



**IMPACT OF FOREIGN DIRECT INVESTMENT OF INDONESIA INVESTMENT
AUTHORITY ON ECONOMIC GROWTH: STRENGTHENING NATIONAL
ECONOMIC RECOVERY TO OVERCOME GLOBAL RECESSION IN 2023**

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ABSTRACT

This research aimed to examine the impact of Foreign Direct Investment (FDI) of the Indonesia Investment Authority (INA) on the economic growth of Indonesia to reinforce the national economic recovery to face the global recession in 2023. This paper is crucial since Indonesia needs to overcome the challenge of a huge recession in the distressed condition due to the Covid-19 impact. Meanwhile, the previous studies were not purposed to solve a global recession. We employ quantitative methodology with various econometric methods, such as Ordinary Least Squares (OLS) and robustness tests. The data that we use is secondary data from 1981 until 2020 on a yearly basis. The result of this paper is that the FDI of INA has a positive effect on Indonesia's economic growth and it is statistically significant. Furthermore, the model is robust, so it is consistently accurate from unforeseen causes and avoided potential bias in the results. It implies that Indonesia may employ FDI from INA to boost the economy and conquer the nearing massive recession.

ABSTRAK

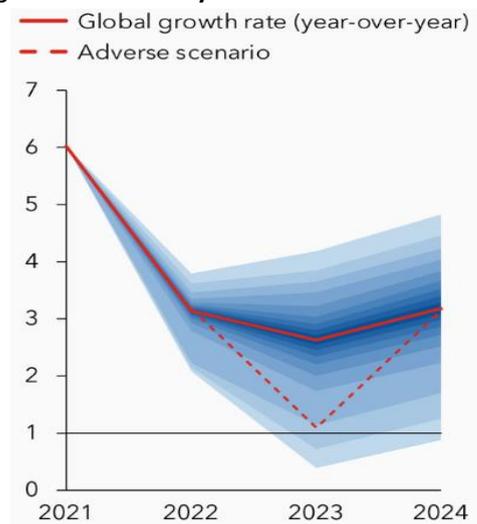
Penelitian ini bertujuan untuk mengetahui dampak investasi langsung luar negeri dari Indonesia Investment Authority (INA) terhadap pertumbuhan ekonomi Indonesia untuk memperkuat pemulihan ekonomi nasional dalam menghadapi resesi global 2023. Riset ini krusial karena Indonesia perlu menyelesaikan tantangan atas resesi besar dalam keadaan buruk sebagai dampak Covid-19. Penelitian sebelumnya tidak ditujukan untuk mengatasi resesi global. Studi ini menggunakan metode kuantitatif dengan berbagai pendekatan ekonometrik, seperti Ordinary Least Squares (OLS) dan uji ketahanan. Data yang digunakan adalah data sekunder 1981 sampai 2020 dalam periode tahunan. Hasil dari penelitian ini adalah investasi langsung luar negeri INA memiliki dampak positif terhadap pertumbuhan ekonomi Indonesia dan penemuan tersebut signifikan secara statistik. Model penelitian juga stabil sehingga akurat dan konsisten dari pengaruh yang tidak terlihat serta hasil studi yang ada tidak bias. Oleh karena itu, Indonesia dapat menggunakan investasi langsung luar negeri dari INA untuk meningkatkan perekonomian dan menanggulangi resesi besar dalam waktu dekat.

I. INTRODUCTION

As the global recession was estimated to suffer the Indonesian economy in 2023, we need to manage the prominent policy in the financial sector to mitigate this downturn and recover the national economy. This collapse is caused by the Russia invasion of Ukraine, a cost of living crisis, and a slowdown in China. Besides that, Covid-19 still put some impacts on the economy and other sectors. It will strongly affect domestic business in Indonesia, thus an investment as the main driver takes a significant role to boost the activities. The investment is more favorable since it will reduce the fiscal burden to generate the economy. Besides that, Indonesia does not need to be distressed by the interest from loan financing by using investment as an instrument. Furthermore, foreign direct investment (FDI) is preferable since the domestic financial sector will be empowered by the fresh inflow of investment from overseas investors. These crucial tasks were driven by Indonesia Investment Authority (INA) as the Sovereign Wealth Fund (SWF) which has the responsibility to encourage FDI to boost the economy, thus increasing the GDP.

IMF estimates the global economic growth for 2023 is lowered to 2,7 percent which was 0,2 percentage points lower than the July forecast, while this year's forecast remains the same at 3.2 percent.

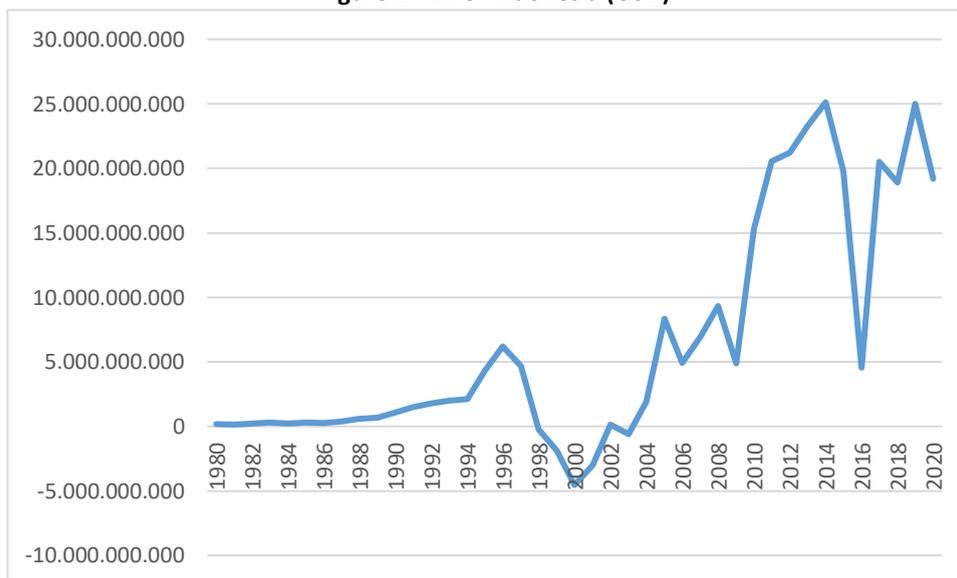
Figure 1. Uncertainty for Global Economic Growth



Source: IMF (2022)

The shocks in 2022 will re-open economic problems that were partially healed after Covid-19. Furthermore, the worst condition will come in 2023 as a recession. Therefore, Indonesia needs an instrument to strengthen its economy to face this condition. Since the burden of national economic recovery remains high, we need costless financial tools to enhance GDP growth. FDI as equity financing from the overseas country of origin is a prominent instrument to promote economic growth in a recession. FDI in Indonesia tends to increase since the business ecosystem of Indonesia is getting better.

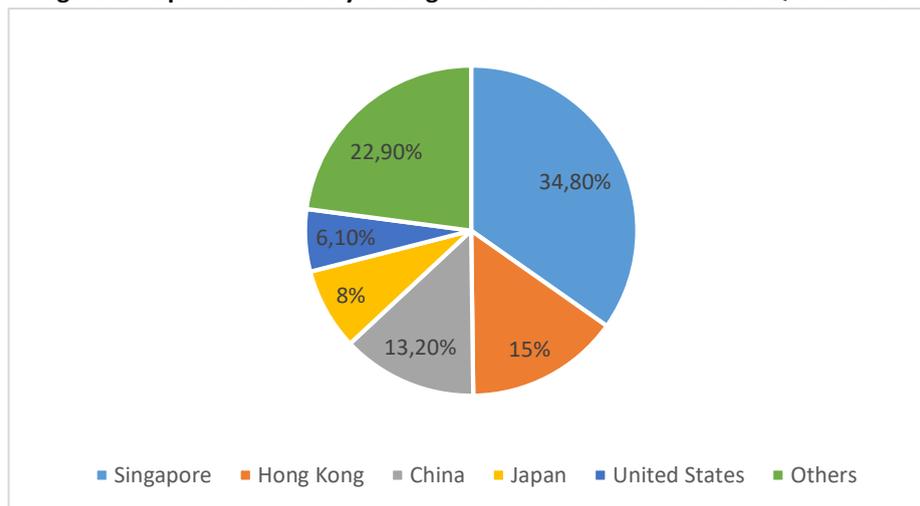
Figure 2. FDI of Indonesia (USD)



Source: World Bank (2020)

The trend has increased although there was some fluctuations in the movement. The investors has put more trust in investing their money in Indonesia. The top investors are big countries who will give more than funds, such as transfer knowledge.

Figure 3. Top Five of Country of Origin for Indonesia FDI in Fourth Quarter 2022



Source: Ministry of Investment of Indonesia (2022)

The biggest investor is Singapore followed by Hongkong, China, Japan, and United States. They are attracted by Indonesia economy which continues to give vast potential due to sustainable economic growth, stability of politics, large productive

population, growing middle class, and abundant natural resources. Investment is a crucial factor in promoting GDP growth, creating employment, and shifting to an economy based on production. There are the top five sectors where the fund has flowed.

Table 1. Top Five Leading Sectors of Indonesia FDI in Fourth Quarter 2022

Sector	Portion
Metal, Metal Goods, Except Machinery and Equipment Industry	25,47%
Mining	11,76%
Electricity, Gas, and Water Supply	9,80%
Transportation, Warehouse, and Telecommunication	8,82%
Chemical and Pharmaceutical Industry	7,84%

Source: Ministry of Investment of Indonesia (2022)

These sectors are very attractive for investors due to profitability and other valuable factors. Thus, the Indonesian government should keep improving the quality of the ecosystem and implement good factors from top leading sectors in the other sectors that they want to encourage.

The vehicle for FDI in promoting economic growth in Indonesia is Indonesia Investment Authority. This sui generis entity attracts FDI to generate the domestic project. INA put the long-term FDI in the unique

potential of Indonesia not only to make profits for INA and the investors but also to advance Indonesia's development. They build a better tomorrow by delivering investment in Indonesia's growth.

FDI is an important proxy to boost the economic growth of Indonesia since Indonesia has a big economy that is generated by FDI. Indonesia has the potential to be the fourth largest economy in 2030 based on the forecast from IMF.

Table 2. The Largest Economy Forecast in 2030

Rank	Country	GDP (trillion USD)
1	China	64,2
2	India	46,3
3	United States	31
4	Indonesia	10,1

Source: IMF (2021)

This forecast proves that the Indonesian economy has a high possibility to grow. As FDI is a key driver to generate this economy, INA plays a major role to enhance this investment to empower national economic recovery to solve the challenge of recession in 2023. The problem that arose in this research is that may the FDI of INA increase GDP growth to strengthen national economic recovery in facing the upcoming global recession? We would like to know whether the effect of FDI on economic growth is positive or not. We use Ordinary Least Square as a regression analysis to know the impact of the FDI of INA on Indonesia's economic growth. Moreover, we employ a robustness check afterward to ensure that the model is strongly settled. Furthermore, this research is aimed to know whether the FDI of INA may increase GDP growth to strengthen national economic recovery in overcoming global recession or not. We would like to know the effect of FDI of INA on economic growth.

The results of this research will benefit the government, the business sector, and academicians. This research will help the government to decide the policy regarding FDI to recover the economy in a global recession. Moreover, the business will be empowered since the increment of inflow of FDI will boost their performance. Besides that, the academicians may use these results to improve the research related to the impact of FDI on economic growth.

II. LITERATURE REVIEW

Many prior studies report the positive effect of FDI on economic growth. There is a pro impact of FDI on economic growth in an advanced economy (Tiwari & Mutascu, 2011). The positive effect of FDI on the growth of the economy is also found in growing countries (Choe, 2003). While the positive contribution of FDI to economic growth is investigated in huge economies (de Mello, 1999). Besides that, there is a strong positive influence of FDI on economic growth (Koojaroenprasit, 2012). Then, FDI increases the economic growth efficiency of some country (Yue et al., 2016). In addition, the positive FDI impact on economic growth is also stated by some studies (Asafu-Adjaye, 2000; Comes et al., 2018; Li & Liu, 2005).

Furthermore, the financial system becomes an important factor in the success of FDI in accelerating economic growth. Financial development become one of the main factors in boosting economic growth (Azman-Saini et al., 2010; Iamsiraroj & Ulubaşoğlu, 2015). Countries with a well-developed financial system gain the benefits of FDI to enlarge their economy (Azman-Saini et al., 2010; Chen & Quang, 2014; Yeboua, 2019). The financial systems take a crucial role in productivity and development that were driven by FDI to enhance economic growth (T. Beck, Demirgüç-Kunt, et al., 2000; King & Levine, 1993; Levine et al., 2000). Furthermore, the financial system affects the decision for savings and investment, thus it increases economic growth (Levine, 2005). In addition,

the advanced financial markets reduce the cost of transactions and allocate investment into the profitable project, thus it boosts economic growth (Cole & Shaw, 1974; Goldsmith, 1969; McKinnon, 1974). The developed financial market lower external funding costs for companies, thus promoting growth (Rajan & Zingales, 1998).

There are some factors that control the FDI's impact on economic growth. As the financial market plays a substantial role in how effectively FDI generates economic growth, credit from banking and other financial institutions is a significant determinant of the relationship (King & Levine, 1993). Then, government consumption affords FDI to perform in the economy (T. Beck, Demirgüç-Kunt, et al., 2000). When FDI enhances the growth of the economy, inflation as a macroeconomic factor act as an absorptive capacity (World Bank, 2001). Lastly, as the investment interacts with the rest of the world, international trade is captured for the effect of FDI on economic growth (Dunning, 2014).

Regarding the financial market, the impact of credits from nonbanking financial institutions on economic growth is positive (Azman-Saini et al., 2010; Iamsiraroj & Ulubaşoğlu, 2015). Furthermore, the effect of credit from the banking industry on economic growth is positive (Azman-Saini et al., 2010; Iamsiraroj & Ulubaşoğlu, 2015).

Moreover, the influence of government spending on economic growth (Alexiou, 2007; ASCHAUER, 1990; Barro, 1991; Birdsall et al., 1995; Roubini Xavier, 1991). This relationship is not statistically significant (Alimi, 2014; Al-Shatti, 2014; Ghosh Roy, 2012; Rauf et al., 2012). Trade openness' impact on economic growth is positive (Fukase, 2010; Khobai et al., 2017; Ram, 1985; Sakyi et al., 2015; Wacziarg, 2001). Furthermore, the inflation harms economic growth (Barro, 2013; de Gregorio, 1993; Gillman et al., 2004; Gylfason & Herbertsson, 2001; Niyimbanira, 2013).

In addition, one of the prominent benefits of FDI in generating the economy is technology transfer. FDI exposes the technology transfer that makes higher economic growth through productivity (Borensztein et al., 1998). FDI does not only develop the capital structure for the host country, but also produces technology and knowledge diffusion (Blomström, 2002; Blomström et al., 1994; Caves, 1974; Mansfield & Romeo, 1980; Markusen & Venables, 1999).

INA as SWF is aimed to enhance economic growth (Bahoo et al., 2020). SWF has the main purpose to enhance sustainable growth and preserve the welfare of future generations (Aizenman, 2007; R. Beck & Fidora, 2008; Urban, 2011). INA may benchmark the best practice from Russian National Wealth Fund which attracts FDI to finance the domestic project in order to boost economic growth.

III. METHODOLOGY

This research uses a quantitative methodology. Quantitative research methods as the explaining of a phenomenon by gathering data in numerical form and analyzing with the aid of mathematical methods (Goldman et al., 1998). We describe the data used in the empirical analysis, such as economic growth, FDI, financial market, government spending, trade openness, and inflation. We use yearly data for the period 1981 – 2020. The beginning date of the sample is 31 December 1981 and the ending date 31 December 2020.

The data that we use in this research is secondary data. Economic growth as the dependent variable is the different between GDP in current year and last year divided by last year GDP. The source of GDP is World Bank. Meanwhile, FDI as the independent variable is the foreign direct investment in Indonesia. We collect the FDI from World Bank data. The control

variables that we use are credit market, government spending, trade openness, and inflation. We use the financial market since FDI would affect economic growth through this market (King & Levine, 1993). The source of banking credit is World Bank data. The government spending also control the impact of FDI on economic growth (T. Beck, Demirgüç-Kunt, et al., 2000). We gather the data from World Bank report. In addition, trade openness also controls the FDI effect on economic growth (Dunning, 2014). The source of data is from the World Bank. Inflation as macroeconomic management becomes an absorptive capacity that supports the success of FDI in affecting the growth of the economy (World Bank, 2001). Data are collected from the World Bank report.

We use is Ordinary Least Squares (OLS) as regression analysis. Moreover, we use robustness test to make sure that the model is not bias. The proposed model is as follows:

$$GROWTH_t = \beta_0 + \beta_1 FDI_t + \beta_2 FINANCE_t + \beta_3 GOVSPEND_t + \beta_4 TRADE_t + \beta_5 INFLATION_t + \epsilon_t \quad (1)$$

where β_0 is the intercept, while $\beta_1, \beta_2, \beta_3, \beta_4,$ and β_5 are the coefficients of estimation, as well as ϵ_t is the error term. Then, subscript t denotes the period (yearly). $GROWTH_t$ is the GDP growth. Furthermore, FDI_t is the foreign direct investment. Regarding control variables, $FINANCE_t$ is the financial market, $GOVSPEND_t$ is the government spending, $TRADE_t$ is the trade openness, and $INFLATION_t$ is the rate of inflation.

IV. RESULTS AND DISCUSSION

This section presents the main results of the paper. We structure this section into two parts. The first part is a stationarity test to make sure that the property of the time series does not change with time. Then, we exercise the FDI impact on economic growth through Ordinary Least Squares (OLS).

The stationarity test is purposed to ensure whether statistical properties, such as mean, variance, and covariance, do not vary with time or not. A previous study on the stationarity test was conducted (Phillips & Xiao, 1998). We employ this test to avoid spurious regression that might make the model invalid. The result of this test is that the unit root problem does not occur. Moreover, since all variables are stationary, there is no long-run relationship between the variables.

To examine the impact of FDI on economic growth, we use Ordinary Least Squares (OLS) to conduct linear regression analysis. In the first place, we examine the effect of FDI as an independent variable on Indonesia's economic growth as a dependent variable without control variables. The model that we suggest is as follows:

$$GROWTH_t = \beta_0 + \beta_1 FDI_t + \epsilon_t \quad (2)$$

where $GROWTH_t$ is GDP growth of Indonesia and β_0 is the intercept, while β_1 is the coefficient of estimation and ϵ_t is the error term. Then, subscript t denotes the

period (yearly). FDI is Foreign Direct Investment. Below is the result:

Table 3. OLS Result without Control Variables

Variable	Coefficient	Standard Error
FDI	0.008722*	0.004158
R ²		10.38%
Adjusted R ²		8.02%
Observations		40
Period		1981-2020

Note: ***, **, and * denote 1%, 5%, and 10% significant levels respectively
Source: Researcher Calculations (2022)

As we can see, FDI positively affects Indonesia's economic growth by 0.008722 and it is statistically significant at 5% in 40 observations from 31 December 1981 until 31 December 2020 yearly. This standard error is also low which is 0.004158. Based on the adjusted R2 that we get, the independent variable may

interpret by 8.02% of the dependent variable. Furthermore, we add control variables in our regression. These variables empower model validity by limiting the influence of confounding and other extraneous variables

Table 4. OLS Result with Control Variables

Variable	Coefficient	Standard Error
FDI	0.006292**	0.002815
FINANCE	0.051644*	0.026208
GOVSPEND	0.025050	0.026586
TRADE	0.017140	0.022155
INFLATION	-0.14389***	0.003537
R ²		67.10%
Adjusted R ²		62.26%
Observations		40
Period		1981-2020

Note: ***, **, and * denote 1%, 5%, and 10% significant levels respectively
 Source: Researcher Calculations (2022)

Based on the table, there is positive impact of the FDI on the economic growth. This study has 40 observations from 31 December 1981 until 31 December 2020 yearly. Increase by 1 of FDI will surge the economic growth by 0.006292. This result is statistically significant at 1% confidence level since the p-value is 0.032072. It also has low standard error which is 0.002815. The result that adjusted R2 amounted by 62,26% that is higher than the result in the linear regression without control variables (8.02%) describes that the model with control variables may interpret the dependent variable better. It indicates that adding control variables make the model more favorable to explain the economic growth. Therefore, the model with control variables can interpret the effect of FDI on Indonesia economic growth more precisely than the previous model without controls. Hence, the control variables enhance the internal validity of the impact of FDI on economic growth by limiting restricting the influence of extraneous factors. Furthermore, the effect of the financial market on economic growth is also positive at the coefficient of 0.051644 and standard error of 0.026208 and it is statistically significant at 10% confidence level. Government spending enhances the economy to grow with a coefficient 0.025050 and a standard error 0.026586. However, this relationship is insignificant. Trade openness positively affects economic growth by 0.017140 with a low standard error 0.022155. This result is not statistically significant. The inflation rate has a negative effect on economic growth with a coefficient 0.014389 and it is significant at 1% confidence level. Besides that, the standard error is also low at 0.003537.

4.2. Discussion and Analysis

Foreign Direct Investment has a positive effect on Indonesia's economic growth. Increasing the FDI by 1 will increase the economic growth by 0.006292. This finding consistently summarizes the previous literature where the theories provide strong evidence for empirical results. As Indonesia owns a strong economy, the FDI increases Indonesia's economic growth as examined by the research (Tiwari & Mutascu, 2011). Besides that, FDI boosts economic growth since Indonesia acts as a growing economy country due to the prior study (Choe, 2003). Moreover, through the huge economies of Indonesia, the FDI promotes economic growth as stated by the research (de Mello, 1999). The influence of the FDI is significantly positive on Indonesia's economic growth based on the study (Koojaroenprasit, 2012). In addition, the positive impact of the FDI on Indonesia's economic growth efficiency accommodates the research (Yue et al., 2016). The positive contribution of FDI to economic growth was also suggested before by the research (Asafu-Adjaye, 2000; Comes et al., 2018; Li & Liu, 2005). The impact of the FDI on economic growth is controlled by the well-developed financial system, such as the credit market (Azman-Saini et al., 2010; Iamsiraroj & Ulubaşoğlu, 2015). FDI will gain benefits from the advanced financial market (Azman-Saini et al., 2010; Chen & Quang, 2014; Yeboua, 2019) and ease investment (Levine, 2005) in accelerating economic growth (T. Beck, Levine, et al., 2000; King & Levine, 1993; Levine et al., 2000). An advanced financial system lowers transaction costs (Cole & Shaw, 1974; Goldsmith, 1969; McKinnon, 1974) and funding costs (Rajan & Zingales, 1998) to promote GDP growth.

The result that the financial market enhances economic growth is in line with some studies (Azman-Saini et al., 2010; Iamsiraroj & Ulubaşoğlu, 2015). The financial system in Indonesia is the large interconnected and interdependent markets, participants, and institutions. The market benefits from prudence, efficiency, and regulation covering both banking and nonbanking entities. The Indonesian financial market is a crucial driver of economic growth. Basically, the function to reduce shocks is important for broader economic stability. The analysis of the credit life cycle from the origination of ownership to secondary market trading covers the identification of financial institutions that facilitate credit flows. This adequate financial market facilitates FDI to enhance economic growth. Besides the financial market, the effectiveness of FDI impact on economic growth depends on how it is controlled by government spending as the balance of the public and private sectors. The result that government spending has a positive impact on economic growth is consistent with theories (Alexiou, 2007; ASCHAUER, 1990; Barro, 1991; Birdsall et al., 1995; Roubini Xavier, 1991). This finding is not significant due to the statistical result found in the studies (Alimi, 2014; Al-Shatti, 2014; Ghosh Roy, 2012; Rauf et al., 2012). Government spending acts as complementary to running the business by FDI in generating economic growth in Indonesia. As the Indonesian government mostly spends the budget on healthcare and social security, it will enhance the industry run by the FDI to improve economic growth.

As the FDI business in Indonesia is exposed to international trade, the trade openness acted as a

control for FDI contribution to economic growth. FDI positively affects economic growth. This finding is consistent with the study (Ram, 1985). Market openness has a positive effect on growth (Fukase, 2010; Wacziarg, 2001). Export enhances economic growth through FDI (Khobai et al., 2017; Sakyi et al., 2015).

Based on the Global Index of Economic Openness, the trade openness of Indonesia is empowered by growing entities due to good market-based competition. This FDI encourages businesses continuously and grows them rapidly. Furthermore, the leading infrastructure facilitates these companies to enter the global market. Therefore, this emerging business enhances economic growth. In a macroeconomic view, inflation controls the impact of FDI on economic growth. The inflation impact on economic growth is negative. It is also found in previous studies (Barro, 2013; de Gregorio, 1993; Gillman et al., 2004; Gylfason & Herbertsson, 2001; Niyimbanira, 2013).

4.3. Robustness Checks

We also employ several robustness tests to examine whether the model is consistently accurate from unforeseen causes that make some variables or assumptions drastically change. This test is also aimed to avoid the potential bias of our results. First, we remove the control variables based on the method (Neumayer & Plümper, 2017) to investigate whether we still obtain a robust result or not.

Table 4. Robustness Check Result

Variable	Coefficient	Standard Error
FDI	0.006087**	0.002786
FINANCE	0.053172**	0.025983
GOVSPEND	0.029202	0.025889
INFLATION	-0.1422***	0.003510
R ²		66.52%
Adjusted R ²		62.70%
Observations		40
Period		1981-2020

Note: ***, **, and * denote 1%, 5%, and 10% significant levels respectively

Source: Researcher Calculations (2022)

Based on the table, the result remains the same. The impact of FDI on economic growth is still positive. Besides that, the result is still statistically significant. Therefore, the model of this research is robust.

V. CONCLUSIONS AND IMPLICATIONS

5.1. Conclusions

This paper suggests important findings for Indonesia to strengthen state finance in national economic recovery, especially to face the upcoming global recession. The war between Russia and Ukraine as well as COVID-19 caused the economy of Indonesia to collapse, thus sustainable and strong instrument is

critically needed. INA plays important role in enhancing FDI to boost the economy. Meanwhile, the prior studies always use the instrument with a high cost of funds. The empirical result shows that the FDI of INA has a positive impact on Indonesia's economic growth. Our findings of this study are robust. Besides that, the results are consistent with previous studies which suggested that FDI strongly affects economic growth. It is also in line with the theory that this positive effect is related to the financial market, government spending, trade openness, and inflation.

5.2. Implications

The findings suggest the Indonesian policymakers own prominent tools which are FDI from INA to enhance economic growth to face the global recession in 2023. In addition, this positive impact also implies that policymakers in other countries to invest in Indonesia since the project is profitable. It will be effective since countries with the advanced financial system will need the fund. Moreover, the investment return will be profitable to SWF itself. Moreover, this mutualism symbiosis will be advantageous for Indonesia's economy and investors. Since Indonesia needs this FDI to promote GDP growth, the investors acquired this captive demand, so this entity is able to design the long-term investment strategy in Indonesia to gain the yield and other benefits.

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