Overlapping Crises and Trajectory Economic Growth of Indonesia

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Abstract:- The impact of the global crisis which includes geopolitical, economic and existential (overlapping crises) has caused a scarring effect on economic performance. The post-recession economic growth trajectory is of urgency in calculating the impact of the shock caused by the prolonged crisis. This study aims to analyze the effect of overlapping crises represented by macroeconomic variables and shocks on the trajectory of economic growth in Indonesia at the short and long term. The type of data used in this study is time series with data sources are obtained from Bank Indonesia and the World Bank. The analytical method used the Vector Error Correction Model (VECM). The results of the study show that in the short term all variables do not significantly affect economic growth, while in the long term only inflation and non-energy commodity price crises have no effect on Indonesia's economic growth. The inflation variable is flexible, indicating the occurrence of a natural economic growth rate. Shock has implications for being aware of the potential risks of economic growth trajectories due to overlapping crises. A more active and effective mix of monetary and fiscal policies is needed to mitigate the scarring effect caused by the recession.

Keywords:- Overlapping Crises; Trajectory; Economic Growth

I. INTRODUCTION

The Covid-19 pandemic has occurred since the end of 2019 and has had a huge impact on the global and domestic economic conjuncture. The impact of the Covid-19 pandemic has put strong pressure on the Indonesian economy at the beginning of 2020 which has never happened in the previous period. The implications of the pandemic have prompted changes in the global and domestic economic constellations accompanied by changes in people's economic and social behavior, and heterogeneous policies between countries and regions. The government's response to reducing the spread of Covid-19 through Large-Scale Social Restrictions (PSBB) has reduced the performance of the domestic economy by restricting the mobility of goods and activities of goods and services. The sources of driving economic growth declined significantly in consumption, investment, exports, and production due to supply chain disruptions and other strategic economic sectors that impacted the contraction of Indonesia's economic growth. It was recorded that in the second quarter of 2020, Indonesia's economic growth was at the lowest level of -5.30% and continued at a negative level declining until the first quarter of 2021 with a position of -0.70%. This improvement is in line with the policy mix response from all authorities [1].

Efforts toward economic recovery will continue in 2021 as indicated by the economic growth rate that increased significantly in the second quarter of 2021 although the improvement has not been evenly distributed due to increasing global uncertainty. The increasing economic recovery in Advanced Economies (AEs) was driven by accelerated vaccinations and increasingly expansive fiscal and monetary policy stimulus. While economic growth in Emerging Market and Developing Economies (EMDEs), except for China, generally continue to improve, but not as fast as the recovery process in AEs. Global uncertainty continues with the shadow of the spread of the virus and the emergence of new virus variants Delta and Omicron, the Fed's tapering, inflationary pressures due to supply chain disruptions, and the energy crisis that occurred in Europe and China.

Meanwhile, at the beginning of 2022, the geopolitical challenges of the invasion of Ukraine and Russia added a heavy burden to the performance of the global and domestic economy. The Covid-19 pandemic, the war in Ukraine, the threat to food security, the emergence of a global wave of poverty, and the threat of climate change are becoming overlapping crises that include geopolitical, economic, and existential structural insecurity. Widespread inward-looking, especially for food commodities in a number of countries, has pushed up international commodity prices significantly, thereby increasing global inflationary pressures. Several countries have started tightening monetary policy which has the potential to hamper global economic recovery and increase the risk of stagflation. The threat of stagflation with higher inflation when economic growth declines is considered a tail risk as a challenge for the central bank in reducing inflation to achieve a soft landing in economic growth achievements [13]. Several major economies are projected to experience a decline in economic growth. The United States experienced a growth contraction from 5.7% to 3.5% in the first quarter of 2022, Japan 0.40%, Hong Kong corrected -3.6%, while ASEAN-5 countries experienced fairly stable and increasing economic growth except for Singapore [2]. The permanent impact in the

long term has the potential to increase uncertainty in global financial markets and foreign capital flows and exacerbate currency pressures in developing countries.

Other challenges that are still being faced are the unequal distribution of vaccinations to achieve herd immunity, exit policy on monetary and fiscal policies, the impact of the scarring effect of the pandemic on business conditions and the risks that can occur to the sustainability of the economic recovery and financial system stability, acceleration of digitalization. financial economy through the world's big technology (BigTech), the demands of a green economy (green economy) and sustainable finance (sustainable finance) in the energy transition.

The phenomenon of the impact of overlapping crises on the potential for an economic recession is described as a short-term period of negative economic growth. According to the traditional business cycle view, output moves up and down around its long-term upward trend and after a recession will recover to its pre-recession trend. The study of [4] casts doubt on the traditional view that recovery is merely a condition of a return of growth to its long-term expansionary level without a rebound to high growth as in the initial trend. Furthermore, the results of his study confirm that all types of recession including those arising from external shocks and failure of domestic macroeconomic policies cause permanent economic scarring. His findings also show that the financial and political crisis has a permanent long-term economic cost in lost output. On average, the magnitude of persistent losses in output is about 5 percent for the balance of payments crises, 10 percent for banking crises, and 15 percent for twin crises.

Responding to the phenomenon of overlapping crises and their impact on the trajectory of economic growth, this study aims to (1) analyze the impact of external shocks, namely the energy price crisis and non-energy prices and the effect of macroeconomic variables, namely differences in domestic and foreign interest rates, domestic inflation, foreign debt, exchange rates, and current transactions in Indonesia; (2) projecting the trajectory of economic growth in Indonesia.

II. REVIEW OF LITERATURE

A. New Paradigm of Real Business Cycle

A business cycle is a fluctuation found in the aggregate economic activity of a country consisting of an expansion that occurs at almost the same time in many economic activities, followed by a contraction (recession). This pattern of change occurs repeatedly but does not occur periodically. Real business cycle theory (RBC) assumes that economic fluctuations arise from productivity shocks that produce persistent changes in output that are consistent with output evolution. However, the supply-side explanation has been criticized for the impossibility that a country suddenly loses productivity on a large scale due to technology and then remains at a lower level to rationalize permanently lower output. Technology-driven fluctuations require assumptions in other economic behaviors, such as the high intertemporal labor substitution level during the business cycle required to generate realistic employment [24]. Supply shocks can include

a variety of distortions that reduce productive efficiency, including misallocation of factors of production at the firm level [12]. Some argue that productivity was slowing down in the United States before the crisis [14]. But it is not realistic if the recession in 2008-2009 was caused by the sudden disappearance of technological progress. On the other hand, there is a broader consensus that the global financial crisis in the United States caused uncertainty and various types of financial frictions [15], [18], [25]. In study [4] mention that macroeconomic policies can affect the speed of economic recovery, helping to recover lost output from the recession and financial crisis. Monetary and fiscal stimulus, real depreciation, foreign aid and a flexible exchange rate regime could spur the rebound. In developed countries fiscal policy has been very effective in boosting growth during the recovery. The welfare gains from macroeconomic stabilization policies are potentially very large in contrast to conventional theory. In study of [20] argues that the benefits of using macroeconomic stabilization policies to eliminate business cycle fluctuations are minimal. However, the calculations assume that output fluctuates around the trend and macroeconomic stabilization policies do not affect the trend. Crises and other negative shocks result in permanent declines in output and consumption, resulting in much higher welfare costs. Stabilization policies could limit these welfare losses and support a rebound. Financial and economic imbalances are likely to occur before the financial crisis even at a time when GDP is growing at a normal rate. Several financial variables, including credit growth and housing prices, tended to rise strongly before the financial crisis [16] [27]. In study of [26] found that the boom created a misallocation of resources, which left a scarring effect on the economy after the failure. Traditionally, economic growth and business cycles have been treated independently. However, the sensitivity of GDP level to shock trends or hysteresis is referred to as growth and cyclical analysis. However, the hysteresis could be caused by the continuing global financial crisis, as GDP in developed countries is still far below the pre-crisis trend.

B. Empirical Studies

In America, as a country with better economic resilience, it experienced a big shock that triggered a global crisis. The Covid-19 pandemic has created financial difficulties in the American economy [3]. In addition, the real sector also experienced shocks as indicated by the liquidity imbalance in the American securities market. This disruption in financial markets triggers declining bond market liquidity and creates a large wedge between bond prices and defaulting loans [9] and also has an impact on trading halts [23]. The empirical study of [7] shows an abundance of static and dynamic liquidity in European zone countries due to the Covid-19 Pandemic that the transmission of shocks through liquidity channels is caused by financial uncertainty arising from the European economic area due to the crisis triggered by the Covid-19 Pandemic. In addition, the empirical study of [21] with observations in the United States shows that there is a liquidity relationship in the financial market. It is stated that stock market liquidity varies in various sub-periods of monetary policy where the effectiveness of the policy depends on the intended transmission and is influenced by changes in lending and the cycle of the money supply. The study of [5] also examines the

effect of the Covid-19 pandemic on the stock liquidity of S&P500 companies. There is a significant negative relationship between Covid-19 (as measured by daily growth in the number of cases and deaths) and stock liquidity. This confirms that the Covid-19 pandemic has reduced stock liquidity on financial markets. During times of crisis, asset and equity volatility also triggers forex market instability due to the contagion effect caused by irrational investor behavior and macroeconomic fundamental conditions [19].

The crisis also resulted in a decline in the performance of investment flows in the real sector, which could destabilize current assets in the real sector. The results of the research by [17] investigated the impact of the 2008 global crisis on the performance of the real sector in Turkey. The results found that the performance of real sector companies experienced a decrease in the current asset ratio due to the crisis. This condition could trigger a slowdown in the supply of production output which could result in an imbalance in the goods market on the Aggregate Demand (AD) and Aggregate Supply (US) curves, resulting in inflation in the real sector. In addition, increasing global uncertainty also results in vulnerability to highly volatile exchange rate movements which can trigger an increase in output volatility and become a source of economic vulnerability [22].

III. RESEARCH METHOD

The type of data used in this study is secondary data for monthly time series with an observation range of 2016.3 – 2022.3 in Indonesia. The variables used in this study include (1) Indonesia's economic growth (%); (2) the difference between the BI 7 days Reverse Repo Rate policy rate and the US policy rate (%); (3) Indonesia's inflation (%); (4) Indonesia's current account (Billion USD); (5) the exchange rate of Rupiah against USD; (6) Indonesia's foreign debt (Million USD); (7) dummy interaction of the global crisis with the global energy price index; (8) dummy interaction of the global crisis with the global non-energy price index. The data sources are obtained from the Indonesian Economic and Financial Statistics (SEKI) Bank Indonesia and the World Bank Commodity Price Data.

The analysis method using the Vector Error Correction Model (VECM) is used with the aim of explaining short-term interactions between individuals or cross-sections and the effect of temporary errors from long-term equilibrium individuals on other individuals, changes in cointegration rank between individuals. The following is the basic model of VECM [10].

$$\Delta z_t = \Gamma_i \Delta z_{t-1} + ... + \Gamma_{k-1} \Delta z_{t-k+1} + \Pi z_{t-k} + u_t$$

where, $\Gamma_i = -(I - A_1 - ... - A_i)$ $(i = 1,..., k-1)$ and $\Pi = -(I - A_1 - ... - A_k)$ is a system specification that contains information on short-term and long-term adjustments to z. Z is a set number of endogenous variables (z_t) used in the model. While $\Pi = \alpha\beta'$, α is speed adjustment to imbalance and β is a long term coefficient. Some of the tests in the VECM model include the Dickey Fuller and Augmented

Dickey Fuller data stationarity tests, determination of optimal lag, and Johansen Cointegration Test cointegration, VECM model estimation tests and Impulse Response Function (IRF) tests.

IV. RESULT AND DISCUSSION

A. Stationarity and Cointegration Test

The unit root or data stationarity test is intended to observe whether certain coefficients of the estimated autoregressive model have a value of one or not. The use of the Dickey Fuller test unit root test has a weakness, especially in the alternative hypothesis with a unit root that is close to one.

Variable	I(0)	I(1)	I(2)
Economic Growth (GDP)	-2.488944	-2.844355*	-4.704701*
Current Account (CA)	-1.580437	-1.537695	-6.659516*
External Debt (DEBT)	-1.281671	-8.757806*	-7.467213*
Different of Domestic and External Interest Rate (DINTEREST)	-4.950529*	-10.39388*	-10.35503*
Dummy of crises with energy price (DUMPENERGY)	1.151079	-7.090588*	-7.138122*
Dummy of crises with non-energy price (DUMPENERGY)	0.209822	-8.636606*	-8.167480*
Exchange Rate (ER)	-2.996598	-10.01202*	-7.390709*
Domestic Inflation (INF)	-2.053653	-8.076089*	-8.433621*

Table 1:- Result of Stationary Test

Noted : * each of them showed significance in α =1%, 5% and 10%

Lag	AIC	SC	HQ
0	65.41776	65.68101	65.52193
1	50.35242	52.72164*	51.28992
2	49.37002	53.84522	51.14087
3	48.82397	55.40514	51.42816
4	47.98249	56.66964	51.42002
5	45.52370	56.31682	49.79457
6	41.70112*	54.60022	46.80533*

Table 2:- Lag Optimum Determination

Based on the results of the stationarity test, all variables have been integrated at the same degree of integration in I(2). Optimum lag testing through the Schwarz Information Criterion (SC) test shows that the optimum lag is 1. Determining the length of the lag is important because a too long lag reduces the degree of freedom, which has implications for the loss of required information and a too short lag results in the wrong model [8] [6] [11]. The next step is to identify long-term relationships or cointegration using the Johansen Cointegration Test. The test results show that

there are a number of long-term relationships between variables where the model is linear and has a deterministic trend in the data, there is an intercept without a trend.

B. Result of VECM Estimation

VECM estimation to see the relationship between endogenous variables in the long term and short term. Based on the results of long-term and short-term estimates, all variables significantly affect economic growth except for the dummy variables of the non-energy commodity price crisis and domestic inflation. The current account variable significantly affects =5% where the current account surplus has an impact on increasing economic growth, as well as foreign debt, differences in domestic interest rates and foreign interest rates which have an impact on increasing capital inflows into Indonesia and accompanied by strengthening exchange rate that provides momentum for Indonesia's economic growth in the long term. Meanwhile, the dummy crisis interaction with energy prices reduces economic growth during the crisis. This condition is in line with the increasing global uncertainty as a result of the Russian-Ukrainian invasion which has led to an increase in energy prices and the energy crisis that has occurred in several major economic countries such as Europe, China, and the United States. The response of significant economic actors is indicated by the value of the Error Correction Term. While the short-term estimation results show that there are no variables that affect economic growth at =5%. This shows that economic growth has reached a steady state or long-term natural rate. Domestic prices are flexible to economic growth in both the short and long term. The natural rate of growth can be interpreted as the rate of economic growth required by the labor market so that there are no unemployed workers (full employment). In other words, it can be interpreted that at the position of the natural rate of growth, the labor market is in a state of equilibrium. Likewise, the dummy of the non-energy price crisis has no effect on Indonesia's economic growth trajectory due to domestic conditions that are still able to meet domestic commodity needs and even experience an increasing commodity export surplus. So that the uncertainty of global commodity prices does not affect the stability of Indonesia's economic growth.

Cointegrating Eq:	CointEq1
GDP(-1)	1.000000
CA(-1)	1.700054
	(0.16659)
	[10.2053]
DEBT(-1)	5.50E-05
	(1.8E-05)
	[2.98690]
DINTEREST(-1)	2.036845
	(0.54687)
	[3.72453]
DUMPENERGY(-1)	-0.184450
	(0.02669)
	[-6.90986]
DUMPNONENERGY(-1)	0.024727
	(0.03009)
	[0.82180]
ER(-1)	0.005139

	(0.00083)
	[6.22757]
INF(-1)	0.388749
	(0.79474)
	[0.48915]
Error Correction:	**D(GDP)**
D(GDP(-1))	0.580576
	(0.09432)
	[6.15542]
D(CA(-1))	0.034121
	(0.10424)
	[0.32734]
D(DEBT(-1))	-4.54E-05
	(2.9E-05)
	[-1.56640]
D(DINTEREST(-1))	-0.433216
	(0.34446)
	[-1.25767]
D(DUMPENERGY(-1))	0.016434
	(0.01932)
	[0.85076]
D(DUMPNONENERGY(-1))	-0.027023
	(0.01891)
	[-1.42886]
D(ER(-1))	-0.000497
	(0.00035)
	[-1.41182]
D(INF(-1))	0.463425
	(0.28776)
	[1.61048]
	(0.08826)
	[0.95422]

Table 3:- Result of VECM Estimation in the Short and Long Term
Source: Appendix, processed 2022

Impulse response serves to analyze the response of endogenous variables due to innovation (surprise) from other endogenous variables. By using impulse response analysis, you can track the current and future responses of each variable due to changes or shocks to a particular variable. Based on the results of the impulse response, all variable shocks to Indonesia's economic growth are permanent except for the shock of the foreign debt variable. External debt shock towards long-term equilibrium before the tenth horizon. This shows that foreign debt is quite effective in providing momentum for economic recovery in both the short and long term. External debt in helping fiscal stimulus during the crisis was quite effective in economic recovery. The State Budget managed to withstand the impact of the COVID-19 pandemic through the National Economic Recovery Program (PEN) which was realized in the amount of IDR 2,589.9 trillion which was used to maintain the quality of life of the poor and vulnerable, support MSMEs, and provide incentives for the business world. This condition provides projections for the economy to grow, better terms of trade, and pent-up demand. Meanwhile, other variable shocks are permanent, which means that the existence of shocks cannot be responded to quickly in economic recovery.
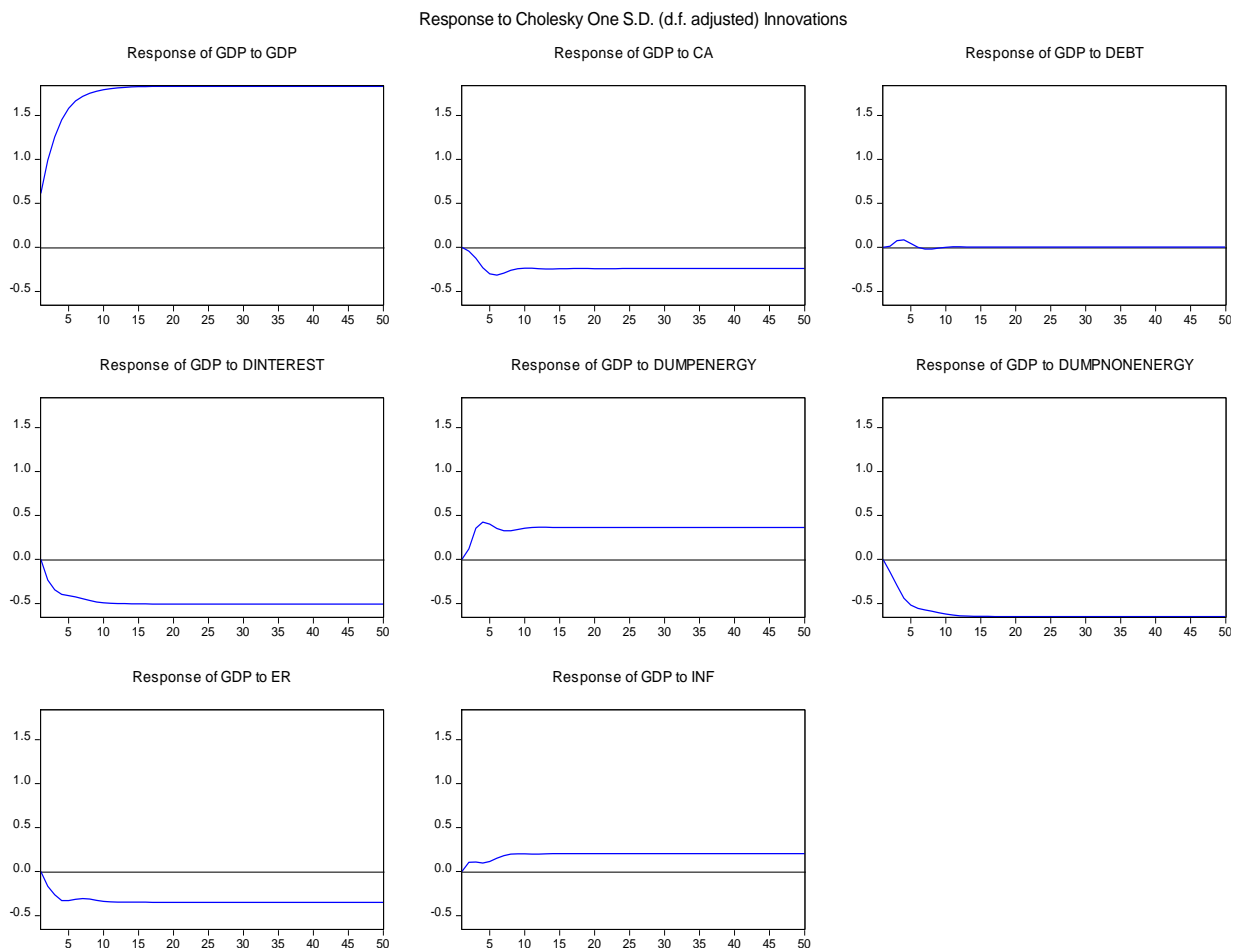
Fig 1:- Impulse Response Shock of External Variable and Macroeconomics on Economic Growth
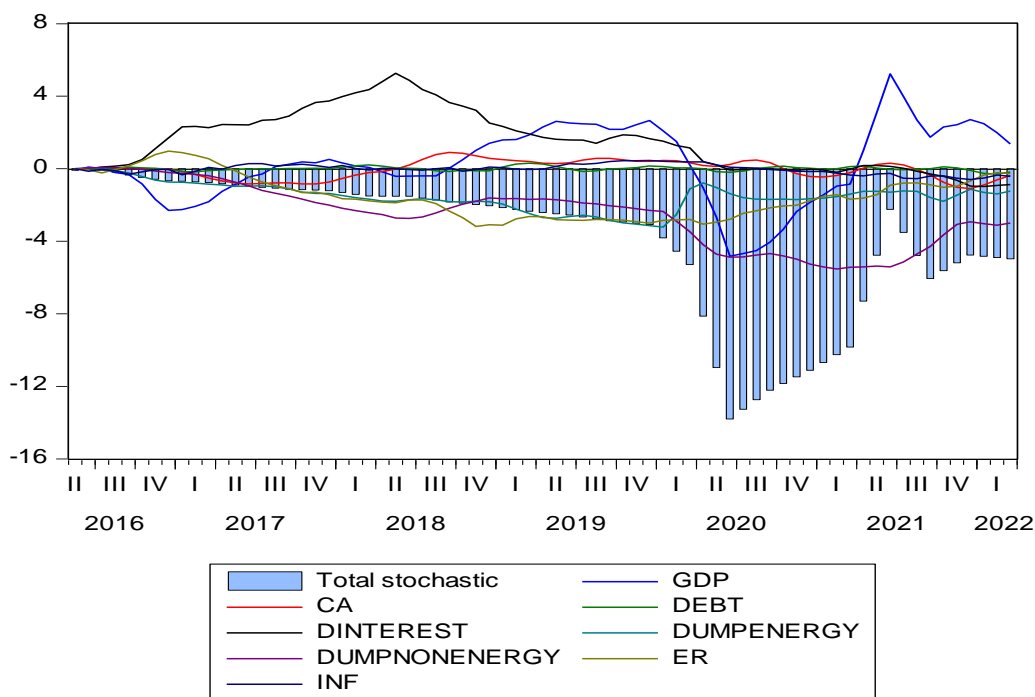

Fig 2:- Result of Historical Decomposition Indonesia's Economic Growth.

The projection of Indonesia's economic recovery is also shown in the following figure which shows a positive trend although on the other hand the challenges of a prolonged crisis need attention in managing both fiscal and monetary policies.
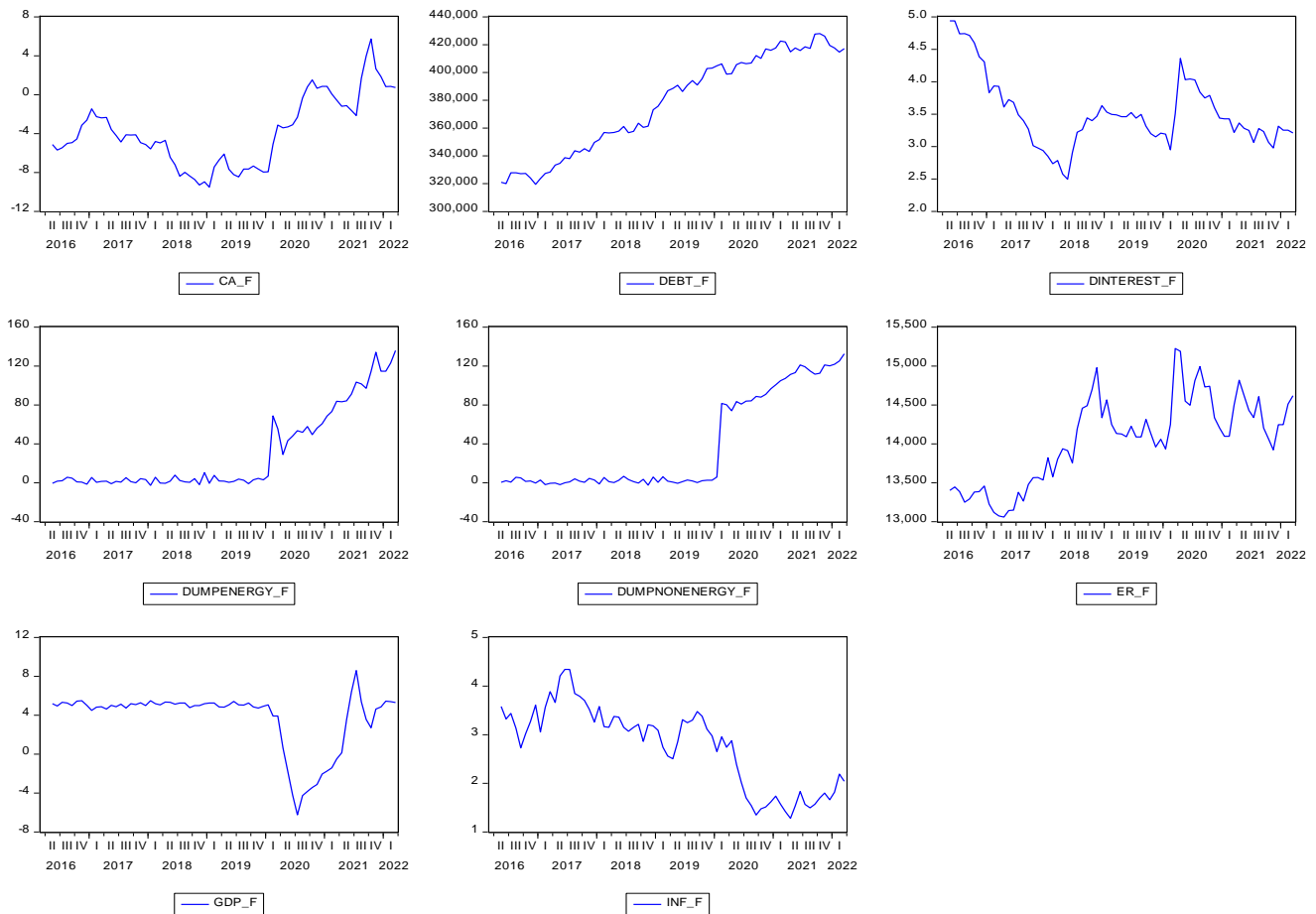
Fig 3:- Projection of Indonesia's Economic.

The policy implications and strategic issues faced by policy-making authorities in facing global uncertainty and achieving a conducive economic growth trajectory are as follows:

➢ Overcoming health issues due to the COVID-19 pandemic and food security caused by supply disruptions by strengthening the supply side through real sector policies and structural reforms. Regarding food security and health, it was discussed the establishment of a global collaboration and cooperation system to overcome the increasing challenges of food insecurity. The global collaboration and cooperation will focus on efforts to support food security by ensuring the affordability and accessibility of food, as well as increasing the availability of data for fertilizers.

➢ Integration of a mix of various macroeconomic policies that are effective in maintaining macroeconomic and financial system stability and strengthening economic recovery. Fiscal, monetary, and financial stability policies that are planned, measured, and communicated. This is achieved not only through interest rates, but also through other instruments, including exchange rate stabilization, capital flow management, and coordination with the Government. Monetary policy that focuses on price stability is forward-looking to control inflation expectations. Implementation of macroprudential policies in mitigating risks to financial stability. Strengthening coordination between the central bank and the government in addressing supply-side problems.

➢ Digital financial inclusion, including the development of Central Bank Digital Currency (CBDC) in facilitating cross-border payment connectivity while maintaining monetary and financial system stability

➢ Support a sustainable energy transition to net zero carbon emissions. The Government of Indonesia has launched the Country Platform for the Energy Transition Mechanism (ETM) at the Conference of Party (COP) 26 in Glasgow. The platform is a framework for providing the necessary financing to accelerate the national energy transition by mobilizing both commercial and non-commercial funding sources in a sustainable manner. ETM consists of two schemes. First, the Carbon Reduction Facility (CRF) scheme is used to prematurely retire coal-fired power plants (PLTU) in Indonesia. Meanwhile, the Clean Energy Facility (CEF) scheme is aimed at developing or reinvesting green energy facilities.

➢ Strengthening cooperation in international policies to strengthen global economic recovery and overcome various global problems, namely the G20 forum, IMF, FSB, BIS which discussed expanding supply and distribution of vaccines from AEs to EMDEs, exit policies, overcoming disruptions in global supply chains, energy scarcity, and scarring effect, as well as international cooperation in accelerating digitalization and a green economy.

Indonesia's resilience is still quite well maintained with the momentum of Indonesia's economic recovery continuing in 2022. The ratio of the APBN deficit to Indonesia's GDP is

also projected more optimistically by the World Bank at the level of 3.7% (new 2022 APBN posture: 4.5%) reflecting optimism for consolidation better fiscal. The fiscal consolidation step is considered appropriate by considering the stronger recovery, as well as in order to fulfill the mandate of Law no. 2 of 2020. The APBN deficit has been gradually reduced and is projected to return to the level of 3% of GDP in 2023. An agreement to establish a Financial Intermediary Fund to help ensure adequate, sustainable, and coordinated financing for prevention, preparedness, and response to future pandemics.

V. CONCLUSION

Based on the results of the analysis above, it is concluded that, firstly in a recession, monetary and fiscal policies need to be more active to avoid the permanent scarring effect of declining output and welfare. And in good shape, running an expansionary economy with a permanent positive impact. Implement a new business cycle model with a more conservative growth projection after the recession. Second, economic policy must be directed at avoiding severe crises and recessions and responding with appropriate stimulus and safety nets. Economic policies lead to sustainability and financial regulation that involves risk-taking.

REFERENCES

[1]. Bank Indonesia, "Statistik Ekonomi dan Keuangan Indonesia", 2020

[2]. Bank Indonesia, : Laporan Perekonomian Indonesia", 2022.

[3]. Caballero. R.J, and Simsek. A, "A model of endogenous risk intolerance and LSAPs: asset prices and aggregate demand in a "Covid-19" shock", Forthcoming. Rev. Financ. Stud, 2021.

[4]. Cerra. V, Panizza. U, and Saxena. S.C, "International Evidence on Recovery from Recessions," Contemporary Economic Policy, 31(2): 424-439, 2013

[5]. Chebbi. K., Ammer. M, A, and Hameed. A, "The COVID-19 pandemic and stock liquidity: Evidence from S&P 500", Quarterly Review of Economics and Finance, 81(August 2020), 134–142. https://doi.org/10.1016/j.qref.2021.05.008

[6]. Enders. W, "Applied Econometric Time Series", New York: John Wiley & Sons, 1995.

[7]. Grillini. S, Ozkan. A., and Sharma. A, "Static and dynamic liquidity spillovers in the Eurozone : The role of financial contagion and the Covid-19 pandemic", International Review of Financial Analysis, 83(June), 102273. https://doi.org/10.1016/j.irfa.2022.102273

[8]. Gujarati. D.N, "Basic Econometrics", the 4th eds., McGraw Hill, pp.275-276, 2003.

[9]. Haddad. V, Moreira. A, and Muir. T, "When selling becomes viral: disruptions in debt markets in the COVID-19 crisis and the Fed's response", No. w27168. National Bureau of Economic Research, 2020.

[10]. Harris. R and Sollis. R, "Applied Time Series Modelling and Forecasting", John Wiley&Sons Ltd., England, 2003.

[11]. Harris. R, "Cointegration Analysis in Econometric Modelling", Prentice Hall, 1995, https://doi.org/10.1057/9780230117303

[12]. Hsieh. C and Klenow. P. J, "Misallocation and Manufacturing TFP in China and India", The Quarterly Journal of Economics. Vol. 124, No. 4 (Nov., 2009), pp. 1403-1448 (46 pages)

[13]. International Monetary Fund (IMF). 2022.

[14]. Fernald. J. G, "Productivity and Potential Output Before, During, and After the Great Recession", Federal Reserve Bank Of San Francisco Working Paper Series Federal Reserve Bank of San Francisco June, 2014.

[15]. Woodford. M, "Financial Intermediation and Macroeconomic Analysis", Journal Of Economic Perspectives. Vol. 24, No. 4, Fall, 2010.

[16]. Kaminsky. G and Reinhart. C, "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems," American Economic Review 89(3): 473-500. 1999.

[17]. Kesimpli. I,G, and Gunay. G, "The impact of the global economic crisis on Africa," Africa and the New World Era: From Humanitarianism to a Strategic View, January, 247–261. https://doi.org/10.1057/9780230117303, 2011.

[18]. Krishnamurthy. A, "How Debt Markets Have Malfunctioned in the Crisis," Journal of Economic Perspectives, 24(1): 3-28. 2010.

[19]. Leung. H, Schiereck. D, and Schroeder. F, "Volatility spillovers and determinants of contagion: Exchange rate and equity markets during crises", Economic Modelling, 61(September 2016), 169–180. https://doi.org/10.1016/j.econmod.2016.12.011

[20]. Lucas. R, "Macroeconomic Priorities," American Economic Review, 93 (1): 1–14, 2003.

[21]. Mishra. A. K, Parikh. B, snd Spahr. R, W, "Stock market liquidity, funding liquidity, financial crises and quantitative easing", . International Review of Economics and Finance, 70(August 2016), 456–478. https://doi.org/10.1016/j.iref.2020.08.013

[22]. Mohanty. M, "Market Volatility and Foreign Exchange Intervention in EMEs: What Has Changed?" BIS Working Papers, 73, 1–10. http://papers.ssrn.com/abstract=2420030, 2014.

[23]. Moise.CE, " Circuit Breakers and the COVID-19 Crisis", Available at SSRN 3768937, 2021.

[24]. Stadler, George W, "Real Business Cycles", Journal of Economic Literature. Vol. 32, No. 4 (Dec., 1994), pp. 1750-1783 (34 pages)

[25]. Rogoff. K, "Secular stagnation, debt overhang and other rationales for sluggish growth, six years", BIS Working Papers No 482, Monetary and Economic Department January 2015.

[26]. Borio. C, Gambacorta, L. and Hofmann. B, "The influence of monetary policy on bank profitability", BIS Working Papers No 514, 2015.

[27]. Cerutti. E, Dagher. J, Dell'Ariccia. G, "Housing Finance and Real-Estate Booms: A Cross-Country Perspective, 2015.