. The cyclical character of fiscal policy in emerging nations is a topic of much debate; evidence indicates that in sub-Saharan Africa, fiscal policy is often procyclical. The results imply that fiscal policy is procyclical in fact, and that this procyclicality is further reinforced by the rise in trade. According to Zainal et al. (2022), commodity exporters have a more significant fiscal procyclicality. This result is in line with several research findings that indicate fiscal policy has a procyclical tendency (Calderon et al., 2017; Guerguil et al., 2017; Mawejje and Odhiambo, 2020). However, prior research by Eita et al. (2021) in OIC member nations shows that government income is mostly a cyclical while government expenditure tends to be countercyclical, leading to an overall countercyclical fiscal policy posture. Although this study disagrees with the widely held belief that fiscal policy is procyclical in developing countries, it does support several studies that demonstrate fiscal policy is countercyclical, particularly in more democratic countries (Bittencourt, 2019) and those with strong fiscal regimes and budgetary institutions (Guerguil et al., 2017).

Fourthly, our assessment of the literature seeks to ascertain whether the components of a fiscal deficit that pertain to income and spending respond differently

to shifts in the budget cycle. Although there is inconsistent data about income cycles, research usually suggests that government spending tends to be procyclical (Alesina and Perotti, 1995; Mawejje and Odhiambo, 2022b). Government spending in sub-Saharan African countries is procyclical, with cyclical rates rising during economic booms, according a recent study by Calderon et al. (2017). However, research indicates that government expenditure is less procyclical in more industrialized African governments and more procyclical in those that depend more heavily on inflows of foreign aid (Jalles, 2020). However, concluded that tax policy is mostly procyclical in emerging nations (Fitriaini, 2020).

We try to contribute to the literature by identifying theoretical mechanisms through which democracy moderates macroeconomic variables on fiscal deficits. In this case, we assume that democracy can influence indirectly through its impact on fiscal deficits (Woo, 2003). However, as certain Muslim countries' political systems transition toward democracy, they gain legitimacy and trust from citizens, thereby ensuring transparency and accountability. This conducive environment can lead to more efficient public spending (Montes et al., 2019) and citizens will accept to pay higher taxes voluntarily (Garcia and Haldenwang, 2016). In conclusion, scholars studying politics and economics have paid close attention to fiscal policy, which has undergone a fast change. The literature on political economics highlights that the electoral process, particularly the actions of politicians during election seasons, is mostly to blame for the high levels of debt (Bjørnskov and Rode, 2020).

Fadhlina et al. (2020) conducted a study using primary balance as the dependent variable to represent the fiscal sustainability variable, while the independent variables used were government foreign debt, interest rates, exchange rates, and world crude oil prices. The analysis tool used is the vector error correction model (VECM). The findings of this study suggest that both in the short and long term, the total debt variable positively impacts fiscal sustainability, while the exchange rate has a significant negative effect on fiscal sustainability. According to others, democracy only contributes to the public debt in its first phases (Bittencourt, 2019). The negative impacts of public debt may be lessened when democracy reaches a higher level. This is mainly because more budgetary transparency may result from frequent, free, and fair elections (Cooray et al., 2017).

The study's most recent finding is that many developing nations' budgetary vulnerabilities have been made worse by the Covid-19 shock and the economic downturn. Fiscal deficits throughout the African continent are predicted to treble in 2020, posing questions about the sustainability of debt. These factors might cause increasing liquidity and debt risks in the East African Community by delaying macroeconomic convergence toward the goal of aligning and capping fiscal deficits at 3% of GDP (Le et al., 2022).

The use of fiscal cyclicality policies in OIC member nations will be significantly impacted by our results. Apart from the policies, this research also tries to investigate whether democracy can be a moderating variable for the determinants of fiscal deficits. Then, we also identify the conditions of cyclicality in OIC countries during the Covid-19 pandemic in the 2020–2022 period. Therefore, our study would be an alternative input for decision-making in fiscal policy implementation.

3. Research methods

3.1. Data and research model

This study aims to evaluate the effect of good governance on fiscal deficits using unbalanced panel data consisting of 42 member countries of the OIC (Organization of Islamic Cooperation) from the period 2001 to 2022. This study uses fiscal deficit as the dependent variable and voice and accountability (VA) and democracy index (DI) to measure the level of good governance as the main independent variable (interesting variable). Although there are many indicators of good governance, researchers chose VA and DI because they are highly relevant in determining fiscal policy in OIC countries. VA and DI are indicators of governance quality that directly affect the efficiency and transparency of fiscal policy (Brusca et al., 2018; El Anshasy and Katsaiti, 2013). In countries with high VA and DI, governments are more likely to consider the needs and demands of the population when formulating fiscal policies, leading to more equitable and effective economic outcome. In addition, Lacroix et al. (2021) explained that investors are more likely to invest in countries with high VA and DI scores because these indicators suggest a stable and predictable policy environment. A strong fiscal policy framework, supported by robust governance and accountability, attracts foreign direct investment, which is critical for the economic development of OIC countries. In addition, this study also combines some control variables for the effect of good governance by adding GDP growth, real interest rates, inflation, current account balance, government spending, grants, foreign direct investment, and population size. We also consider the influence of the health crisis into the model by adding a dummy variable of Covid-19 pandemic which has the same value of 1 when it occurs (in 2020 and 2022) and a value of 0 when there are no cases found. Even though the period of Covid-19's influence was only three years, it significantly impacted the determination of fiscal policy in OIC countries. Akhmadi et al. (2023) and Maulida et al. (2024) explained that during this time, public expenditure increased significantly, while state revenue decreased. Additionally, during this period, the main focus of fiscal policy shifted from managing debt and controlling inflation to economic recovery and social welfare (Mecik et al., 2022). This shift in priorities required substantial adjustments to fiscal policy. Equation (1) shows the specification of the model to be estimated to see the effect of good governance on the fiscal deficit.

$$\text{fiscal\_def}_{it} = a_0 + b_1 \text{good\_gov}_{it} + b_2 \times x_{it} + b_3 \times \text{good\_gov}_{it} \times x_{it} + v_{it} \quad (1)$$

where v_{it} is a composite error consisting of u_{it} and a_i. While a_i is variables whose values are heterogeneous between countries but cannot be observed (unobserved heterogeneity) where the value will vary between countries but not vary between years (time-invariant). In this study, the variable that cannot be observed is the variable with some unique characteristics of each sample country which affects the fiscal deficits but it is difficult to find a proxy for. Whereas for u_{it} is idiosyncratic error or shock whose value varies between countries and years. Equation (1) will be estimated using the fixed effect model because a_i is likely to be correlated with the independent variable, therefore within estimator (estimator used in fixed effect model) is used to

eliminate a_i in Equation (1) so that the regression results will get a consistent estimation (Wooldridge, 2020). The equation for within estimator is as follows:

$$\begin{aligned}\text{fiscal\_def}_{it} - \overline{\text{fiscal\_def}}_i \\ = b_0 + b_1(\text{good\_gov}_{it} - \overline{\text{good\_gov}}_i) + \beta_2(x_{it} - \bar{x}_i) + \beta_2(\text{good\_gov}_{it} \times x_{it} \\ - \overline{\text{good\_gov}}_i \times \bar{x}_i) + (a_i - \bar{a}_i) + (u_{it} - \bar{u}_i)\end{aligned} \quad (2)$$

$\overline{\text{fiscal\_def}}_i$ is the fiscal deficit variable taken from the average value between years for each country (so that the value only varies between countries but does not vary between years/time-invariant). The technique is also applied to other variables. Equation (2) is also known as the time-demeaned equation because it uses the average over time (years) as a deductible component for each variable to eliminate the a_i component in the model.

3.2. Definition of variables and measurements

The primary variable of interest is the fiscal deficit, measured as a percentage of GDP. To gain deeper insights into the dynamics of fiscal policy, this study incorporates data on government income and spending, population, and democracy as moderating variables, selected based on a literature review and data availability. These variables include the current account balance as a percentage of the fiscal deficit, democracy index, GDP, real GDP per capita, population, foreign direct investment (FDI), inflation rate, interest rates, current account balance, grants, and expenditure. The data used in this research are sourced from three main sources: the International Monetary Fund (IMF), World Economic Outlook (WEO), and the World Bank. **Table 1** provides a summary of variable definitions and their respective sources.

Table 1. Definition and source of variables.

Variables	Definition	Sources
Fiscal deficit	The difference between income and expenses, excluding interest payments, as a percentage of GDP	IMF
Democracy	Voice and accountability (VA) and democracy index (DI)	World Bank
Population	Total population is based on the factor definition of population	World Bank
GDP growth	Annual percentage growth rate of GDP at market prices based on constant local currency	IMF
Real per capita GDP	A country's total economic output is divided by mid-year population (constant 2015 USD).	World Bank
Foreign direct investment	Foreign direct investments are the net inflows of investment to acquire a lasting management interest	World Bank
Inflation	Inflation as measured by the consumer price index	World Bank
Real interest rate	Real interest rate is the lending interest rate which has been adjusted for inflation	World Bank
Current account balance	Current account balance is the sum of net exports of goods and services	IMF
Grants	Grants are defined as legally binding commitments that obligate a specific value of funds	World Bank
Expenditure	General government spending, as a percentage of GDP	IMF

4. Result and discussion

This study aims to examine the effect of good governance on fiscal deficits by estimating Equation (1) using the fixed effect model approach. **Table 2** shows the results of descriptive statistics starting from the number of observations, the average value, the standard deviation, and the minimum and maximum values, equipped with the units used for all the variables used in this study. Because the data used is an unbalanced panel, the number of observations for each variable is different, starting from the lowest being the democracy index (DI) of 540 observations and the highest being the total population and dummy Covid-19 of 1034 observations.

Table 2. Descriptive statistics.

Variable (unit)	Obs	Mean	Std. Dev.	Min	Max
Fiscal deficit (%)	883	−0.1370	5.8326	−27.4512	31.2429
VA (Index)	940	−0.7505	0.5277	−2.0503	0.5424
DI (Index)	540	3.9371	1.3840	0.3200	7.2400
Growth (%)	1025	4.2183	5.2221	−36.6582	53.3818
Real interest rate (%)	667	5.8693	9.9013	−58.3272	60.8767
Inflation (%)	960	6.3540	15.8550	−10.0675	382.8160
Current account balance (% of GDP)	853	−1.7018	12.3148	−65.0289	48.2099
Expenditure (% of GDP)	885	24.1159	8.7629	8.3925	65.5381
Grants (current US$)	882	678,000,000	1,250,000,000	170,000	21,000,000,000
FDI (current US$)	852	−1,240,000,000	4,000,000,000	−36,000,000,000	15,200,000,000
Population (total)	1034	32,300,000	51,700,000	333,166	276,000,000
Covid19 (dummy)	1034	0.0909	0.2876	0.0000	1.0000

Table 3 shows the results of the estimation of the baseline model from Equation (1) using the fixed effect model approach. Grant variables and population numbers have been transformed into natural logarithms, while FDI is calculated using the formula $\log(\text{FDI}) = \log\left(1 + \frac{\text{FDI}}{100000000000}\right)$ to ensure a positive value before transforming into a log. Column (1) displays the estimation results using real interest rates as the control variable, while column (2) uses the inflation variable as the control variable. This separation is intended so that the variables of real interest rates and inflation, each of which can affect one another, do not cause collinearity disturbances in the model. The results show that good governance variables such as voice and accountability (VA) and DI do not have a direct effect on fiscal deficits in OIC countries.

The insignificant effect of good governance (VA and DI) on fiscal deficits in both models 1 and 2 proves that government participation/accountability and the democracy index do not have a direct effect on fiscal deficit policies in OIC countries. This finding is consistent with a study conducted by Kwabena Obeng (2021) which revealed that good governance has no statistical effect on fiscal deficits. This finding emerged from the rule of law in which legitimacy comes from the quality of deliberation procedures, not only in formal state institutions such as parliament but

also most importantly in society. Apart from that, the ineffectiveness of state governance is also questioned as to why fiscal deficit cannot be handled properly in OIC member countries (Merlo, 2021; Thorsrud, 2021).

Table 3. Baseline model (fixed effect model).

Fiscal deficit	**(1)**		**(2)**	
VA	0.17946	[1.26826]	1.25431	[1.08399]
DI	−0.10955	[0.57831]	−0.45555	[0.46957]
Growth	0.05025	[0.03268]	0.05287*	[0.02755]
Current account balance	0.08779***	[0.02030]	0.08166***	[0.01839]
Expenditure	−0.47017***	[0.05047]	−0.49414***	[0.04449]
log(Grants)[1]	0.40701	[0.38395]	0.90407***	[0.32730]
log(FDI)[2]	−21.42996**	[8.76850]	−22.68719***	[7.14024]
log(Population)[1]	1.52965	[2.04854]	0.12713	[1.65850]
Covid19	−1.01795*	[0.55611]	−1.01110**	[0.44108]
Real interest rate	−0.05490**	[0.02499]		
Inflation			−0.04450***	[0.01369]
Constant	−22.96025	[35.85379]	−7.03803	[28.66508]
Observations	254		350	
F-statistics	15.17154		21.13916	
R-squared	0.41147		0.40857	
Adjusted *R*-squared	0.31383		0.32546	

Standard errors in brackets, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. [1] is the natural logarithm form. [2] We calculate log(FDI) by using this formula: $\log(\text{FDI}) = \log\left(1 + \frac{\text{FDI}}{100000000000}\right)$ to transform FDI to be a positive value and then change it to natural logarithm form.

The insignificant effect of good governance (VA and DI) on fiscal deficits in both models 1 and 2 proves that government participation/accountability and the democracy index do not have a direct effect on fiscal deficit policies in OIC countries. This finding is consistent with a study conducted by Kwabena Obeng (2021) which revealed that good governance has no statistical effect on fiscal deficits. This finding emerged from the rule of law in which legitimacy comes from the quality of deliberation procedures, not only in formal state institutions such as parliament but also most importantly in society. Apart from that, the ineffectiveness of state governance is also questioned as to why fiscal deficit cannot be handled properly in OIC member countries (Merlo, 2021; Thorsrud, 2021).

Barisik et al. (2017) revealed that there is a gap in the literature on the issue of the relationship between fiscal deficits and government policy which is an administrative approach based on certain principles that are different from political behavior. This means that even though VA and DI do not have a direct effect on the fiscal deficit, he believes that these two variables are able to have an indirect effect on the fiscal deficit. This argument can be proven if good governance interacts with aggregate variables generally adopted by OIC countries as shown in **Table 3** which turns out to have mixed results.

The baseline model presented in **Table 3** indicates that all control variables, except for growth in model 1 and population in models 1 and 2, are included in the model with statistically significant parameter estimates. This finding suggests that holding other factors constant can influence the fiscal deficit. Specifically, regarding growth, a one-percentage-point increase in real GDP per capita is associated with a 0.02755 increase in the fiscal balance, starting from a growth-affected fiscal deficit. These findings imply that enhanced economic performance is linked to an improvement in fiscal balance. This conclusion is consistent with Tendengu (2022).

The finding is consistent with previous research conducted in South Africa, indicating that real GDP growth affects fiscal policy. Additionally, the study found that the current account balance has a significant positive relationship with the fiscal deficit in both models 1 and 2. These results indicate that the larger the current account balance in OIC countries, the greater the fiscal balance. This finding is in line with a study conducted by Abbas and Bouhga (2011) which shows that current account balances have a positive influence on fiscal policy in developing and low-income countries.

Government spending shows a statistically significant negative result on the fiscal deficit. The higher government spending, the more fiscal deficit will be created, it should be because expenditure is inversely proportional to income. This finding is supported by Symoom (2018) who revealed that excessive and unproductive government spending leads to a decrease in the fiscal deficit. Furthermore, the research findings indicate a positive relationship between the fiscal deficit and grants (model 2). Specifically, a one-percentage-point increase in grants as a percentage of GDP is linked to a fiscal deficit increase of 0.32730. This outcome aligns with the findings of Blochliger and Petzold, (2009) which state that grants significantly affect fiscal balance. Further explanation is that the grant system in some countries is much larger than what is needed by the government so with the surplus of grant funds obtained by the state, a fiscal balance will be achieved.

The next result is that foreign direct investment (FDI) has a significant negative effect on the fiscal deficit in both model 1 with a joint estimate of the real interest rate and model 2 with a joint estimate of inflation. The budget deficit has indeed become a world economic problem that reduces the effectiveness of public policies in public finance. So that the right solution is needed to overcome the budget deficit (Koutche, 2021). On the other hand, population size shows no significant effect in both models 1 and 2. These results indicate that the fiscal deficit is affected by the fiscal determinants instead of the population of OIC member countries. To some extent, Covid-19 pandemic that hit the world, including the OIC countries, has widened the fiscal deficit in these countries. The government spends large amounts of funds to meet needs in tackling the pandemic. This finding is supported by Auerbach and Gale (2020) which states that there is a substantial effect of the Covid-19 budget on the fiscal deficit.

Furthermore, **Table 4** illustrates how good governance (VA) interacts with several variables such as real interest rates, current account balance, government spending, grants, foreign direct investment, GDP growth, and dummy Covid-19 by using real interest rates as one of the control variables. The results indicate that the value added (VA) when interacting with the variables of the current account balance,

government spending, grants, and foreign direct investment have different effects on the fiscal deficit.

Interpreting the statistical values in models (2) and (4) in **Table 4**, it is revealed that when VA has interacted with the current account balance and grant funds, a significant negative value appears for the fiscal deficit. This implies that public participation and government accountability in OIC countries may not be effective in this context. This finding proves that when the current account balance and grant funds interact with good governance, VA has not been able to become a bridge to overcome deficit fiscal policies in OIC countries. The main factor is that the value of the good governance index from the voice and accountability side cannot represent the actual conditions of each country (Long et al., 2021; Rochmansjah, 2019; Yagboyaju and Akinola, 2019). It is unfortunate when government institutions that are fully trusted by the people cannot manage their governance properly, whereas when effective governance is created it will make many positive contributions to the economy, especially in overcoming fiscal deficits (Azhar, 2020; Abubakar et al., 2020; Al-Naser and Hamdan, 2021; Fiador et al., 2022).

Table 4. Interaction term of VA, controlled by real interest rate (fixed effect model).

Fiscal deficit	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
VA	0.26126	−1.01268	−5.26850***	24.97579**	1.27209	0.55665	0.41809
	[1.32696]	[1.20356]	[1.97849]	[10.15889]	[1.28375]	[1.32114]	[1.27946]
DI	−0.11565	−0.31425	−0.40821	−0.11486	−0.08161	−0.17191	−0.15239
	[0.58028]	[0.54164]	[0.56997]	[0.57170]	[0.56563]	[0.58149]	[0.57833]
VA*Real	−0.00868						
Interest rate	[0.04045]						
VA*Current		−0.19759***					
Account balance		[0.03468]					
VA*Expenditure			0.25118***				
			[0.07123]				
VA*log(Grant)[1]				−1.26301**			
				[0.51349]			
VA*log(FDI)[2]					48.32661***		
					[14.64428]		
VA*Growth						−0.06037	
						[0.05928]	
VA*Covid-19							−1.28851
							[0.99040]
Growth	0.05346	0.02722	0.02398	0.03632	0.04196	0.03054	0.05872*
	[0.03600]	[0.03080]	[0.03271]	[0.03280]	[0.03206]	[0.03798]	[0.03327]
Real interest rate	−0.06132	−0.02500	−0.03958	−0.05041**	−0.04757*	−0.04911*	−0.05719**
	[0.03903]	[0.02394]	[0.02474]	[0.02477]	[0.02454]	[0.02563]	[0.02501]
Current account	0.08819***	0.00650	0.09177***	0.07944***	0.08269***	0.08553***	0.09139***
Balance	[0.02043]	[0.02374]	[0.01982]	[0.02035]	[0.01991]	[0.02042]	[0.02046]

Table 4. (*Continued*).

Fiscal deficit	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Expenditure	−0.47208***	−0.49988***	−0.30352***	−0.48212***	−0.47595***	−0.47073***	−0.46193***
	[0.05137]	[0.04746]	[0.06821]	[0.05013]	[0.04939]	[0.05047]	[0.05079]
log(Grants)[1]	0.41068	0.08412	0.38142	−0.54527	0.49386	0.35382	0.49800
	[0.38518]	[0.36326]	[0.37429]	[0.54218]	[0.37641]	[0.38745]	[0.38967]
log(FDI)[2]	−21.50829**	−16.03760*	−21.73527**	−17.92826**	−1.38749	−20.61699**	−22.71502**
	[8.79541]	[8.24893]	[8.54662]	[8.78435]	[10.50816]	[8.80403]	[8.81009]
log (Population)[1]	1.53962	2.27191	1.82480	1.67627	0.95723	1.52865	1.42209
	[2.05358]	[1.91885]	[1.99835]	[2.02598]	[2.01089]	[2.04836]	[2.04694]
Covid-19	−1.00083*	−0.85306	−1.39359**	−1.01443*	−0.88501	−0.89836	−1.59406**
	[0.56301]	[0.52051]	[0.55238]	[0.54975]	[0.54534]	[0.56833]	[0.71019]
Constant	−23.08627	−28.04823	−29.33556	−6.31410	−14.51239	−21.48073	−22.86244
	[35.93765]	[33.51849]	[34.99146]	[36.08408]	[35.15697]	[35.88016]	[35.79678]
Observations	254	254	254	254	254	254	254
F-statistics	13.73587	18.74392	15.64988	14.66327	15.41095	13.88894	13.99021
R-squared	0.41160	0.48837	0.44351	0.42751	0.43972	0.41428	0.41605
Adjusted *R*-squared	0.31080	0.40073	0.34819	0.32944	0.34374	0.31395	0.31602

Standard errors in brackets, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, [1] is natural logarithm form. [2] We calculate log(FDI) by using this formula: $\log(\text{FDI}) = \log\left(1 + \frac{\text{FDI}}{100000000000}\right)$ in order to transform FDI to be a positive value and then change it to natural logarithm form.

The result from **Table 2** reveals the significant interaction between VA and government spending (model 3) and FDI (model 5). Statistical values show a positive and significant direction, meaning that VA could strengthen the relationship between government spending and FDI in dealing with fiscal deficits in OIC countries. Even though public participation and government accountability could not do the same, VA succeeds in becoming the bridge to strengthen the relationship between government spending and foreign direct investment in dealing with fiscal deficits (Cam and Ozer, 2022; Kayani and Ganic, 2021; Miao et al., 2021). A report from the OECD (2019) revealed that strengthening fiscal policy could be implemented by providing good governance which has room for citizens' participation and aspiration. A government with open to criticism and good accountability will lead to better attract for foreign inward investment and public spending. This argument is supported by Barisik et al. (2017); Cifuentes Faura et al. (2022); Ho et al. (2021) which revealed that efficient good governance has a significant impact on fiscal policy.

We then discuss the next model, namely the democracy index (DI) which is thought to influence independent variables such as real interest rates, current account balance, government spending, grants, foreign direct investment, GDP growth, and dummy Covid-19 by using real interest rate variables as one of the control variables, see **Table 5**. The results show that DI when associated with the variables of the current account balance, government spending, grants, and foreign direct investment has various effects on the fiscal deficit. **Table 5** reports the results regarding the democracy index as an interaction that strengthens the relationship between government spending and foreign direct investment in OIC countries. Models 3 and 5

describe that democracy and foreign direct investment can stimulate public spending. The fact shows that many democratic countries devote more public spending to education and health care (Besley, 2006; Stasavage, 2005). In addition, with the large inflow of foreign investment into OIC countries along with the minimal government democracy index, the fiscal deficit has become even wider. This finding is consistent with a study conducted by Tang et al. (2022) which revealed that support from the democracy index in promoting FDI against fiscal deficits is needed. The results of the study encourage to promotion of FDI and democracy index flows above threshold effects in East Asia, the Pacific, and Latin America. This policy needs to be implemented to encourage a fiscal deficit policy (Masmoudi, 2020; Pinar and Stengos, 2021; Tanaya et al., 2022).

Table 5. Interaction term of DI, controlled by real interest rate (fixed effect model).

Fiscal deficit	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
VA	0.24416	0.12318	0.35336	−0.52028	0.64788	0.21203	0.41809
	[1.29301]	[1.22523]	[1.26190]	[1.26308]	[1.23875]	[1.27334]	[1.27946]
DI	−0.09083	−0.74322	−1.73233*	14.00823***	0.38343	−0.09517	−0.15239
	[0.58361]	[0.57997]	[0.97874]	[4.53744]	[0.57734]	[0.58055]	[0.57833]
DI*Real interest rate	−0.00495						
	[0.01816]						
DI*Current account balance		−0.06620***					
		[0.01628]					
DI*Expenditure			0.06273**				
			[0.03064]				
DI*log(Grant)[1]				−0.70151***			
				[0.22370]			
DI*log(FDI)[2]					21.98132***		
					[5.90900]		
DI*Growth						−0.00980	
						[0.02452]	
DI*Covid-19							−1.28851
							[0.99040]
Growth	0.05413	0.03285	0.03679	0.04690	0.04043	0.09726	0.05872*
	[0.03571]	[0.03186]	[0.03310]	[0.03205]	[0.03186]	[0.12209]	[0.03327]
Real interest rate	−0.03520	−0.03687	−0.05326**	−0.05952**	−0.04900**	−0.05267**	−0.05719**
	[0.07656]	[0.02454]	[0.02482]	[0.02454]	[0.02433]	[0.02566]	[0.02501]
Current account balance	0.08807***	0.38789***	0.09341***	0.07999***	0.08579***	0.08720***	0.09139***
	[0.02037]	[0.07635]	[0.02034]	[0.02005]	[0.01973]	[0.02039]	[0.02046]
Expenditure	−0.47147***	−0.49898***	−0.70873***	−0.47645***	−0.49156***	−0.47027***	−0.46193***
	[0.05081]	[0.04927]	[0.12685]	[0.04952]	[0.04938]	[0.05057]	[0.05079]
log (Grants)[1]	0.40940	0.20768	0.44607	3.22768***	0.46490	0.38795	0.49800
	[0.38487]	[0.37412]	[0.38164]	[0.97502]	[0.37340]	[0.38764]	[0.38967]

Table 5. (*Continued*).

Fiscal deficit	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
log (FDI)[2]	−21.63938**	−15.31099*	−23.66377***	−15.99387*	−138.96009***	−21.03256**	−22.71502**
	[8.82087]	[8.60303]	[8.77286]	[8.76834]	[32.72302]	[8.84163]	[8.81009]
log (Population)[1]	1.52972	1.88779	1.83910	1.90326	1.89372	1.55967	1.42209
	[2.05292]	[1.98086]	[2.03925]	[2.01160]	[1.99291]	[2.05389]	[2.04694]
Covid19	−0.99111*	−0.91593*	−1.21788**	−1.03329*	−0.90733*	−1.00242*	−1.59406**
	[0.56595]	[0.53779]	[0.56064]	[0.54515]	[0.54117]	[0.55854]	[0.71019]
Constant	−23.03087	−21.43496	−22.34292	−86.30099**	−31.73622	−23.15115	−22.86244
	[35.93146]	[34.63709]	[35.59432]	[40.53605]	[34.91784]	[35.92658]	[35.79678]
Observations	254	254	254	254	254	254	254
F-statistics	13.74020	16.28368	14.37614	15.24784	15.86631	13.75342	13.99021
R-squared	0.41167	0.45333	0.42267	0.43710	0.44690	0.41191	0.41605
Adjusted *R*-squared	0.31089	0.35969	0.32378	0.34068	0.35216	0.31117	0.31602

Standard errors in brackets, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, [1] is natural logarithm form. [2] We calculate log(FDI) by using this formula: $\log(\text{FDI}) = \log\left(1 + \frac{\text{FDI}}{100000000000}\right)$ to transform FDI to be a positive value and then change it to natural logarithm form.

On the other hand, models 2 and 4 in **Table 5** show that the democracy index weakens the relationship between the current account balance and grants to the fiscal deficit. These findings prove that the democracy index in OIC countries still needs to be optimized to strengthen this relationship. Saadullah and Hossain (2010) explained in their research that the democracy index needs to be maintained properly because it has a crucial role in the trade balance. Democracy influences demand and supply patterns and the possibility of openness in international trade. Democratic governments promote market institutions that increase trade. Democratic developing countries receive more foreign official resources and trade preferences which impact the trade balance. So, if the democracy index of OIC countries shows an effective impact, it can stimulate an increase in the finished trade balance and affect the reduction of fiscal deficits (Durmaz and Kagochi, 2018; Singh, 2018; Whitten et al., 2020).

In addition, the democracy index is also expected to be able to strengthen grant funds in dealing with fiscal deficits, but model 4 shows statistical results in the opposite direction. Our initial argument indicates that the democracy index needs to be increased to create optimal grant management in OIC countries. It would be unfortunate if the grants which were quite dominant in the OIC countries even showed a negative direction towards the fiscal deficit. Based on the previous explanation, we conclude that good governance in terms of VA or DI variables needs to be optimized, so as not only to strengthen the relationship between government spending and foreign direct investment but also to moderate the strong relationship between the trade balance and grants to the fiscal deficit. On the other hand, below we will explain the interaction between the two good governance variables that are controlled by inflation. **Table 6** displays the results of the estimation of the interaction between good governance VA on several independent variables such as inflation, current account balance, government spending, grants, foreign direct investment, GDP growth, and

Covid-19 using inflation as the control variable. The results show that VA when interacting with the variables of the current account balance, government spending, grants, and foreign direct investment have various effects on the fiscal deficit.

Table 6. Interaction term of VA, controlled by inflation (fixed effect model).

Fiscal deficit	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
VA	1.29704	−0.07741	−3.73941**	23.83160***	1.84015*	1.56449	1.37088
	[1.09420]	[1.06774]	[1.79582]	[8.98996]	[1.11515]	[1.09924]	[1.08901]
DI	−0.45985	−0.43912	−0.63220	−0.42350	−0.46333	−0.50346	−0.47598
	[0.47047]	[0.44976]	[0.46423]	[0.46565]	[0.46711]	[0.46943]	[0.46981]
VA*Inflation	−0.00922						
	[0.02957]						
VA*Current account balance		−0.17196***					
		[0.03218]					
VA*Expenditure			0.21254***				
			[0.06154]				
VA*log(Grant)[1]				−1.15458**			
				[0.45644]			
VA*log(FDI)[2]					23.43566**		
					[11.37533]		
VA*Growth						−0.06914	
						[0.04397]	
VA*Covid19							−0.86247
							[0.79582]
Growth	0.05117*	0.04689*	0.03618	0.04309	0.05384*	0.02391	0.05482**
	[0.02812]	[0.02641]	[0.02749]	[0.02758]	[0.02740]	[0.03308]	[0.02760]
Inflation	−0.05509	−0.02670**	−0.04183***	−0.04569***	−0.04588***	−0.04224***	−0.04698***
	[0.03663]	[0.01353]	[0.01348]	[0.01358]	[0.01364]	[0.01374]	[0.01388]
Current account balance	0.08275***	−0.00559	0.08229***	0.07569***	0.07831***	0.07908***	0.08451***
	[0.01874]	[0.02402]	[0.01807]	[0.01838]	[0.01837]	[0.01842]	[0.01857]
Expenditure	−0.49528***	−0.48920***	−0.34443***	−0.50560***	−0.49934***	−0.48928***	−0.48692***
	[0.04470]	[0.04262]	[0.06156]	[0.04433]	[0.04432]	[0.04449]	[0.04497]
log(Grants)[1]	0.90653***	0.71275**	0.96105***	−0.03660	0.85384***	0.83483**	0.94283***
	[0.32788]	[0.31553]	[0.32203]	[0.49352]	[0.32649]	[0.32947]	[0.32916]
log(FDI)[2]	−22.66190***	−19.83920***	−21.81263***	−20.92203***	−9.98896	−22.54639***	−23.51556***
	[7.15126]	[6.85967]	[7.02062]	[7.11240]	[9.40411]	[7.12370]	[7.17901]
log (Population)[1]	0.05007	1.14217	0.41054	0.29325	−0.09495	0.14924	−0.02685
	[1.67923]	[1.59983]	[1.63172]	[1.64537]	[1.65329]	[1.65458]	[1.66410]
Covid-19	−1.00687**	−1.03839**	−1.32086***	−1.02865**	−0.91798**	−0.91920**	−1.50994**
	[0.44194]	[0.42250]	[0.44259]	[0.43730]	[0.44108]	[0.44389]	[0.63742]
Constant	−5.69260	−21.34766	−15.52296	8.80254	−1.80960	−5.81556	−5.22894
	[29.02977]	[27.58572]	[28.27342]	[29.09739]	[28.62702]	[28.60695]	[28.70548]

Table 6. (*Continued*).

Fiscal deficit	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Observations	350	350	350	350	350	350	350
F-statistics	19.16957	23.54423	20.98826	20.13813	19.80704	19.53459	19.33515
R-squared	0.40876	0.45921	0.43083	0.42072	0.41669	0.41333	0.41084
Adjusted *R*-squared	0.32347	0.38119	0.34872	0.33716	0.33254	0.32869	0.32585

Standard errors in brackets, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, [1] is natural logarithm form. [2] We calculate log(FDI) by using this formula: $\log(\text{FDI}) = \log\left(1 + \frac{\text{FDI}}{100000000000}\right)$ in order to transform FDI to be a positive value and then change it to natural logarithm form.

The results from models 3 and 5 inform that voice and accountability (VA) has succeeded in strengthening the relationship between government spending and foreign direct investment in dealing with fiscal deficits. This finding is consistent with previous results controlling for interest rates (see **Table 4**). Public participation and government accountability in these two relationships increase deficit fiscal policy (Cam and Ozer, 2022; Kayani and Ganic, 2021; Miao et al., 2021). This finding is supported by Tanaka (2007) in his article which explains that it is important for citizens to participate in formulating state budget policies. The same findings are also shown in models 2 and 4 which prove that VA weakens the effect of the trade balance and grants on the fiscal deficit. This finding is supported by Park et al. (2022) which proves that public participation (VA) in delegating to participatory budgeting participants weakens fiscal balance. In addition, there is a lack of government accountability in OIC countries in managing grants, so they are unable to make a positive contribution to the fiscal deficit. The findings of this study imply that there is a need for government policies on public participation and accountability to strengthen the relationship between the trade balance as well as grants to fiscal deficits in OIC countries. **Table 6** displays the estimation results by interacting with the good governance (DI) variable on several independent variables such as inflation, the current account balance, government spending, grants, foreign direct investment, GDP growth, and Covid-19 using inflation as the control variable. The results show that when DI has interacted with the variables of the current account balance, government spending, grants, and foreign direct investment have various effects on the fiscal deficit. Although the estimation in **Table 6** is controlled by inflation, the output is consistent with previous results which are controlled by interest rates in **Table 5**. Models 2 and 4 show that the democracy index is not able to strengthen the relationship between the current account balance as well as grants to fiscal deficits. The democracy index in OIC countries is still not effective in supporting this relationship. Bougharriou et al., (2022) explained that a poor democracy index can weaken the state's source of income. For this reason, it is necessary to optimize government policies in regulating the democracy index so that they can strengthen the relationship between the current account balance and grants, which ultimately affect the deficit fiscal policy of OIC countries.

Table 7. Interaction term of DI, controlled by inflation (fixed effect model).

Fiscal deficit	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
VA	1.24892	1.13767	1.39283	0.54218	1.44501	1.28943	1.37088
	[1.08506]	[1.06891]	[1.07420]	[1.08989]	[1.07924]	[1.08318]	[1.08901]
DI	−0.42218	−0.77650	−2.39556***	12.56143***	−0.25451	−0.40690	−0.47598
	[0.47287]	[0.47368]	[0.85471]	[4.04135]	[0.47404]	[0.47059]	[0.46981]
DI*Inflation	−0.00985						
	[0.01530]						
DI*Current account balance		−0.04574***					
		[0.01441]					
DI*Expenditure			0.07242***				
			[0.02677]				
DI*log(Grant)[1]				−0.64540***			
				[0.19906]			
DI*log(FDI)[2]					10.51733**		
					[4.49701]		
DI*Growth						−0.02576	
						[0.02002]	
DI*Covid-19							−0.86247
							[0.79582]
Growth	0.04940*	0.04698*	0.03904	0.04636*	0.05334*	0.17300*	0.05482**
	[0.02809]	[0.02721]	[0.02774]	[0.02720]	[0.02735]	[0.09733]	[0.02760]
Inflation	−0.01401	−0.03577***	−0.04280***	−0.04664***	−0.04602***	−0.04182***	−0.04698***
	[0.04930]	[0.01377]	[0.01357]	[0.01350]	[0.01361]	[0.01384]	[0.01388]
Current account balance	0.08394***	0.27679***	0.08614***	0.07753***	0.07948***	0.08024***	0.08451***
	[0.01875]	[0.06410]	[0.01828]	[0.01816]	[0.01828]	[0.01841]	[0.01857]
Expenditure	−0.49506***	−0.50018***	−0.77092***	−0.50186***	−0.50402***	−0.49116***	−0.48692***
	[0.04455]	[0.04388]	[0.11141]	[0.04387]	[0.04437]	[0.04450]	[0.04497]
log (Grants)[1]	0.90402***	0.84423***	0.94876***	3.43433***	0.84306**	0.84508**	0.94283***
	[0.32761]	[0.32311]	[0.32440]	[0.84435]	[0.32598]	[0.33015]	[0.32916]
log (FDI)[2]	−22.53181***	−19.95960***	−23.67788***	−19.79575***	−74.27159***	−22.43150***	−23.51556***
	[7.15116]	[7.08901]	[7.07717]	[7.08811]	[23.16763]	[7.13537]	[7.17901]
log (Population)[1]	−0.01105	0.50384	0.24214	0.33683	0.26897	0.23293	−0.02685
	[1.67390]	[1.63876]	[1.64220]	[1.63459]	[1.64763]	[1.65876]	[1.66410]
Covid-19	−1.01704**	−1.02416**	−1.31658***	−1.05887**	−0.92920**	−0.97985**	−1.50994**
	[0.44160]	[0.43471]	[0.45097]	[0.43463]	[0.43929]	[0.44128]	[0.63742]
Constant	−4.76649	−10.72206	−2.15464	−61.90044*	−8.75777	−7.94354	−5.22894
	[28.90862]	[28.27327]	[28.43117]	[32.91258]	[28.46749]	[28.64307]	[28.70548]
Observations	350	350	350	350	350	350	350
F-statistics	19.21834	20.70263	20.27905	20.77045	19.99537	19.40911	19.33515
R-squared	0.40937	0.42748	0.42242	0.42828	0.41899	0.41176	0.41084
Adjusted *R*-squared	0.32417	0.34488	0.33910	0.34580	0.33517	0.32690	0.32585

Standard errors in brackets, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, [1] is natural logarithm form, [2] We calculate log(FDI) by using this formula: $\log(\text{FDI}) = \log\left(1 + \frac{\text{FDI}}{100000000000}\right)$ to transform FDI to be a positive value and then change it to natural logarithm form.

In contrast to government spending and foreign direct investment in **Table 7**, models 3 and 5 which are controlled by inflation, the democracy index succeeded in

strengthening the relationship between government spending and foreign direct investment on deficit fiscal policies in OIC countries. For this reason, Elgin (2021) reveals that it is important for the democracy index to be properly maintained to create a fiscal balance between government spending (Balamatsias, 2018) and foreign direct investment (Pinar and Stengos, 2021).

If we analyze this discussion, the fiscal deficit is largely influenced by the ineffectiveness of the good governance voice and accountability (VA) and democracy index (DI) so they are unable to have a direct influence on overcoming the fiscal deficit. VA and DI assess aspects of government governance, such as public participation, press freedom, the quality of democracy, and government accountability. While VA and DI tend to foster an environment that supports healthy fiscal policy, they are not directly related to specific fiscal parameters like the fiscal deficit (Dezsi-Benyovszki et al., 2015). In other words, VA and DI influence the policy-making process and mechanisms more than they provide a direct solution to the fiscal deficit problem, which is more closely related to macroeconomic conditions, expenditure and income policies, and international market dynamics.

Furthermore, good governance does not strengthen the relationship between the current account balance and grants with the fiscal deficit. The current account balance and grants are more closely related to specific economic factors, such as international trade, capital flows, and foreign aid (Borio and Disyatat, 2012; Calì and te Velde, 2011). VA and DI do not directly affect these variables. A deficit in the current account balance can result from an imbalance between exports and imports, which is more likely influenced by trade policies, exchange rates, or global economic conditions than by the quality of democracy or government accountability. Additionally, grants are often political decisions or based on bilateral or multilateral agreements. This aligns with Haan's (2014) observation that while democratic and accountable governments may be more transparent in the use of grants, this does not necessarily enhance the effectiveness of grants in reducing fiscal deficits. Grants can provide a temporary influx of funds, but they do not always address the structural issues that cause fiscal deficits, such as an imbalance between state revenues and expenditures. In addition, other factors were also caused by the Covid-19 pandemic. Models 1 to 7 in each test table find that the determination of the Covid-19 pandemic (dummy variable) widens the fiscal deficit due to the allocation of funds for pandemic management programs (Chen et al., 2021; Kimunio and Maingi, 2022; Lozano et al., 2021; Lacalle, 2020). The funds that should have been allocated for productive purposes were diverted for medical purposes, incentives for the business world, and direct transfers to the community to meet their daily needs.

During the pandemic, the governments of OIC countries significantly increased public spending to finance the health sector, social assistance programs, and economic stimulus measures (Rashid et al., 2023). This step was necessary to address the health crisis, maintain social stability, and prevent economic collapse. The rapid surge in fiscal expenditures within a short period required quick adjustments in fiscal policy, often involving larger budget deficits and debt financing. At the same time, the pandemic's effects led to a drastic economic decline, which in turn reduced state revenues from taxes and other sources (Zubaid, 2022). In this situation, governments faced a fiscal dilemma: how to maintain fiscal sustainability while still financing

emergency needs. This compelled fiscal policymakers to adopt more flexible and adaptive strategies during the 2020–2022 period.

The dilemma faced by the governments of OIC countries was not only shared across the board but also highly complex. The pandemic created an urgent need for rapid and effective fiscal policy. Unlike long-term fiscal policy, which typically requires careful planning and analysis, fiscal policy during the pandemic had to be designed and implemented quickly to address the immediate impact of the crisis. This included providing economic stimulus, direct cash assistance, and specific tax reductions (Karim et al., 2022). Such allocations inevitably contributed to the widening of the fiscal deficits in OIC countries. This expansion of fiscal policy was also driven by a shift in government policy priorities. During this period, the main focus of fiscal policy moved from managing debt and controlling inflation to promoting economic recovery and social welfare (Saif et al., 2021). These changes in priorities necessitated significant adjustments to fiscal policy during the pandemic. Additionally, the pandemic introduced significant uncertainty into the global economy, affecting financial markets, international trade, and investment flows (Hela, 2022). This uncertainty compelled governments to adopt protective and preventive fiscal measures, such as maintaining fiscal reserves and adjusting tax and expenditure policies to respond to rapidly changing conditions.

After understanding the impact of the Covid-19 pandemic on fiscal expansion in OIC countries, the next topic of discussion is whether the severity of this impact on fiscal spending is also experienced by countries outside this organization. To explore this, we analyze that the impact of economic cycle epidemics on fiscal spending needs to be reviewed from several perspectives. First, the economic structure and government system must be considered. Countries with different economic structures (e.g., developing vs. developed countries) and governance systems (democratic vs. authoritarian) are likely to respond differently to economic cycle epidemics. Stronger economies, such as those in America and Europe, have a greater capacity to increase fiscal spending in response to a crisis, while weaker countries may face limitations in their fiscal options. This suggests that a strong economic structure influences fiscal policy in a country. This aligns with Bernheim (1989) and Eisner (1989) argument that increasing fiscal spending during an economic crisis is crucial to stimulate aggregate demand and prevent a deeper recession. Second, in terms of resilience and fiscal space, a country's fiscal capacity to respond to economic shocks varies greatly between OIC countries and those outside the OIC. Countries with greater fiscal space can be more flexible in adjusting fiscal policy during epidemic-induced economic cycles (Gourinchas et al., 2021). Third, the role of international support and global cooperation should be considered. Differences in the impact of economic cycle epidemics can also be attributed to the presence or absence of international support (Ibn-Mohammed et al., 2021), such as aid from the IMF or World Bank. Countries that receive international aid have a greater ability to maintain or increase their fiscal spending compared to those that must rely solely on internal resources (Ilzetzki et al., 2010).

5. Conclusion

After going through several stages of analysis, in this section, we will provide a comprehensive conclusion to the reader to find out what important points were found in this study. Fiscal policy cyclicality was found to be different from one country to another under OIC members. The influence of independent variables on cyclicality also varies. The comprehensive explanation is as follows. The first is that good governance (voice and accountability/VA and democracy index/DI) does not have a direct influence on deficit fiscal policy. However, if good governance has interacted with the variables of government spending and foreign direct investment, it turns out that it is able to strengthen and overcome the fiscal deficit. In contrast to good governance, if it interacts with the current account balance and grant funds, it can weaken and encourage a fiscal deficit. These findings provide evidence to the authors that good governance (VA and DI) in OIC countries still needs to be evaluated in more depth so that they have more effective outcomes. Next, it will be able to strengthen the relationship between these variables and become an alternative bridge in dealing with fiscal deficits. Apart from the ineffectiveness of good governance, the Covid-19 pandemic is also a major factor in the fiscal deficit. The budget that should have been allocated for productive purposes was diverted to handling the Covid-19 pandemic, such as funding the health sector, supporting social assistance programs, and providing economic stimulus.

As a recommendation for future research, the authors suggest using good governance variables other than VA and DI. Future researchers can use some of the good governance indices proposed by world governance indicators (i.e., political stability, control of corruption, government effectiveness, regulatory), so that the complex effects of good governance on fiscal policy will be visible.

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References

Abbas, Q., Junqing, L., Ramzan, M., et al. (2021). Role of governance in debt-growth relationship: Evidence from panel data estimations. Sustainability, 13(11), 1–19. https://doi.org/10.3390/su13115954

Abbas, S. M. A., Bouhga-hagbe, J., Fatás, A., et al. (2011). Fiscal Policy and the Current Account. IMF Economic Review, 59(4), 603–629. https://doi.org/10.1057/imfer.2011.22

Abdurohman, & Resosudarmo, B. P. (2017). The Behavior of Fiscal Policy in Indonesia in Response to Economic Cycles. Singapore Economic Review, 62(2), 377–401. https://doi.org/10.1142/S0217590816500041

Abubakar, Y. I., Mustapha, R. A., & Ajiboye, E. S. (2020). Impact of Governance on Financial Development: evidence from West Africa. Hasanuddin Economics and Business Review, 3(3), 103. https://doi.org/10.26487/hebr.v3i3.2055

Addison, T., Morrissey, O., & Tarp, F. (2017). The Macroeconomics of Aid: Overview. Journal of Development Studies, 53(7), 987–997. https://doi.org/10.1080/00220388.2017.1303669

Alesina, A., & Perotti, R. (1995). The political economy of budget deficits. Staff Pap, 42(1), 1–31. https://doi.org/10.2307/3867338

Al-Naser, M., & Hamdan, A. (2021). The impact of public governance on economic growth: Evidence from gulf cooperation council countries. Economics and Sociology, 14(2), 85–110. https://doi.org/10.14254/2071-789X.2021/14-2/5

Arayssi, M., Fakih, A., & Haimoun, N. (2019). Did the Arab Spring reduce MENA countries' growth? Applied Economics Letters, 26(19), 1579–1585. https://doi.org/10.1080/13504851.2019.1588938

Arayssi, M., Fakih, A., & Kassem, M. (2019). Government and Financial Institutional Determinants of Development in MENA Countries. Emerging Markets Finance and Trade, 55(11), 2473–2496. https://doi.org/10.1080/1540496X.2018.1507907

Auerbach, A. J., Gale, W., & Gale, W. (2020). The effects of the COVID pandemic on the federal budget outlook. Business Economics, 55(4), 202–212. https://doi.org/10.1057/s11369-020-00188-y

Azhar, M. (2020). Government Strategy in Implementing the Good Governance during COVID-19 Pandemic in Indonesia. Administrative Law and Governance Journal, 3(2), 300–313. https://doi.org/10.14710/alj.v3i2.300-313

Balamatsias, P. (2018). Democracy and government spending. Munich Persona; RePEc Archive, 84975.

Barisik, S., Barıs, A., & Baris, A. (2017). Impact of governance on budget deficit in developing countries. Theoretical and Applied Economics, XXIV(2), 111–130.

Barro, R. J. (1974). Are government bonds net wealth? Journal Political Economic, 82(6), 1095–1117.

Bernheim, B. D. (1989). A neoclassical perspective on budget deficits. Journal Economics Perspect, 3(2), 55–72.

Besley, T., Kudamatsu, M., Merlo, A., et al. (2006). Health and democracy. American Economic Review, 96(2), 313–318. https://doi.org/10.1257/000282806777212053

Bittencourt, M. (2019). Young democracies and government debt: evidence from South America. Journal of Economic Policy Reform, 22(4), 351–368. https://doi.org/10.1080/17487870.2018.1429272

Bjørnskov, C., & Rode, M. (2020). Democratic transitions and monetary policy: Are democratic central banks different? Journal of Public Finance and Public Choice, 35(2), 163–180. https://doi.org/10.1332/251569119X15707795271163

Blochliger, H., & Petzold, O. (2009). Taxes and Grants: On the Revenue Mix of Sub-Central Governments. OECD Network on Fiscal Relations Across Levels of Government.

Bougharriou, N., Benayed, W., & Gabsi, F. B. (2022). Democratic transition and fiscal policy in the Arab world. Economic Systems, 46(2), 100876. https://doi.org/10.1016/j.ecosys.2021.100876

Calderon, C., Chuhan-Pole, P., & Lopez-Monti, R. M. (2017). Cyclicality of Fiscal Policy in Sub-Saharan Africa: Magnitude and Evolution. World Bank. https://doi.org/10.1596/1813-9450-8108

Cam, İ., & Ozer, G. (2022). The influence of country governance on the capital structure and investment financing decisions of firms: An international investigation. Borsa Istanbul Review, 22(2), 257–271. https://doi.org/10.1016/j.bir.2021.04.008

Chen, C., Shi, Y., Zhang, P., et al. (2021). A Cross-Country Comparison of Fiscal Policy Responses to the COVID-19 Global Pandemic. Journal of Comparative Policy Analysis: Research and Practice, 23(2), 262–273. https://doi.org/10.1080/13876988.2021.1878885

Cifuentes-Faura, J., Simionescu, M., & Gavurova, B. (2022). Determinants of local government deficit: evidence from Spanish municipalities. Heliyon, 8(12), e12393. https://doi.org/10.1016/j.heliyon.2022.e12393

Cooray, A., Dzhumashev, R., & Schneider, F. (2017). How Does Corruption Affect Public Debt? An Empirical Analysis. World Development, 90, 115–127. https://doi.org/10.1016/j.worlddev.2016.08.020

Durmaz, N., & Kagochi, J. (2018). Democracy and inter-regional trade enhancement in Sub-Saharan Africa: Gravity model. Economies, 6(3), 1–17. https://doi.org/10.3390/economies6030045

Eisner, R. (1989). Budget deficits: rhetoric and reality. Journal Economics Perspect, 3(2), 73–93.

Eita, J. H., Manuel, V., Naimhwaka, E., et al. (2021). The impact of fiscal deficit on inflation in Namibia. Journal of Central Banking Theory and Practice, 10(1), 141–164. https://doi.org/10.2478/jcbtp-2021-0007

Elgin, C. (2021). Democracy and Fiscal-Policy Responses to COVID-19. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3883053

Fadhlina, N., Abedin, Z., Amiruddin, R., et al. (2020). Public Debt, Government Expenditure and Economic Growth in Malaysia SERIES 2 Public Debt, Government Expenditure and Economic Growth in Malaysia. International Invention, Innovative & Creative (InIIC), (10), 978–967.

Fiador, V., Sarpong-Kumankoma, E., & Karikari, N. K. (2022). Monetary policy effectiveness in Africa: the role of financial development and institutional quality. Journal of Financial Regulation and Compliance, 30(3), 335–352.

https://doi.org/10.1108/JFRC-03-2021-0024

Fitriaini, R. (2020). Fiscal Policy Behaviour in ASEAN: Countercyclical or Procyclical? KnE Social Sciences. https://doi.org/10.18502/kss.v4i6.6596

Fufa, T., & Kim, J. (2018). Stock markets, banks, and economic growth: Evidence from more homogeneous panels. Research in International Business and Finance, 44, 504–517. https://doi.org/10.1016/j.ribaf.2017.07.120

Garcia, M. M., & Haldenwang, C. Von. (2016). Do Democracies Tax More? Political Regime Type and Taxation. Journal of International Development, 28, 485–506. https://doi.org/10.1002/jid

Guerguil, M., Mandon, P., & Tapsoba, R. (2017). Flexible fiscal rules and countercyclical fiscal policy. Journal of Macroeconomics, 52, 189–220. https://doi.org/10.1016/j.jmacro.2017.04.007

Helmy, H. E. (2018). The twin deficit hypothesis in Egypt. Journal of Policy Modeling, 40(2), 328–349. https://doi.org/10.1016/j.jpolmod.2018.01.009

Ho, T. T., Nguyen, V. B., & Nguyen, T. B. N. (2021). The different role of governance in the fiscal deficit–inflation between developed and developing countries. Macroeconomics and Finance in Emerging Market Economies, 16(3), 377–388. https://doi.org/10.1080/17520843.2021.1973787

Huang, C. J., & Ho, Y. H. (2020). The impact of national fiscal rules and government effectiveness on the procyclicality of fiscal policy in the Asia-Pacific countries. Journal of Governance and Regulation, 9(1), 35–43. https://doi.org/10.22495/jgrv9i1art3

Ibrahim, C. (2021). Corruption, public debt and economic growth—evidence from developing countries. International Journal of Development Issues, 20(1), 24–37. https://doi.org/10.1108/IJDI-12-2019-0208

Ihsan, A. (2021). Determinants of Economic Growth in Organization of Islamic Cooperation with Governance Index as a Moderating Variable. Journal of Economics, Finance and Management Studies, 04(08), 1394–1405. https://doi.org/10.47191/jefms/v4-i8-16

IMF. (2020). The Evolution of Public Debt Vulnerabilities in Lower Income Economies. IMF Policy Papers, 20(003). https://doi.org/10.5089/9781513529110.007

International Monetary Fund. (2021). World Economic Outlook: Recovery During a Pandemic. IMF.

Jalles, J. T. (2020). Explaining Africa's public consumption procyclicality: Revisiting old evidence. International Finance, 23(2), 297–323. https://doi.org/10.1111/infi.12365

Kasmaoui, K., Mughal, M., & Bouoiyour, J. (2018). Does Trust Influence Economic Growth? Evidence from the Arab World. Economics Bulletin, 38(2), 880–891.

Kassouri, Y., Altıntaş, H., Alancioğlu, E., et al. (2021). New insights on the debt-growth nexus: A combination of the interactive fixed effects and panel threshold approach. International Economics, 168, 40–55. https://doi.org/10.1016/j.inteco.2021.08.001

Kayani, F. N., & Ganic, M. (2021). The impact of governance on Chinese inward Fdi: The generalized method of moments technique. Humanities and Social Sciences Letters, 9(2), 175–184. https://doi.org/10.18488/journal.73.2021.92.175.184

Kimunio, I., & Maingi, S. W. (2022). A Markov regime-switching (MS) approach to modeling the effects of fiscal policies and COVID-19 pandemic on tourism destination competitiveness in Kenya. Journal of Hospitality and Tourism Insights, 6(4), 1658–1667. https://doi.org/10.1108/jhti-09-2021-0245

Kose, M. A., Ohnsorge, F. L., Reinhart, C. M., et al. (2022). The Aftermath of Debt Surges. Annual Review of Economics, 14, 637–663. https://doi.org/10.1146/annurev-economics-051420-015343

Koutche, K. (2021). Public Investment, Foreign Direct Investment, and Budget Deficit. Walden Disertation and Studies.

Kwabena Obeng, S. (2021). Fiscal decentralization, democracy and government size: Disentangling the complexities. Journal of International Development, 33(6), 975–1004. https://doi.org/10.1002/jid.3545

Lacalle, D. (2020). Monetary and Fiscal Policies in the COVID-19 Crisis. Will They Work? Journal of Business Accounting and Finance Perspectives, 2(3), 1. https://doi.org/10.35995/jbafp2030018

Lacroix, J., Méon, P. G., & Sekkat, K. (2021). Democratic transitions can attract foreign direct investment: Effect, trajectories, and the role of political risk. Journal of Comparative Economics, 49(2), 340–357. https://doi.org/10.1016/j.jce.2020.09.003

Le, T. D., Ho, T. H., Nguyen, D. T., et al. (2022). A cross-country analysis on diversification, Sukuk investment, and the performance of Islamic banking systems under the COVID-19 pandemic. Heliyon, 8(3). https://doi.org/10.1016/j.heliyon.2022.e09106

León, J. M. G., Murillo, J. W. R., & Hernández, E. A. R. (2019). Public Debt and Stability in Economic Growth: Evidence for Latin America. International Journal of Economics and Financial Issues, 9(4), 137–147. https://doi.org/10.32479/ijefi.8167

Long, S., Jones, P. J. S., Randriana, Z., et al. (2021). Governance analysis of a community managed small-scale crab fishery in Madagascar: novel use of an empirical framework. Marine Policy, 127, 102974. https://doi.org/10.1016/j.marpol.2017.11.022

Lozano, M., Atkinson, M., & Mou, H. (2021). Democratic Accountability in Times of Crisis: Executive Power, Fiscal Policy and COVID-19. Government and Opposition, 1–22. https://doi.org/10.1017/gov.2021.24

Masmoudi, T. (2020). Munich Personal RePEc Archive Democratic transition and foreign direct investment: Transition process matters. MPRA (Munich Personal RePEc Archive).

Mawejje, J., & Odhiambo, N. M. (2020). The determinants of fiscal deficits: a survey of literature. International Review of Economics, 67(3), 403–417. https://doi.org/10.1007/s12232-020-00348-8

Mawejje, J., & Odhiambo, N. M. (2021). Uganda's fiscal policy reforms: What have we learned? Public Budgeting and Finance, 41(2), 89–107. https://doi.org/10.1111/pbaf.12283

Mawejje, J., & Odhiambo, N. M. (2022a). Macroeconomic determinants of fiscal policy in East Africa: a panel causality analysis. Journal of Economics, Finance and Administrative Science, 27(53), 105–123. https://doi.org/10.1108/JEFAS-07-2021-0124

Mawejje, J., & Odhiambo, N. M. (2022b). The determinants and cyclicality of fiscal policy: Empirical evidence from East Africa. International Economics, 169, 55–70. https://doi.org/10.1016/j.inteco.2021.12.001

Mbu, A., Tagem, E., & Morrissey, O. (2021). What are the drivers of tax capacity in sub-Saharan Africa? WIDER Working Paper.

Merlo, S., & Fasone, C. (2021). Differentiated Fiscal Surveillance and the Democratic Promise of Independent Fiscal Institutions in the Economic and Monetary Union. Swiss Political Science Review, 27(3), 582–600. https://doi.org/10.1111/spsr.12456

Miao, M., Borojo, D. G., Yushi, J., et al. (2021). The impacts of Chinese FDI on domestic investment and economic growth for Africa. Cogent Business and Management, 8(1). https://doi.org/10.1080/23311975.2021.1886472

Montes, G. C., Bastos, J. C. A., & de Oliveira, A. J. (2019). Fiscal transparency, government effectiveness and government spending efficiency: Some international evidence based on panel data approach. Economic Modelling, 79, 211–225. https://doi.org/10.1016/j.econmod.2018.10.013

Notolegowo, H. K., & Saleh, S. (2019). Social Capital and Economic Growth: Evidence from OECD Countries. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2370375

OECD. (2019). Restoring Fiscal Sustainability: Lessons for the Public Sector. Restoring Fiscal Sustainability: Lessons For the Public Sector. Available online: https://www1.oecd.org/gov/44473800.pdf (accessed on 2 June 2023).

OIC. (2022). Economic Outlook. OIC.

Okombi, I. F. (2021). Non-Linear Response of Fiscal Policy to the Business Cycle: Empirical Evidence in Sub-Saharan Africa. Economics Bulletin, 41(3), 1097–1112.

Omodero, C. O., & Alpheaus, O. E. (2019). The Effect of Foreign Debt on the Economic Growth of Nigeria. Management Dynamics in the Knowledge Economy, 7(3), 291–306. https://doi.org/10.25019/mdke/7.3.01

Park, J., Butler, J. S., & Petrovsky, N. (2022). Understanding Public Participation as a Mechanism Affecting Government Fiscal Outcomes: Theory and Evidence from Participatory Budgeting. Journal of Public Administration Research and Theory, 33(2), 375–389. https://doi.org/10.1093/jopart/muac025

Pinar, M., & Stengos, T. (2021). Democracy in the neighborhood and foreign direct investment. Review of Development Economics, 25(1), 449–477. https://doi.org/10.1111/rode.12720

Rochmansjah, H. (2019). Application of Good Governance Principles in Government: Perspective of Public Services. International Journal of Science and Society, 1(4), 1–8. https://doi.org/10.54783/ijsoc.v1i4.140

Saadullah, M. Z., & Hossain, M. I. (2010). Democracy and Trade Balance: A Vector Autoregressive Analysis. The Bangladesh Development Studies, 33(4), 23–37.

Singh, A., & Singh, P. (2018). Democracy and Trade Liberalization. The Varieties of Democracy Institute.

Stasavage, D. (2005). Democracy and education spending in Africa. American Journal of Political Science, 49(2), 343–358. https://doi.org/10.1111/j.0092-5853.2005.00127.x

Symoom, T. (2018). The Impact of Fiscal Policy on Economic Growth: Empirical Evidence from Four South Asian Countries [Master's thesis]. Eastern Illinois University.

Tanaka, S. (2007). Engaging the Public in National Budgeting: A Non-Governmental Perspective. OECD Journal on Budgeting, 7(2), 139–177. https://doi.org/10.1787/budget-v7-art12-en

Tanaya, O., Kanti Wilujeng, R. S., & Putri Radjamin, I. (2022). Foreign Direct Investment and Political Risk in ASEAN (Indonesia). Owner, 6(2), 1610–1620. https://doi.org/10.33395/owner.v6i2.805

Tang, T., Tillaguango, B., Alvarado, R., et al. (2022). Heterogeneity in the Causal Link between FDI, Globalization and Human Capital: New Empirical Evidence Using Threshold Regressions. Sustainability, 14(14). https://doi.org/10.3390/su14148740

Tendengu, S., Kapingura, F. M., & Tsegaye, A. (2022). Fiscal Policy and Economic Growth in South Africa. Economies, 10(9). https://doi.org/10.3390/economies10090204

Whitten, G., Dai, X., Fan, S., et al. (2020). Do political relations affect international trade? Evidence from China's twelve trading partners. Journal of Shipping and Trade, 5(1). https://doi.org/10.1186/s41072-020-00076-w

Wibowo, M. G. (2017). Public Debt and Economic Growth in The South East Asian Countries. Jurnal Ilmu Ekonomi, 6(1), 177–188. https://doi.org/10.15408/sjie.v6i1.4779

Woo, J. (2003). Economic, political, and institutional determinants of public deficits. Journal Public Economic, 87(4), 387–426.

Wooldridge, J. M. (2020). Introductory econometrics: A modern approach, 7th ed. Cengage Learning.

World Bank. (2022). World Development Indicators (WDI). World Bank.

Wusqo, U. (2022). Determining Factors of Consumption in Islamic Countries in The World with Political Stability as a Moderating Variable. Jurnal Ilmiah Ekonomi Islam, 8(03), 2582–2592.

Yagboyaju, D. A., & Akinola, A. O. (2019). Nigerian State and the Crisis of Governance: A Critical Exposition. SAGE Open, 9(3). https://doi.org/10.1177/2158244019865810

Zainal, M., Insukindro, I., & Makhfatih, A. (2022). Fiscal Cyclicality Under State Finances Law in Indonesia. Jurnal Ekonomi Dan Studi Pembangunan, 14(1), 109–121. https://doi.org/10.17977/um002v14i12022p109