INDONESIAN JOURNAL OF ECONOMICS, SOCIAL, AND HUMANITIES
ijesh.unri.ac.id
**ISSN 2656-355X**

# Modelling Dynamic Impact of Governance and External Shocks on Fiscal Performance in Indonesia

Mansur Muhammad*, & Herbert Wibert Victor Hasudungan

Indonesian International Islamic University, Indonesia

* sirway2461969@yahoo.com

**Article Info**

**Received** : 2024-04-30
**Accepted** : 2026-01-28
**Published** : 2026-02-09

**Keywords:** external shocks; governance; fiscal performance; GMM; PCA

**Abstract**

*The purpose of this study is to empirically investigate the impact of external shocks and good governance on fiscal performance in Indonesia. Data for this study, covering the period from 2002 to 2021, was collected from reputable sources such as the International Monetary Fund, World Bank, and World Governance Indicators. To conduct a rigorous analysis, we employed robust generalized method of moments (GMM) techniques to examine the data. Prior to estimation, several preliminary analyses were conducted to ensure the reliability of the results. They include descriptive analysis, principal component analysis was conducted to reduce the dimensionality of governance indicators, and unit root test. This study empirically found that oil price shocks have a negative effect on fiscal performance, reflecting the profound influence of these shocks on various sectors of the economy. Additionally, the study confirms the positive relationship between good governance and fiscal performance, emphasizing the role of governance as a driver of efficient resource allocation and development, not only in Indonesia but also in other economies. Findings emanating from this study underscore the significance of considering good governance and external shocks when formulating fiscal policies and strategies for sustainable economic growth and development.*

## Introduction

The Indonesian economy has over the past few decades witnessed regime changes and policy shifts that have impacted positively on the fiscal stance. Macroeconomic indicators have shown a sustained positive upturn and less volatiles to the major global shocks (Maclntyre 2000, Maipita; Jantan & Razak 2010; Istan 2022). It is not an overemphasis to mention that good governance, fiscal performance and external shocks are interconnected factors that play a crucial role in shaping the economic stability and development in Indonesia. The linkage among these three elements is considered to be complex and can significantly influence a nation's economic resilience, policy effectiveness and overall socio-economic well-being.

In the words of Strauch & Hagen (2007) Governance, encompassing political institutions, public administration, and the rule of law, sets the framework for effective decision-making and policy implementation. Sound governance practices, such as transparency, accountability, and the protection of property rights, contribute to the efficient allocation of resources and the promotion of economic growth. Furthermore, robust governance structures are


© **2026** Muhammad & Hasudungan

critical for ensuring prudent fiscal management and maintaining fiscal discipline. Samuleson and Nordhaus (2014:567) opined that a well-functioning fiscal system allows governments to finance public goods and services, promote economic stability, and address social welfare needs. Effective fiscal policies, characterized by prudent fiscal management, efficient tax systems, and targeted expenditure programs, are essential for achieving sustainable economic growth and mitigating the negative impacts of external shocks.

Response of fiscal position to external shocks depends on the effective government framework and resilience of its institutions. These shocks are mostly exogenous and can arise from global economic fluctuations, commodity price volatility, financial market disruptions, or geopolitical events. External shocks can have profound and immediate consequences, including fiscal imbalances, exchange rate volatility, decreased investment inflows, and reduced economic growth (Abubakar et al., 2023)

The relationship among governance, fiscal performance, and external shocks is multidimensional and intertwined. Good governance practices, characterized by transparency, accountability, and effective public administration, contribute to improved fiscal performance by ensuring the efficient allocation of resources, minimizing corruption, and enhancing policy implementation. Moreover, robust fiscal performance, characterized by prudent fiscal policies, sustainable debt levels, and effective revenue mobilization, strengthens a country's capacity to cope with external shocks and limits the vulnerability of its economy.

Conversely, external shocks can expose weaknesses in governance and fiscal performance. Weak governance structures and inadequate fiscal management can exacerbate the negative impacts of external shocks, leading to fiscal deficits, increased public debt burdens, and economic instability. The interplay among these factors highlights the importance of coordinated policies that promote good governance, enhance fiscal performance, and build resilience to external shocks.

This research aims to explore and analyze the relationship among governance, fiscal performance, and external shocks, examining how these factors interact and influence each other. By examining previous empirical evidence, and theoretical frameworks, this study seeks to provide valuable insights for policymakers, researchers, and stakeholders to enhance economic stability, strengthen fiscal resilience, and improve governance practices in the face of external shocks. Understanding this intricate relationship is essential for promoting sustainable economic development and fostering resilience in an ever-changing global landscape.

## Literature Review

To better understand the intricate relationship between governance, external shocks and fiscal performance, relevant scholarly work were analyzed. Study on fiscal policy and its dynamics went viral after the scholarly work of Keynes in 1930, see (D'Acunto et. al., 2020; Schaechter et., al., 2012; Weber & Ivanova 2011; Halkos & Paizanos, 2016; Bazgan, 2019; Talvi & Vegh, 2005; Schuknecht, 2000; Ilzetzki & Végh 2008; Shen & Yang 2014). Fiscal formulations and performance are functions of both endogenous and exogenous factors, many government interventions in economic regulations and stabilization help in shaping the desired outcome, although in some instances faced with challenges beyond the control of policy formulators and implementators. For instance, Gorčák & Šaroch (2021) documented that fiscal rule plays a significant role in fiscal sustainability and a procyclical of policies in Europe. These rules assisted in containing and maintaining the public debt at reasonable level within European union. In related study, Onofrei et al., (2021) on the panel of EU countries, found legal and institutional framework to be key factors in sustainable public finance and fiscal behaviour.

Tang et al., (2013) revealed that during the global and Asian financial crisis, tax impact on output reflects the resilience of the public finance to shocks emanating within or outside the ASEAN economies. On the panel of sub Sub-Saharan African countries Öztürk Çetenak (2022) empirically examined the nexus between fiscal performance, quality of governance and growth using dynamic panel estimation techniques. Findings emanating thereof suggest that fiscal performance proxy by increasing public debt has a negative effect on economic growth, while institutional quality prove to be effective in growing the economy overtime. Further, the effect of public expenditure is negative on economic growth in the region for the period under investigation.

Managing fiscal crisis is an important component of sustainable finance especially in the low-income developing economies who are found to be more vulnerable in the face of shocks and weak institutions. Notably, the response of advanced economies to fiscal crisis was found to drastically decline in the growth within the first two years, while the magnitude is enormous in the face of financial crisis as experienced previously (Gerling et. al., 2017). Nguyen (2022) study the role of good governance in output gap-fiscal nexus in the developing economies using GMM and PMG. Government spending support the countercyclical fiscal policy in developing economies, while governance is an important recipe for countercyclical fiscal policy. In a related study on the developing countries Das (2016) considers the role of twin deficit in developing economies by spelling out the condition for domestic and foreign debt. The paper points to the role of foreign exchange in reducing inflation in developing economies. He further added that capital inflow is significant in reducing trade deficit.

Maipita, Dan Jatan & Abdulrazak (2010) study the impact of expansionary and contractionary fiscal policy on economic performance in Indonesia using CGE model. Subsidy performs well in reducing rural poverty during the period more than transfer payment which has proven to be counter productive and aggregately reduce the GDP. In the study of Indonesia, Malaysia, phillipines and Singapore on global financial meltdown, Doraisami (2011) revealed a rich array of factors contributing to the diversity in the size and composition of fiscal stimulus packages across the examined ASEAN member countries. These factors include variations in economic structures, policy priorities, and institutional frameworks. In another study by Nursini (2017), government spending on infrastructure has a significant positive impact on economic growth, in addition, trade openness performs well in shaping growth. It is recommended that taxes should be used as alternative to finance human capital and infrastructure rather than foreign loans.

Based on the comprehensive review presented thus far, it is evident that existing literature lacks insights into the influence of governance and shocks on fiscal performance. This study aims to address this gap and make a significant contribution to the literature by introducing a novel approach. Specifically, we construct a governance index and explore its impact on fiscal performance within the context of Indonesia.

**Method**

To analyze the influence of governance and external shocks on fiscal performance, we gathered annual data from reputable sources such as the International Monetary Fund (IMF), World Governance Indicators (WGI) provided by the World Bank, and the Energy Information Agency (EIA). The data covers the period from 2002 to 2021, allowing for a comprehensive assessment. Specifically, information on Indonesian government debt as a percentage of GDP, serving as a proxy for fiscal performance, was obtained from the IMF (2023) dataset. For measuring governance, we utilized recently developed indices that consist of six distinct indicators. These indices can be accessed on the World Bank's website, under the subcategory of World

Governance Indicators. The chosen indicators provide a comprehensive perspective on governance-related factors. In order to examine the impact of external shocks, we acquired data on the annual average price of Brent crude oil from the U.S. Energy Information Agency. Prior to estimation, the crude oil price data was normalized to ensure comparability and accuracy in our analysis. For further reference and a detailed understanding of the data used, we provide a comprehensive table (Table 1) that includes specific definitions and additional information related to the collected data.

Table 1. Variable Measurement

| No | Variable | Source | Definition |
|---|---|---|---|
| 1 | Fiscal performance | IMF (2023) | Fiscal performance is proxy by the government debt as a percentage of GDP. It is coded as GPDT1 |
| 2 | Governance indicators | WGI (2023) | The Control of Corruption indicator assesses the perception of the degree to which public power is exploited for personal benefit, encompassing both minor and major forms of corruption, as well as the influence of elites and private interests on the state. The Estimate provides the country's score on this comprehensive indicator, measured in units of a standard normal distribution. This score typically falls within a range of approximately -2.5 to 2.5. this is represented in the model as CCORR |
| 3 | | WGI (2023) | Government Effectiveness as defined by world bank, encompasses the perception of public service quality, civil service quality, independence from political influences, policy formulation and implementation quality, and the government's trustworthiness in upholding these policies. The Estimate provides the country's score on the overall indicator, measured in units of a standard normal distribution, with a range typically spanning from around -2.5 to 2.5. it could be seen in the equation as GOVEFF. |
| 4 | | WGI (2023) | Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. it is represented as POLST |
| 5 | | WGI (2023) | Regulatory Quality evaluates the perception of the government's effectiveness in developing and implementing sound policies and regulations that foster private sector growth. The Estimate provides the country's score on this comprehensive indicator, measured on a standard normal distribution scale. Typically, scores range from approximately -2.5 to 2.5, reflecting the country's performance in regulatory quality. It could be regarded as REGQU henceforth. |

| No | Variable | Source | Definition |
|---|---|---|---|
| 6 | | WGI (2023) | The Rule of Law indicator assesses the perception of the level of trust and adherence to societal rules among individuals, with a specific focus on the enforcement of contracts, protection of property rights, effectiveness of law enforcement agencies, efficiency of the judicial system, and the likelihood of crime and violence. The Estimate provides the country's score on this comprehensive indicator, measured on a standard normal distribution scale. Typically, scores range from approximately -2.5 to 2.5, reflecting the country's performance in upholding the rule of law. The code representing this variable is ROL |
| 7 | | WGI (2023) | The indicator of Voice and Accountability assesses the perceptions surrounding the degree to which citizens of a country can actively engage in the process of selecting their government. It also takes into account the freedoms of expression, association, and the presence of an independent and unrestricted media. The Estimate provides the country's score on this comprehensive indicator, measured on a standard normal distribution scale that spans from approximately -2.5 to 2.5. It could be seen in the model as VAA |
| 8 | External shock | EIA (2023) | The price of crude oil serves as a critical indicator of external shocks, reflecting the annual average price of Brent crude oil in USD. This price has a significant impact on the fiscal responsibilities of economies worldwide, both oil-producing and non-oil producing. The reason behind this lies in the fact that crude oil has become a vital energy source for households, industries, and governments alike. It is henceforth coded as CRUDEOIL in the model. |
| 9 | Governance index | | Governance index use in this study comes from the computation and prediction from the principal component analysis. |

*Source: Author's Compilation*

To achieve the objective of this study, several steps were taken, this ranges from sourcing for reliable data as mentioned above. The variables were well defined and sources mentioned. This follows the critical descriptive nature of the data which include the mean, median, maximum, minimum, skewness, kurtosis, standard deviation etc. the result is shown in table 2.

Principal component analysis is conducted on the governance indicators, this allows us to examine the component with high loading factor and minimum variance on the principal component. When there are a number of variables describing the phenomenon, we are interested in reducing the indicators to manageable set. This is where the PCA plays a role. For set of indicators, PCA are obtained through computing the eigen values for decomposing the observed

variance. The choice of the number of factors to be used in the analysis is based on the selection criteria proposed by (Ahn & Horenstein, 2013). This study also follows the convention of examining the time series property of the variables under investigation. We adopt the popular augmented dickey fuller unit root test. Models based on nonstationary variable are found to be spurious, bias and inefficient.

Economic variables exhibit dynamic behaviour, past realizations are very important in studying the present and future. The GMM methods has been widely used recently because it provides efficient and consistent estimators in the face of endogeneity and short period observations. It also provides flexibility with which the lagged dependent variable can be used as regressor and instrument. The method accommodates almost all data structure in econometrics analysis. GMM estimator is basically based on the assumption that parameters can be estimated by simply replacing the population moment by sample equivalent. For instance, the average of an independent and identically distributed population can be seen as the value, as such the central population moment is zero, i.e., to solve $E(y-\mu)=0$ where y is randomly drawn from the population. This could be expressed as;

$$E(y-\mu)=0 \rightarrow \frac{1}{N}\sum_{i=1}^{N}(y_i-\hat{\mu})=0 \rightarrow \hat{\mu}=\frac{1}{N}\sum_{i=1}^{N}y_i$$

Where N is the sample size and $y_i$ is the ith observation of y in the dataset. However, $\hat{\mu}$ is the method of moment estimator. (Wooldridge, 2010)

Two separate models are formulated following Cetenak (2022);

Model 1

$$GPDBT1 = f(crudeoil, ccoor, goveff, polst, regqu, rol, vaa\ ) \ldots [1]$$

$$GPDBT1_t = \beta_0 + \beta_1 crudeoil_t + \beta_2\ ccoor_t + \beta_3 goveff_t + \beta_3 polst_t + \beta_4 regqu_t + \beta_5 rol_t + \beta_6 vaa_t + \varepsilon_t \ldots [2]$$

Model 2

$$GPDBT1_t = \propto_0 + \propto_1 crudeoil_t + \propto_2 govindex_t + \cup_t \ldots [3]$$

In model 2, we create an index of governance based on the rotated principal component, this allows us to maximize the information from the indicators. The index is created using STATA command after examining the indicators with high multicollinearity, we predict immediately after running the principal component analysis.

**Results**

In this section, we present the results of the estimation, interpretations and detailed discussions of findings from the study.

Table 2 shows the descriptive characteristics of the variables under investigation. Government debt as a percentage of GDP has a mean of approximately 34.45, with a median of around 30.34. The maximum value is 62.34, while the minimum value is 22.95. The mean of crude oil average price stands at approximately 67.55, and the median is approximately 64.72. The maximum value recorded is 111.63, while the minimum is 25.01. The mean value for

control of corruption is approximately -0.67, with a median of around -0.65. The maximum value observed is -0.28, while the minimum is -1.14. This captures perception related to control of corruption, where higher values indicate better control. For government effectiveness the mean is approximately -0.19, and the median is approximately -0.28. The maximum recorded value is -0.37, while the minimum is -2.10. This variable represents perceptions of government effectiveness, where higher values denote better effectiveness. The average for political stability stands at approximately -0.91, with a median of around -0.68. The maximum value is -0.37, while the minimum value is -2.10. This variable pertains to perceptions of political stability and absence of violence/terrorism. Furthermore, regulatory quality has the mean value of approximately -0.25, with a median of around -0.27. The maximum value is 0.30, while the minimum value is -0.87. These measures perceptions of regulatory quality, where higher values indicate better quality. For rule of law, the mean stands at approximately -0.54, and the median is approximately -0.59. The maximum value observed is -0.22, while the minimum is -0.91. voice and accountability have an average of approximately 0.01, with a median of around 0.02. The maximum recorded value is 0.18, while the minimum is -0.30. This variable tells us about the perceptions of voice and accountability, where higher values denote better citizen engagement and accountability.

Table 2. Descriptive Statistics

| | GPDBT | CRUDE_OIL | CCORR | GOVEFF | POLST | REGQU | ROL | VAA |
|---|---|---|---|---|---|---|---|---|
| Mean | 34.45216 | 67.55350 | -0.666689 | -0.192133 | -0.908146 | -0.252245 | -0.544532 | 0.008683 |
| Median | 30.33738 | 64.72000 | -0.649563 | -0.281856 | -0.683107 | -0.266021 | -0.591606 | 0.017562 |
| Maximum | 62.33938 | 111.6300 | -0.276330 | 0.379007 | -0.372952 | 0.298162 | -0.224781 | 0.184871 |
| Minimum | 22.95466 | 25.01000 | -1.137303 | -0.597246 | -2.095395 | -0.866097 | -0.910265 | -0.299386 |
| Std. Dev. | 11.35257 | 26.77185 | 0.244519 | 0.288056 | 0.531076 | 0.323375 | 0.211151 | 0.151513 |
| Skewness | 1.098647 | 0.273091 | -0.110696 | 0.625706 | -0.946711 | -0.254247 | -0.048731 | -0.766275 |
| Kurtosis | 3.223907 | 2.064758 | 2.060579 | 2.374657 | 2.602611 | 2.280984 | 1.713408 | 2.518198 |
| Jarque-Bera | 4.065197 | 0.977494 | 0.776272 | 1.630906 | 3.119138 | 0.646293 | 1.387348 | 2.150702 |
| Probability | 0.130995 | 0.613394 | 0.678320 | 0.442439 | 0.210227 | 0.723868 | 0.499737 | 0.341178 |
| Sum | 689.0432 | 1351.070 | -13.33377 | -3.842666 | -18.16293 | -5.044898 | -10.89063 | 0.173651 |
| Sum Sq.Dev. | 2448.737 | 13617.91 | 1.136002 | 1.576552 | 5.358800 | 1.986861 | 0.847112 | 0.436168 |
| Observations | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |

*Source: Author's computation*

In table 3, we report the results of the principal component analysis carried out on the governance indicators. Evidence from the eigen values and proportion of the variance shows that component one has the highest explanatory power and could be a better representation of all other components, meanwhile, table 4 shows the eigen vectors and the corresponding variance according to each variable. The explained component of each variable is very low for regulatory quality, rule of law and voice and accountability. This means that this has very important information to explain governance in Indonesia compare to other indicators, nevertheless, the impact of other components is equally included in estimation to have a clear and comprehensive impact of the variable on the response variable.

Table 3. Principal Component Analysis for Governance indicators

| Component | Eigenvalue | Difference | Proportion | Cumulative |
|---|---|---|---|---|
| Comp1 | 5.416 | 5.104 | 0.903 | 0.903 |
| Comp2 | 0.312 | 0.140 | 0.052 | 0.955 |
| Comp3 | 0.172 | 0.111 | 0.029 | 0.983 |
| Comp4 | 0.061 | 0.036 | 0.010 | 0.993 |
| Comp5 | 0.025 | 0.011 | 0.004 | 0.998 |
| Comp6 | 0.015 | . | 0.002 | 1.000 |

*Source: Author's computation*

Table 4. PCA Eigen Vectors

| Variable | Comp1 | Comp2 | Comp3 | Comp4 | Comp5 | Comp6 | Unexplain |
|---|---|---|---|---|---|---|---|
| ccorr | 0.403 | 0.187 | -0.770 | 0.366 | 0.219 | -0.168 | 0 |
| goveff | 0.394 | 0.647 | 0.368 | 0.236 | -0.005 | 0.485 | 0 |
| polst | 0.399 | -0.587 | 0.342 | 0.286 | 0.542 | 0.066 | 0 |
| regqu | 0.423 | 0.051 | 0.322 | 0.116 | -0.432 | -0.717 | 0 |
| rol | 0.419 | 0.137 | -0.037 | -0.835 | 0.316 | -0.085 | 0 |
| vaa | 0.412 | -0.425 | -0.223 | -0.130 | -0.610 | 0.459 | 0 |

*Source: Author's computation*

Table 5. PCA Selected Component

| **Variable** | **Comp1** | **Unexplained** |
|---|---|---|
| ccorr | 0.403 | 0.122 |
| goveff | 0.394 | 0.161 |
| polst | 0.399 | 0.140 |
| regqu | 0.423 | 0.032 |
| rol | 0.419 | 0.051 |
| vaa | 0.412 | 0.078 |

*Source: Author's computation*

Table 6 provides an insight on the time series behaviour of variables under investigation. Estimation for each series is based on the popular augmented dickey fuller statistics. The null hypothesis for this statistics states that a series has a unit root meaning that it is not stationary, reverse is the case for alternative hypothesis. Empirical results from the table revealed that level data of government debt as a percentage of GDP is stationary, in other words, we reject the null hypothesis at 5% level of significant. Similarly, crude oil prices is stationary series. Government effectiveness, regulatory quality and voice and accountability are stationary after first difference. We reject the null hypothesis of unit root in each case of political stability and rule of law at 5% level.

Table 6. Augmented Dickey Fuller Unit Root Test

| Variables | Level | 1st difference |
|---|---|---|
| Gpdbt1 | -3.191052[b] | - |
| Crudeoil | -2.193527[b] | - |
| Goveff | -0.656066 | -7.763605[a] |
| Polst | -3.366414[b] | - |
| Regqu | -1.885208[c] | -5.317936[a] |
| Rol | -3.758420[b] | - |
| Vaa | -1.596026 | -4.122391[a] |

*Source: Author's Computation [a, b & c] signifies rejection of null hypothesis at 1%, 5% and 10% respectively*

Table 7. Impact of Governance and Shocks on Fiscal Performance

| Variable | Coefficient | Std. error | t-statistics |
|---|---|---|---|
| Crudoil | -0.978341 | 0.265800 | -3.680734[a] |
| ccorr | -1.459943 | 0.527972 | -2.765187[b] |
| Polst | 0.881449 | 0.324425 | 2.716956[b] |
| Regqu | 0.927066 | 0.649015 | 1.428420 |
| Rol | -1.751146 | 0.810884 | -2.159551 |
| Vaa | 2.805700 | 0.986768 | 2.843324[b] |
| Goveff | 0.901441 | 0.664310 | 1.356958[b] |

*Source: Author's Computation [a, b & c] signifies rejection of null hypothesis at 1%, 5% and 10% respectively*

The coefficient of crude oil prices which is the proxy for external shocks (-0.978341) suggests that a one-unit increase in price of Crude oil is associated with an average decrease of approximately 0.978341 units in fiscal performance. The t-statistic of -3.680734 indicates that this coefficient is statistically significant, implying that the relationship between Crude oil and the dependent variable is unlikely to have occurred by chance. This finding is in accordance with practice, external shocks tend to distort economy, by the way of adjusting the fiscal position to be in line with the current happenings. This finding also supports the work of (Gerling et. al., 2017) who find that developing economies are vulnerable in the face of shocks and weak institutions. Indonesian economy is not an exception in this regard, it is fragile in the face of external shocks just like different episode of covid-19.

Control of corruption has a negative impact on fiscal performance, the coefficient of -1.459943 implies that a one-unit increase in control of corruption is associated with an average decrease of approximately 1.459943 units in the fiscal performance. The t-statistic of -2.765187 indicates that this coefficient is statistically significant. We except control of corruption to go hand in hand with fiscal performance as such, the more effort to control corruption, the better the fiscal performance. In Indonesian context, there could be another explanation as to why control of corruption is not yielding the needed impact on fiscal space.

Findings from table 7 further revealed that political stability has a positive impact on fiscal performance. However, a one-unit rise in political stability is associated with an average increase of approximately 0.881449 units in the fiscal performance. The t-statistic of 2.716956 indicates that this coefficient is statistically significant at 5% level. Experience has shown that a country with stable polity and peaceful environment perform better in fiscal endeavor, as rightly observe by Hagen (2002) a well-organized political institutions results in efficient resource allocation and promote economic growth in the long run.

The relationship between regulatory quality and fiscal performance suggests that an improvement in regulatory quality leads to a corresponding increase in fiscal performance. Specifically, a one-unit increase in regulatory quality is associated with an average rise of approximately 0.927066 units in fiscal performance. However, it is important to note that the t-

statistic of 1.428420 indicates that this coefficient is not statistically significant at conventional levels. This implies that the observed relationship between regulatory quality and fiscal performance may not be strong enough to confidently conclude that it is a true association. Regulatory environment and quality are perceived to be an integral part of policy formulation and implementation. Fiscal performance in general largely depends on how well regulatory authority respond to the government plans and policies.

Rule of law is found to have a positive but insignificant impact on the fiscal performance The coefficient of 1.751146 suggests that a one-unit increase in adherence to the rule of law is associated with an average rise of approximately 1.751146 units in the fiscal performance. This is in agreement with practice, as expected, upholding rule of law in government and general endeavor lead everyone to do right thing at the right time, this will enhance the performance in government policies and implementation and subsequently lead to overall growth and development.

There is a positive relationship between accountability and fiscal performance. Statistics from the table indicates that the coefficient of 2.805700 implies that a one-unit increase in voice and accountability is associated with an average increase of approximately 2.805700 units in the fiscal performance. The t-statistic of 2.843324 indicates that this coefficient is statistically significant. This finding revealed that accountability go hand in hand with fiscal performance, transparency and accountability in government rise the confidence of both internal and external stakeholders in the project of a country. This has work well for Indonesia hence the performance of the current dispensation may be connected to voice and accountability at all level.

Government effectiveness has a positive impact on the fiscal performance and this is in accordance with the a priori expectation. However, the coefficient of 0.901441 suggests that a one-unit increase in government effectiveness is associated with an average increase of approximately 0.901441 units in the fiscal performance. The t-statistic of 1.356958 indicates that this coefficient is not statistically significant at conventional levels. Government effectiveness is all encompassing, it cut across the ability of government to manage its revenue and expenditure effectively, public debt, infrastructural development etc. Government effectiveness over past few decades Indonesia has improve tremendously and it has become crucial part of economic development in Indonesia.

Table 8. Model with Governance Index as Regressor

| Variables | coefficients | Std error | t-statistics |
|---|---|---|---|
| Crudeoil | -0.970189 | 0.406802 | -2.384916[b] |
| Govindex | 1.043045 | 0.513355 | 2.031818[c] |
| Constant | 0.020157 | 0.371313 | 0.054287 |

*Source: Authors Computation, [a, b & c] signifies rejection of null hypothesis at 1%, 5% and 10% respectively*

Table 8 depicts the model with governance index as a regressor, we compute the index of good governance from the principal component of the six indicators mentioned previously. Surprisingly, the effect of external shocks doesn't change, the coefficient of -0.970189 indicates that a one-unit increase in the crude oil prices is associated with a decline of approximately 0.970189 units in fiscal performance (assuming all other variables are held constant). The t-statistic of -2.384916 indicates that the coefficient is statistically significant at a conventional significance level (e.g., $p < 0.05$), implying that the relationship between crude oil prices and fiscal performance is unlikely to be due to random chance.

Interestingly, the index of good governance has a positive impact on fiscal performance, this is in concord with the a priori expectation, and practice. The coefficient of 1.043045 implies that a one-unit increase in the good governance is associated with an increase of approximately

1.043045 units in the fiscal performance (assuming all other variables are held constant). The t-statistic of 2.031818 indicates that the coefficient is statistically significant at 10% level. This particular finding supports the theoretical argument that good governance is likely going to enhance overall fiscal performance. It worth noting that this is also in agreement with the findings from the work of Mensah et. al., (2018) who stipulates that good governance assist country to bridge the deficit gap by acquiring a debt locally or externally and transfer such for productive purpose.

## Conclusion

The study of fiscal policy has traditionally overlooked the influence of good governance on economic growth and development, particularly in the context of Indonesia. Furthermore, limited attention has been given to understanding the implications of external shocks on fiscal performance. This study aims to address these gaps by investigating the effects of good governance and external shocks on fiscal performance in Indonesia from 2002 to 2021. The analysis employs the robust generalized method of moments (GMM) technique, utilizing lagged exogenous and endogenous variables as instruments. Fiscal performance is measured by the government debt to GDP ratio, following established conventions, while the regressors consist of six indicators of governance and oil price shocks.

The findings of the study provide valuable insights into the relationship between external shocks, good governance, and fiscal performance in Indonesia. Firstly, the study reveals that external shocks, specifically proxying the oil price, exert a negative and significant impact on fiscal performance in Indonesia throughout the examined period. While previous shocks, such as the 2008 global financial crisis and the COVID-19 pandemic, have disrupted public finance, the oil price shock stands out due to its direct impact on the daily livelihoods of individuals, government, and firms.

Secondly, the analysis demonstrates that the six governance indicators, both individually and collectively as a composite index, exhibit a strong association with fiscal performance. Good governance is found to have a positive and significant influence on fiscal performance in Indonesia, aligning with prior research. This finding reinforces the notion that governance serves as a catalyst for optimal resource allocation and overall development, not only within Indonesia but across all economies. It also underscore the significance of considering good governance and external shocks when formulating fiscal policies and strategies for sustainable economic growth and development.

## Conflict of Interest

I declare that there is no conflict of interest among the authors.

## References

Abubakar, A. B., Muhammad, M., & Mensah, S. (2023). Response of fiscal efforts to oil price dynamics. *Resources Policy*, *81*(February), 103353. https://doi.org/10.1016/j.resourpol.2023.103353

Ahn, S. C., & Horenstein, A. R. (2013). Eigenvalue ratio test for the number of factors. *Econometrica*, *81*(3), 1203-1227.

Bâzgan, R. M. (2019). Fiscal management on revenue-based or expenditure-based adjustments: An empirical evidence from EU-countries. *Management & Marketing. Challenges for the Knowledge Society*, *14*(1), 163-175.

Bi, H., Shen, M. W., & Yang, M. S. S. (2014). *Fiscal limits, external debt, and fiscal policy in developing countries*. International Monetary Fund.

ÇETENAK, Ö. Ö. The Relationship Between Fiscal Performance, Governance Quality, And Economic Growth: Evidence From Sub-Saharan Countries. *Afro Eurasian Studies*, *11*(1), 1-16.

D'Acunto, F., Ghosh, P., & Rossi, A. G. (2021). Political partisanship and the transmission of fiscal policy. *Available at SSRN 3837682*.

Das, S. (2016). On Macroeconomics of Fiscal Policy. *Economics*, *April*, 213–247. https://doi.org/10.1093/acprof:oso/9780199458950.003.0005

Doraisami, A. (2011). The global financial crisis: countercyclical fiscal policy issues and challenges in Malaysia, Indonesia, the Philippines, and Singapore.

Energy Information Agency (2023). Brent crude oil prices. https://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm

Gerling, M. K., Medas, M. P. A., Poghosyan, M. T., Farah-Yacoub, J., & Xu, Y. (2017). *Fiscal crises*. International Monetary Fund.

Gorčák, M., & Šaroch, S. (2021). Impact of fiscal institutions on public finances in the European Union: Review of evidence in the empirical literature. *Review of Economic Perspectives*, *21*(2), 215–232. https://doi.org/10.2478/revecp-2021-0010

Hallerberg, M., Strauch, R., & Von Hagen, J. (2007). The design of fiscal rules and forms of governance in European Union countries. *European Journal of Political Economy*, *23*(2), 338-359.

MacIntyre, A. (2000). Funny money: fiscal policy, rent-seeking and economic performance in Indonesia. *Rents, rent-seeking and economic development: theory and evidence in Asia*, 248-73.

Maipita, I., Jantan, M. D., & Razak, N. A. A. (2010). The impact of fiscal policy toward economic performance and poverty rate in Indonesia. *Buletin Ekonomi Moneter dan Perbankan*, *12*(4), 391-424.

Nguyen, V. B. (2022). Counter-Cyclical Fiscal Policy in Developed Countri Es: Does Governance Hinder? *Prague Economic Papers*, *31*(6), 482–508. https://doi.org/10.18267/j.pep.814

Ilzetzki, E., & Végh, C. A. (2008). *Procyclical fiscal policy in developing countries: Truth or fiction?* (No. w14191). National Bureau of Economic Research.

International Monetary Fund (2023). Country level Data. https://www.imf.org/external/datamapper/CG_DEBT_GDP@GDD/SWE/IDN

Istan, M. (2022). The Role Of Fiscal Policy In Building Democracy And Overcoming Economic Recession In Indonesia. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*, *6*(3), 1699-1712.

Halkos, G. E., & Paizanos, E. A. (2016). The effects of fiscal policy on CO2 emissions: evidence from the USA. *Energy Policy*, *88*, 317-328.

Schaechter, M. A., Kinda, M. T., Budina, M. N., & Weber, A. (2012). *Fiscal Rules in Response to the Crisis: Toward the" Next-Generation" Rules: A New Dataset*. International Monetary Fund.

Schuknecht, L. (2000). Fiscal policy cycles and public expenditure in developing countries. *Public Choice*, *102*(1-2), 113-128.

Onofrei, M., Toader, T., Vatamanu, A. F., & Oprea, F. (2021). Impact of governments' fiscal behaviors on public finance sustainability: A comparative study. *Sustainability (Switzerland)*, *13*(7), 1–16. https://doi.org/10.3390/su13073739

ÖZTÜRK ÇETENAK, Ö. (2022). the Relationship Between Fiscal Performance, Governance Quality, and Economic Growth: Evidence From Sub-Saharan Countries. *Afro Eurasian Studies*, *4*, 1–16. https://doi.org/10.33722/afes.1139298

Samuelson, Paul A., 1915-; Nordhaus, William D.. (2014). *Economics / Paul A. Samuelson, William D. Nordhaus*. New York :: McGraw-Hill Kogakusha,.

Talvi, E., & Vegh, C. A. (2005). Tax base variability and procyclical fiscal policy in developing countries. *Journal of Development economics*, *78*(1), 156-190.

Tang, H. C., Liu, P., & Cheung, E. C. (2013). Changing impact of fiscal policy on selected ASEAN countries. *Journal of Asian Economics*, *24*, 103–116. https://doi.org/10.1016/j.asieco.2012.07.003

Weber, S., & Ivanova, A. (2011). Do Fiscal Spillovers Matter?. *IMF Working Papers*, *2011*(211).

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.

World Governance Index (2023). Indonesian Governance Indicators. https://databank.worldbank.org/source/world-development-indicators