

**The Effect of Monetary Stability on the National Economy
(Indonesia Case Study 1990-2026)**

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ABSTRACT

The objectives of this research are to analyze: Does monetary stability affect Indonesia's GDP?; Does the difference in governance regimes affect the governance of monetary stability in supporting the achievement of Indonesia's GDP?; Does monetary stability affect Indonesia's per capita income (PCI)?; Does the difference in government regimes affect the management of monetary stability in supporting the achievement of Indonesia's per capita income (PCI)?.

The research method uses descriptive-quantitative analysis with saturated sampling techniques and secondary data from Bank Indonesia, the National Development Planning Agency (Bappenas), the Central Statistics Agency (BPS), the World Bank, and other reference sources. The data is in the form of time series data from the period 1990-2019. The dependent variable is the value of GDP and GDP per capita (ICP). While the independent variables: the exchange rate, the money supply, the inflation rate, direct investment, financing, the state budget, the amount of debt (US \$), the number of exports, the number of imports, and the dummy variable period of the reform era government with the era of the New Order Government (Soeharto) as comparison or reference. The processed data were analyzed in quantitative descriptive with multiple regression models with dummy variables.

*The result is that several indicators of monetary stability (money supply, exchange rate, BI rate, investment, imports, and the state budget) have a significant effect on the economy (GDP). While inflation, financing and foreign debt did not significantly affect GDP achievement. The Reformation government regimes (BJ Habibie, Abdurrahman Wahid, Megawati Sukarnoputeri, Soesilo Bambang Yudhoyono, and Joko Widodo) are different and better than the New Order (Soeharto) government in managing stability towards achieving GDP. The econometrics model is $GDP\$ = 178.542 + 0.0999 * MIM2 - 0.0186 * EXCHANGE \$ + 9.5872 * BI_RATE + 1.1935 * INVEST \$ - 0.000225 * IMPORT + 0.181 * APBN + 182,488 * REZIM1 + 171,038 * REZIM2 + 199.86 * REZIM3 + REVIMIM3 + 214.599 * REZIM5$. Some indicators of monetary stability (money supply, exchange rate, BI rate, investment, import and APBN) also have a significant effect on GDP per capita. While inflation, financing and foreign debt did not significantly affect the achievement of GDP per capita. The Reform era government regime (BJ Habibie, Abdurrahman Wahid, Megawati Sukarnoputeri, Soesilo Bambang Yudhoyono, and Joko Widodo) differed and was better than the New Order era administration (Soeharto) in governance stability. to the achievement of GDP per capita. The econometric model: $PCIUS\$ = 5.7594 + 0.0032 * MIM2 - 0.0006 * EXCHANGES\$ + 0.3092 * BI_RATE + 0.0385 * INVEST\$ - 0.0000072 * IMPORT + 0.0058 * APBN + 5.8867 * REZIM1 + 5.5173 * REZIM2 + 6.4471 * REZIM3 + 6.ZZ * REZIM5$.*

JEL Classification: E52, E58, E63

Keywords: economy, financial, GDP, monetary, PCI, stability

I. BACKGROUND

Stability and growth are two key words in national economic development. This applies to almost all countries and nations around the world, including Indonesia. In fact, both—stability and growth—were crucial to the history of the formation of the European Economic Community (EEC).

At least 28 European countries have agreed to *the Stability and Growth Pact (SGP)* as the basic policy platform for the formation of the European Union (Eur-Lex.europa, 1997). This pact is stated in Articles 121 and 126 of the Treaties of the European Union. This pact regulates the monitoring of the fiscal conditions of EEC member states by the European Commission and the Council of Ministers ; issuing annual policy recommendations to ensure that EEC member states continue to meet the SGP criteria. If a member state violates the maximum deficit and debt limits set, monitoring and requests for corrective action will be tightened through the declaration of an Excessive Deficit Procedure (EDP); and if corrective action is not taken after receiving repeated warnings, member states can issue economic sanctions (Eur-Lex.europa, 2012).

First proposed by German Finance Minister Theo Waigel in the mid-1990s, the SGP was established by a resolution and two European Council regulations in July 1997. The first regulation "on strengthening the supervision of the financial position and the supervision and coordination of economic policy" (also called the "preventive" regulation) entered into force on 1 July 1998. The second regulation "on accelerating and clarifying the application of the excessive deficit procedure" (also called the "dissuasive" regulation) entered into force on 1 January 1999 (*The Guardian* , 2003)

The purpose of the SGP pact, according to Paul de Grauwe (2005), was to maintain financial discipline in the EEC. All EU member states automatically became members of the EEC and the Stability and Growth Pact, as stipulated by the Treaty on European Union .

The themes of stability and growth have also been important parts of Indonesia's national development history. National stability, economic growth, and equitable distribution of development outcomes were the basic development concepts implemented in Indonesia during the New Order era. President Suharto, according to Emil Salim (2010), is known as the originator of the Development Trilogy concept. Later, this New Order-inspired concept and jargon sparked controversy. Some feared the revival of the New Order. At the same time, others longed for the "stability" and "firmness" of the New Order regime.

Despite the pros and cons, the fact is that stability and growth have been a key focus of attention for all government regimes, from the eras of Soeharto, BJ Habibie, Abdurrahman Wahid, Megawati Soekarnoputeri, Susilo Bambang Yudhoyono, to Joko Widodo.

In fact, the issue of financial stability and economic growth has consistently been a central theme of the Financial System Stability Committee (KSSK)'s regular meetings. In a press release dated April 23, 2019, for example, the KSSK concluded that financial system stability (SSK) was well maintained in the first quarter of 2019. This conclusion was based on the KSSK's monitoring of developments in the economy, monetary policy, fiscal policy, financial markets, financial services institutions, and deposit insurance. The safe and peaceful implementation of the democratic process also increased public confidence in Financial System Stability (KSSK, 2019).

How important is the relationship between monetary stability and the Indonesian economy? Is there a mutually influential correlation between the two? What aspects of monetary stability influence Indonesia's economic growth? Do differences in government regimes influence the correlation between the two? To answer these questions, the research team intends to conduct a study entitled: *The Influence of Monetary Stability on the National Economy: A Case Study of Indonesia for the Period 1990-2019* .

II. RESEARCH PURPOSES

This research aims to:

1. Analyze whether monetary stability has an impact on the Indonesian economy (GDP).
2. Analyze whether differences in regimes have an impact on monetary stability governance in supporting Indonesia's GDP achievement?
3. Analyze whether monetary stability has an impact on Indonesia's GDP per capita (PCI)?
4. Analyzing whether the difference in regimes has an impact on the governance of monetary stability in supporting the achievement of Indonesia's GDP per capita (PCI)?

III. THEORETICAL BASIS

Gross Domestic Product or GDP (*Gross Domestic Product*), according to Mankiw (2006:5) is an important economic statistic because it is considered the best indicator of a society's welfare. McEachern (2000:146) argues that GDP is the total market value of final goods and services produced by a country's resources during a certain period, usually one year. GDP can also be used to study the economy over time. GDP is determined based on two approaches: the expenditure approach, (adding up all aggregate expenditures on all final goods and services produced during one year); the income approach (adding up all aggregate income received during one year by those who produce the output).

GDP can be calculated using two approaches, namely the expenditure approach and the income approach (Callen, 2016) . The general formula for GDP using the expenditure approach is:

$$GDP = consumption + investment + government spending + (exports - imports)$$

Where consumption is expenditure made by households, investment by the business sector, government expenditure by the government, and exports and imports .

Meanwhile, the income approach calculates the income received by production factors :

$$GDP = rent + wages + interest + profit$$

Where rent is the income of owners of fixed production factors such as land, wages for labor, interest for capital owners, and profits for entrepreneurs.

In theory, according to Lequiller (2006), GDP using the expenditure and income approaches should produce the same figure. However , because in practice calculating GDP using the income approach is difficult, the expenditure approach is often used.

3.1. Monetary and Fiscal Stability

The financial system is crucial for supporting progress in the real sector in all countries, including Indonesia. The financial sector will always follow developments in the real sector (Robinson in Sukrudin, 2014). To this end, monetary and fiscal management standards are implemented.

Garry J. Schinasi (2006) defines financial (monetary) stability as a condition of absence of instability, a situation in which economic performance is free from fluctuations in financial asset prices or from the inability of financial institutions to fulfill their contractual obligations.

Financial instability, explains Mishkin (1999:7), occurs when shocks to the financial system disrupt the flow of information so that the financial system can no longer perform its task of channeling funds to those with productive investment opportunities.

The European Union implements the *Stability and Growth Pact* (SGP) standard. Essentially, all member states are required to implement strict fiscal and monetary policies to ensure that government deficits do not exceed 3% of gross domestic product (GDP) and debt does not exceed 60% of GDP. If the debt exceeds 60%, it must be reduced annually. As a preventative measure, all EU member states must submit an annual report for assessment and review by the European Commission and the Council of Ministers. The report must present the country's financial development for the current year and the next three years (EC, 2012).

3.2. Indonesian Policy

According to Emil Salim (2010), the Development Trilogy emerged as President Soeharto's response to hyperinflation resulting from uncontrolled money circulation and the state budget deficit. During the transition from the Old Order to the New Order, 45% of the state budget was spent on weapons, which did not increase the volume of goods and services.

A country's GDP growth will thrive when monetary stability is maintained. Stability is the primary key word in Indonesia's Development Trilogy concept. President Soeharto, in his 1977-1978 State Budget (RAPBN) speech, emphasized that the GBHN mandates that development must lead to progress and social welfare. To ensure the achievement of these goals, policies are based on the development trilogy: stability, economic growth, and equitable development. "On the foundation of stability, we continue to strive for growth in all areas, especially economic growth. With a growing economy and healthier state finances, we will have more alternative development policies," Soeharto asserted (1977).

Stabilization and rehabilitation policies, according to Sri Hadi (2006), were the initial priority of the New Order government. Their goal was to address food shortages, disrupted production, excessive monetary expansion, hyperinflation, loss of confidence in the rupiah, unemployment, infrastructure damage, depleted foreign exchange reserves, large foreign debt, a balance of payments crisis, and a budget deficit. The rehabilitation and stabilization program was implemented in three ways: stabilizing security, minimizing unproductive spending, and efficiently utilizing scarce resources.

The Soeharto government, said Widjojonitisatro, implemented economic democracy which did not give place to: (1) a free fight *liberalism system*, an etatism system where the state apparatus was very dominant, and detrimental monopoly phenomena, both state and private monopolies. President Suharto was considered successful in realizing economic stability which was marked by stable prices for basic necessities.

Indonesian economics guru Soemitro Djojohadikusumo (1972) argued that the main problems facing Indonesia were income levels, population, employment opportunities, and foreign exchange. Therefore, he advocated the need for balanced investment between *low-investor sectors* and *high-earning sectors* (such as oil) for the sake of societal stability. There was a time when budget leakage was quite high, up to 30% (Yasin, 2018).

During the reform era, monetary and fiscal policies were monitored by the Financial System Stability Committee (KSSK), which consisted of the Governor of BI, the Minister of Finance, the Chairman of the Board of Commissioners of the Financial

Services Authority (OJK), and the Chairman of the Board of Commissioners of the Deposit Insurance Corporation (LPS).

In the monetary sector, Bank Indonesia (BI) focuses its interest rate and exchange rate policies on strengthening the external stability of the economy, particularly to control the current account deficit within a safe limit and maintain the attractiveness of domestic financial assets. During the first quarter of 2019, BI maintained its benchmark interest rate (BI7DRR) at 6.00%. Simultaneously, BI also implemented various more accommodative policies to stimulate domestic demand, including: *first*, a monetary operations strategy to increase the availability of liquidity in the market through regular and scheduled *term-repo transactions*, *in addition to FX Swaps*. *Second*, strengthening accommodative macroprudential policies by raising the Macroprudential Intermediation Ratio (MARRI) limit to 84-94%. *Third*, accelerating financial market deepening by strengthening *market conduct* and issuing regulations for implementing Rupiah interest rate derivative instruments. *Fourth*, strengthening payment system policies by expanding the electronic distribution of social assistance, transportation, and regional government finances and preparing the QR *Indonesia Standard* (QRIS) as a QR *code payment standard* in Indonesia to expand interconnections in supporting the digital financial economy ecosystem (KKSK, 2019).

In the fiscal sector, the performance of the State Budget (APBN) generally shows a positive trend, both in terms of revenue and expenditure, which will support the achievement of the 2019 development targets. The government is committed to continuing to manage state finances prudently and transparently. With a credible APBN, Indonesia is expected to be able to maintain growth momentum, including in anticipating the global economic conditions that are still experiencing a slowdown.

The Financial Services Authority (OJK) believes that the Financial Services Financial System (SSK) remains well-maintained, supported by adequate capital and liquidity levels at Financial Services Institutions (LJK). LJK intermediation performance also grew positively with a manageable risk level. The OJK supports the active role of the financial services sector in promoting healthy economic growth while adhering to the principle of prudence, including by expanding market penetration, enhancing the capacity of financial industry players, and developing sustainable financing programs for the financial services sector.

The Deposit Insurance Corporation (LPS) assesses that the overall upward trend in deposit interest rates has slowed and stabilized, in line with improving banking liquidity. Furthermore, LPS is also monitoring *the coverage* of guarantees, both nominal and account, and the latest data is deemed adequate to support customer confidence in the banking system.

Welcoming the holy month of Ramadan and Eid al-Fitr, the KSSK is building synergy and coordination to ensure that the public's cash needs are met, and that payment system transactions and other financial services run smoothly (KKSK, 2019).

In its last meeting (July 30, 2019), the Financial System Stability Committee (KKSK) stated that financial system stability was well maintained in the second quarter of 2019. In the meeting, attended by the Minister of Finance, the Governor of Bank Indonesia, the Chairman of the Financial Services Authority (OJK), and the Chairman of the LPS (Lembaga Penjaminan Efek Indonesia), the KSSK monitored developments in the economy, monetary policy, fiscal policy, financial markets, financial services institutions, and deposit insurance.

In a press release (July 30, 2019), the Financial System Stability Committee (KKSK) assessed that the stability of the domestic financial system remains good, supported by a

healthy banking industry and a conducive domestic financial market. This condition is influenced by three factors: first, decreasing global financial market uncertainty triggered by the response of several central banks in developed and developing countries to loosen monetary policy, including the US central bank, which is predicted to lower its interest rate.

Second, attractive portfolio investment returns in domestic financial assets. Third, improved perceptions of Indonesia's economic prospects, along with the upgrade of Indonesia's sovereign rating by S&P. These positive developments have encouraged foreign capital inflows into Indonesia, which in turn has strengthened the rupiah and boosted the performance of the government bond and stock markets.

Nevertheless, the KSSK noted several external and domestic developments that warrant vigilance, such as the trade war and the outlook for global economic growth. Domestically, the KSSK views the main challenges as maintaining growth momentum and improving the current account deficit amid a weakening global economy.

IV. METHODOLOGY AND DATA

This research is a quantitative method study with a saturated sampling technique. The data used is generally data from secondary Which obtained from Bank Indonesia (BI), Agency Development Planning National (Bappenas), Body Center Statistics (BPS), *World Bank* , and other reference sources in the form of books, journals and other publications. Data Which collected in the form of inflation data, BI Rate, exchange rate, debt outside country, financing, direct investment, population, and data Product Domestic Gross (GDP) and GDP per capita. Data the in the form of data *time series* of period 1990 -2019.

The collected data was then grouped into dependent and independent variables . The *dependent* variables were GDP and per capita income (PCI). The independent variables were the exchange rate, money supply, inflation rate, direct investment, financing, the state budget, debt, population, and *a dummy variable* representing the Reformation era and the New Order (Soeharto) era as a comparison or reference.

The processed data were analyzed quantitatively descriptively using a multiple regression model with *dummy variables* . The effect of monetary stability on the economy (GDP) and per capita income (PCI) can be determined by proposing the following Econometric Model (GDP and PCI):

$$GDP = \beta_0 + \beta_1 M1M2 + \beta_2 \text{Inflation} + \beta_3 \text{Exchange Rate} + \beta_4 \text{Investment} + \beta_5 \text{Financing} + \beta_6 \text{BIRate} + \beta_7 \text{APBN} + \beta_8 \text{Export} + \beta_9 \text{Import} + \beta_{10} \text{ERA1} + \beta_{11} \text{Era2} + \beta_{12} \text{Era3} + \beta_{13} \text{Era4} + \beta_{14} \text{Era5} + \epsilon$$

$$PCI = \beta_0 + \beta_1 M1M2 + \beta_2 \text{Inflation} + \beta_3 \text{Exchange Rate} + \beta_4 \text{Investment} + \beta_5 \text{Financing} + \beta_6 \text{BIRate} + \beta_7 \text{APBN} + \beta_8 \text{Export} + \beta_9 \text{Import} + \beta_{10} \text{ERA1} + \beta_{11} \text{Era2} + \beta_{12} \text{Era3} + \beta_{13} \text{Era4} + \beta_{14} \text{Era5} + \epsilon$$

GDP is the annual gross domestic product (GDP) value variable. PCI is per capita income. Money supply is the sum of M1+M2 money. Exchange rate is the rupiah exchange rate per US dollar. Inflation is the annual inflation rate. Investment is the amount of direct investment (FDI). Financing is the value of financing offered by financial institutions. The BI-rate is the benchmark interest rate set by Bank Indonesia. The State Budget (APBN) is the amount of government spending or expenditure. Exports

are the current year's export value. Imports are the current year's import value. Debt is an indicator of foreign debt expressed as a percentage. Population is the number of Indonesian residents in the current year.

To see the comparison of debt management in each era of government, six *dummy* variables were created, namely; Era1 (comparing the BJ Habibie Era with the New Order Era (Soeharto)); Era2 (comparing; Era2 (comparing the Abdurrahman Wahid Era with the New Order Era (Soeharto)); Era3 (comparing the Megawati Era with the New Order Era (Soeharto)); Era4 (comparing the Susilo Bambang Yudhoyono Era with the New Order Era (Soeharto)); and Era5 (comparing the Joko Widodo Era with the New Order Era (Soeharto)).

Hypothesis 1

H10 Monetary stability has no effect on the national economy

H11 Monetary stability affects the national economy

Hypothesis 2

H20 Differences in government regimes have no effect on monetary stability governance.

in supporting the achievement of the national economy

H21 Differences in government regimes influence the governance of monetary stability

in supporting the achievement of the national economy

Hypothesis 3

H10 Monetary stability has no effect on national per capita income

H11 Monetary stability affects national per capita income

Hypothesis 4

H20 Differences in government regimes have no effect on monetary stability governance.

to national per capita income

H21 Differences in government regimes influence the governance of monetary stability

in supporting the achievement of national per capita income

V. ANALYSIS

5.1. Monetary Stability and Indonesia's GDP

Monetary stability in Indonesia is reflected in several indicators. These include the benchmark interest rate (BI Rate), the exchange rate (rupiah exchange rate), the inflation rate, the money supply, total debt, the debt-to-GDP ratio, total financing, and total investment. Between 1990 and 2019, the values of these stability indicators generally fluctuated over time.

Table 1. Indonesian Macroeconomic Indicators 1990=2009

TA HUN	M1M2 (Trillion Rp)	BIRA TE (%)	INFLA TION (%)	EXCHA NGE	State Budg et	GDP\$ (Billion)	FDI (Billi on\$)	FUNDI NG	DEBT-\$ (Million US\$)	IMPO RT
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				RATE (Rp/\$)	(Trilli on)			(Trillion)		(Billio n US\$)
1990	84,630	17.00	9.5	1,842	16	281.64	8.75	14,986	4,959	186.97
1991	99,059	16.00	9.5	1,842	20	301.11	8.78	18,661	5,052	23.03
1992	119,053	17.00	4.9	1,842	26	320.67	10:31	21,695	5,785	20.41
1993	145,599	17.09	9.8	1,842	31	341.50	8.14	22,737	6,157	29.13
1994	174,512	18.00	9.2	1,842	37	367.25	15.45	22,524	6.145	34.12
1995	223,300	19.00	8.6	2,248	41	397.44	39.91	21,426	6,615	40.08
1996	288,632	24.00	6.5	2,248	52	428.52	29.93	26,695	26,695	41.50
1997	355,643	25.00	11.1	2,350	61	448.66	33.83	38,264	38,264	45.82
1998	577,381	23.97	77.6	16,800	66	389.76	13.56	29,534	68.7	42.70
1999	646,205	11.16	2.0	6,500	89	392.84	10.89	22,231	132.2	240.03
2000	747,028	14.54	9.4	9,725	105	412.17	15.42	29,391	129.3	33.52
2001	844,053	13.06	12.5	10,265	300	437.19	9.03	30,848	122.3	30.96
2002	883,908	10.50	10.0	9,260	305	446.41	9.79	33,937	136.9	31.29
2003	955,692	9.50	5.2	8,570	343	467.75	13.21	38,328	135.4	32.55
2004	1,033,877	8.50	6.4	8,985	401	491.28	10.28	54,897	141.27	46.53
2005	1,202,762	8.50	17.1	9,705	540	519.25	13.58	67,647	134.5	57.70
2006	1,382,493	8.50	6.6	9,200	659	547.81	15.62	32,644	132.63	61.07
2007	1,649,662	8.50	6.6	9,125	694	582.57	10:34	107,637	141.18	74.47
2008	1,895,839	8.50	11.1	9,666	895	617.61	14.87	137.24	155.08	129.20
2009	2,141,384	7.25	2.8	9,447	871	646.20	10.82	142.54	172.87	96.83
2010	2,471,206	7.25	7.0	9,036	992	686.41	16.21	186.35	202.41	135.66
2011	2,877,220	6.50	3.8	9,113	1,170	728.76	19.47	245.3	225.17	177.44
2012	3,307,508	5.75	4.3	9,718	1,358	772.71	24.56	302.08	252.37	191.69
2013	3,730,409	6.25	8.4	12,250	1,502	815.65	28.62	306.01	266.11	186.63
2014	4,173,327	7.25	8.4	12,550	1,635	856.49	28.53	381.93	293.33	178.18
2015	4,548,800	7.50	3.4	14,000	1,762	898.25	29.28	379.25	310.73	142.69
2016	5,004,977	5.75	3.0	13,600	1,786	943.46	28.96	400.24	317.09	135.65
2017	5,419,165	4.75	4.3	13,500	2,133	991.27	16.14	429.54	335.3	112.49
2018	5,760,046	5.75	3.1	14,500	2,221	1,042.53	29.31	435.72	377.32	188.71
2019	5,918,515	6.00	3.3	14,300	2,461	1,101.95	12.08	445.65	391,828	182.17
2020	6,905,939	4.50	2.04	13,660	2,589	1,060,00	2,065	947,7	416.587	141.57
2021	7,870,453	4.25	1.56	14,050	2,750	1,190,00	2,130	783,7	415.1	196.19
2022	8,528,022	4.75	4.21	14,250	3,090	1,320,00	1,757	460,4	396.84	237.52
2023	8,826,531	3.50	2.62	15,416	3,122	1,370,00	1,127	337,6	407.1	221.89
2024	9,246,630	5.75	1.57	16,475	3,325	1,400,00	2,515	507,8	425.1	235.19
2025	9,891,575	4.75	2.92	16,862	3,613	1,450,00	2,725	695,1	575.39	241.86
2026	10,371,100	5.75	3.19	17,763	3,842	1,540,00	2,488	392,8	592.23	326.66

Source: BI, BPS, Ministry of Finance, Bappenas, Ministry of Trade, World Bank processed.

As shown in Table 1 and Figure 1, Indonesian inflation remained below 10% during the 1990-1996 period, soared during the 1997-1999 crisis, fluctuated during the 2000-

2008 period, and tended to decline and remained around 5% during the 2010-2019 period.

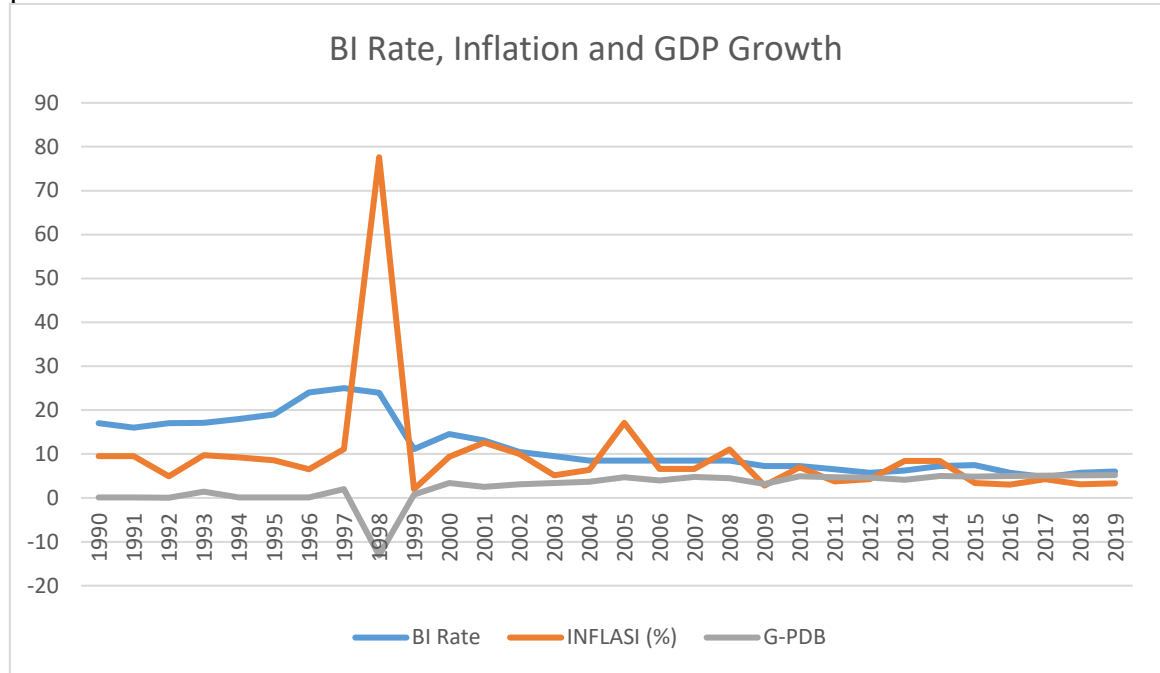


Figure 1. Development of BI-Rate, Inflation and G-GDP in Indonesia

Source: BI, BPS, Ministry of Finance, Bappenas, Ministry of Trade, World Bank processed.

GDP growth was relatively low from 1990 to 1997, then dropped drastically in 1998, increased again from 1999 to 2000, and then tended to remain at 4-5% in the following period. The benchmark interest rate (BI Rate) tended to remain high from 1990 to 1997, then fell to 7% in 1998 to 2000, and then tended to fall to 6% in the following period, 2001 to 2019.

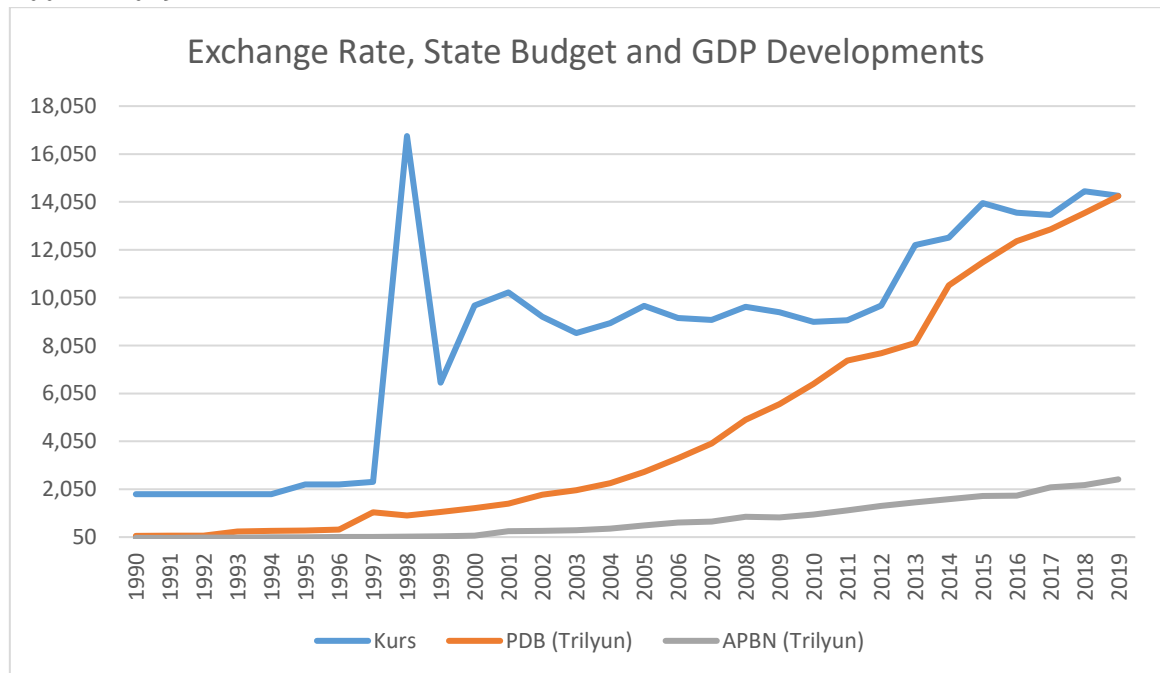


Figure 2. Development of the Indonesian Exchange Rate, GDP and State Budget.

Source: BI, BPS, Ministry of Finance, Bappenas, Ministry of Trade, World Bank processed.

The exchange rate indicator (rupiah exchange rate against the dollar) was stable during the 1990-1996 period, then weakened sharply in 1998 to exceed 16,800, then strengthened sharply in 1999 (Habibie's government era) to nearly 6,500, then weakened again during the Megawati era to 9,000-10,000, strengthened and remained stable during the SBY era until 2012, then continued to weaken until the Jokowi era at the level of 12,000 - 14,000 per US dollar.

In contrast, between 1990 and 2019, the state budget and GDP tended to increase steadily. The GDP increase appeared sharper than the steady but slow increase in the state budget.

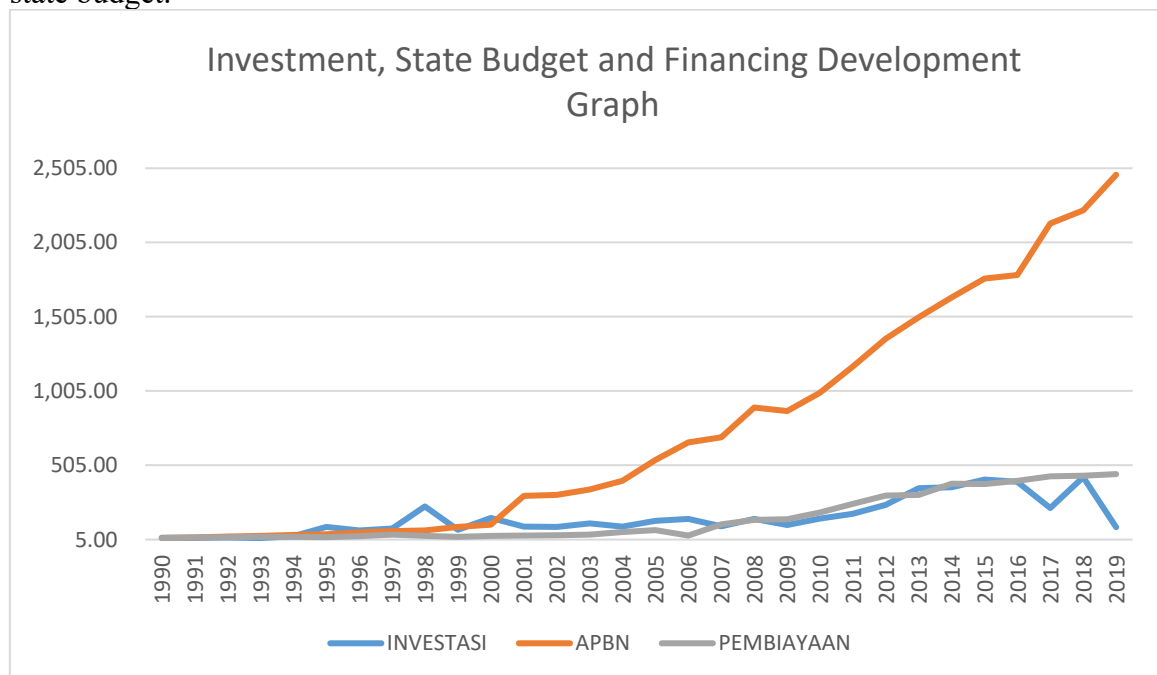


Figure 3 Development of Investment, State Budget and Financing in Indonesia

Source: BI, BPS, Ministry of Finance, Bappenas, Ministry of Trade, World Bank processed.

During the period 1990-2019, investment value was relatively dynamic, with an increasing trend until 2015. Thereafter, fluctuations followed, with a downward trend. Financing tended to continue to increase, but growth was slower than the increase in the state budget.

5.2. The Impact of Monetary Stability on GDP

To see the influence of monetary stability on the economy, multiple regression analysis was conducted with *dummy* variables using the Eviews 10 program. The following are the results:

Table 2. Multiple Regression Results of the Effect of Monetary Stability on GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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M1M2	0.099952	0.045815	2.181613	0.0467
EXCHANGE \$	-0.018614	0.007307	-2.547459	0.0232
INFLATION	48.27612	112.1462	0.430475	0.6734
BI_RATE	9.587177	2.422363	3.957778	0.0014
COST	-0.231230	0.233265	-0.991275	0.3384
INVEST\$	1.193015	0.547147	2.180428	0.0468
DEBT\$	0.052304	0.461001	0.113459	0.9113
EXPORT	7.98E-06	1.52E-05	0.525472	0.6075
IMPORT	-0.000225	0.000108	-2.086054	0.0558
State Budget	0.181004	0.070156	2.580018	0.0218
REGIME 1	182.4882	70.96101	2.571669	0.0222
REGIME 2	171.0377	77.55480	2.205379	0.0446
REGIME 3	199.8609	77.57563	2.576336	0.0220
REGIME 4	214.5991	67.42263	3.182894	0.0066
REGIME 5	173.7841	82.49083	2.106708	0.0537
C	178.5420	38.90963	4.588631	0.0004

R-squared	0.997982	Mean dependent var	589.1710
Adjusted R-squared	0.995820	SD dependent var	239.7763
SE of regression	15.50156	Akaike info criterion	8.624285
Sum squared residual	3364.179	Schwarz criterion	9.371591
Log likelihood	-113.3643	Hannan-Quinn criter.	8.863355
F-statistic	461.6269	Durbin-Watson stat	1.918709
Prob(F-statistic)	0.000000		

Source: Eviews 10 statistical processing

In summary, the results of the statistical data analysis of Indonesia's GDP for the 1990-2019 period have the following initial (pre-test) econometric model:

$$\text{GDP\$} = \beta_0 + \beta_1 \text{M1M2} + \beta_2 \text{Inflation} + \beta_3 \text{Exchange Rate} + \beta_4 \text{Investment} + \beta_5 \text{Financing} + \beta_6 \text{BIRate} + \beta_7 \text{APBN} + \beta_8 \text{Export} + \beta_9 \text{Import} + \beta_{10} \text{ERA1} + \beta_{11} \text{Era2} + \beta_{12} \text{Era3} + \beta_{13} \text{Era4} + \beta_{14} \text{Era5} + \epsilon$$

$$\text{GDP\$} = 178,542 + 0.0999 \cdot \text{M1M2} - 0.0186 \cdot \text{EXCHANGE RATES\$} + 48.2761 \cdot \text{INFLATION} + 9.5872 \cdot \text{INTEREST} - 0.2312 \cdot \text{COSTS} + 1.193 \cdot \text{INVEST\$} + 0.0523 \cdot \text{DEBT\$} + 0.0000079 \cdot \text{EXPORT} - 0.000225 \cdot \text{IMPORT} + 0.181 \cdot \text{APBN} + 182,488 \cdot \text{REGIME1} + 171,0387 \cdot \text{REGIME2} + 199,86 \cdot \text{REGIME3} + 214,599 \cdot \text{REGIME4} + 173,784 \cdot \text{REGIME5}$$

Classical Assumption Test

Classical assumption tests are necessary to ensure that statistical regression results meet the requirements for econometric modeling. Five common statistical assumption tests are: autocorrelation, heteroscedasticity, normality, linearity, and multicollinearity.

Table 3 Summary of Classical Assumption Tests

Test Type		Classical Assumption Test Results	Conclusion
Autocorrelation	Bru s c h -G o d f r e y L M (L a g r a n g e M u l t i p l i e r) T e s t	F-statistic 1.672760 Prob. F(2,12) 0.2287 > 0.05	No autocorrelation
	Durbin Watson Analysis	1.5229 (dU) < DW=1.919 < 2.4771 (4-dL)	No autocorrelation
Heteroscedasticity	Breusch-Pagan-Godfrey Test	F-statistic 1.156402 Prob. F(15,14) 0.3954 > 0.05	Does not contain heteroscedasticity

Normality	Jarque-Bera Values	Jarque-Bera value 0.17496 > 0.05	Meets the requirements of normal distribution																																												
Linearity	Ramsey Test	t-statistic 1.111219 (1.13) 0.2866 F-statistic 1.234808 (1, 13) 0.2866	Meets the linearity requirement																																												
Multicollinearity	VIF Diagnostic Coefficient	<table> <tr> <th>Variable</th><th>Coefficient Variance</th><th>Uncentered VIF</th><th>Centered VIF</th></tr> <tr> <td>M1M2</td><td>0.002099</td><td>1916.151</td><td>914.1599</td></tr> <tr> <td>KURS\$</td><td>5.34E-05</td><td>619.1211</td><td>134.2155</td></tr> <tr> <td>INFLASI</td><td>12576.76</td><td>41.12722</td><td>26.90891</td></tr> <tr> <td>BI_RATE</td><td>5.867844</td><td>124.7297</td><td>25.97380</td></tr> <tr> <td>BIAYA</td><td>0.054413</td><td>310.7950</td><td>162.9402</td></tr> <tr> <td>INVEST\$</td><td>0.299370</td><td>14.70197</td><td>3.050429</td></tr> <tr> <td>DEBT\$</td><td>0.212522</td><td>1008.636</td><td>364.6993</td></tr> <tr> <td>EKSPOR</td><td>2.31E-10</td><td>3.615810</td><td>2.922034</td></tr> <tr> <td>IMPOR</td><td>1.16E-08</td><td>16.57775</td><td>6.713307</td></tr> <tr> <td>APBN</td><td>0.004922</td><td>701.0146</td><td>353.1278</td></tr> </table>	Variable	Coefficient Variance	Uncentered VIF	Centered VIF	M1M2	0.002099	1916.151	914.1599	KURS\$	5.34E-05	619.1211	134.2155	INFLASI	12576.76	41.12722	26.90891	BI_RATE	5.867844	124.7297	25.97380	BIAYA	0.054413	310.7950	162.9402	INVEST\$	0.299370	14.70197	3.050429	DEBT\$	0.212522	1008.636	364.6993	EKSPOR	2.31E-10	3.615810	2.922034	IMPOR	1.16E-08	16.57775	6.713307	APBN	0.004922	701.0146	353.1278	There are 3 variables that are not multicollinear There are 7 multicollinearity variables
Variable	Coefficient Variance	Uncentered VIF	Centered VIF																																												
M1M2	0.002099	1916.151	914.1599																																												
KURS\$	5.34E-05	619.1211	134.2155																																												
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APBN	0.004922	701.0146	353.1278																																												
Conclusion		Four tests passed, one test doubtful	The regression model meets the statistical requirements																																												

Source: Eviews 10 statistical processing

From the classical assumption test, the researchers found that the linear regression model of the effect of stability on GDP was free from autocorrelation and heteroscedasticity, with a normal data distribution, and linear correlation between variables. However, several variables still had multicollinearity issues. Of the five tests, the regression model passed four assumption tests. In the fifth test, three variables were free from multicollinearity, while the remaining seven had multicollinearity issues.

However, according to Hardius Usman (2010), multicollinearity in *dummy regression models*, especially those involving multiple independent variables, is common. The existence of correlation between research variables can be demonstrated using the Granger Causality test. Importantly, this model meets the requirements for stationary data and meets most of the requirements for the classical assumption test. Therefore, researchers can conclude that the multiple regression model with *dummy* variables passes the classical assumption test.

Regression Model Feasibility Test

From the results of the classical assumption test, the econometric regression model (Table 2 data) meets the following requirements:

$$\begin{aligned} \text{GDP\$} = & 178.54196 + 0.09995*\text{M1M2} - 0.018614*\text{EXCHANGE_RATES\$} + \\ & 48.27612*\text{INFLATION} + 9.587177*\text{BI_RATE} - 0.2312297*\text{COSTS} + \\ & 1.193015*\text{INVEST\$} + 0.0523045*\text{DEBT\$} + 0.0000079*\text{EXPORTS} - \\ & 0.0002245*\text{IMPORTS} + 0.1810037*\text{APBN} + 182.4882*\text{REGIME1} + \\ & 171.0377*\text{REGIME2} + 199.8609*\text{REGIME3} + 214.5996*\text{REGIME4} + \\ & 173.7841*\text{REGIME5} \end{aligned}$$

F test

From the results of the multiple regression analysis of the effect of stability on GDP (see Table 3), the probability data obtained F statistic = 0.00001 with $R^2 = 0.9958$. This indicates that the independent variable indicators (money supply, BI rate, financing, inflation, exchange rate, investment, APBN, and debt) simultaneously have a significant

effect on GDP. The correlation coefficient is high, reaching 0.9974%. This means that all independent variables can explain GDP by 99.58%. The remainder is influenced by other variables not examined.

t-test

Table 5 Coefficient Values and Probabilities of t-statistics of GDP as a Function of Monetary Stability

Independent Variable	Coefficient	Probability t Statistics	Conclusion (α 5%)
M1M2	0.099952	0.0467	have a real impact
EXCHANGE \$	-0.018614	0.0232	have a real impact
INFLATION	48.27612	0.6734	no real effect
BI RATE	9.587177	0.0014	have a real impact
COST	-0.231230	0.3384	no real effect
INVEST\$	1.193015	0.0468	have a real impact
DEBT\$	0.052304	0.9113	no real effect
EXPORT	7.98E-06	0.6075	no real effect
IMPORT	-0.000225	0.0558	have a real impact
State Budget	0.181004	0.0218	have a real impact
REGIME 1	182.4882	0.0222	have a real impact
REGIME 2	171.0377	0.0446	have a real impact
REGIME 3	199.8609	0.0220	have a real impact
REGIME 4	214.5991	0.0066	have a real impact
REGIME 5	173.7841	0.0537	have a real impact
C	178.5420	0.0004	

Source: Eviews 10 statistical processing

Table 5 above shows that six independent variables and five *dummy variables* have a t-test probability below 0.05. This means that, partially, the money supply, exchange rate, BI rate, investment, imports, and APBN variables significantly influence GDP achievement. The money supply, investment, BI rate, investment, and APBN variables are positively correlated with GDP value. This means that the amount of money in circulation, BI rate, investment, and APBN financing are directly proportional to GDP. Therefore, increasing money supply, BI rate, investment, and APBN financing tends to increase GDP.

The positive correlation between investment and GDP is in line with the research results of Dedi Latif (2009) who found a positive relationship between foreign investment and GDP achievement in Indonesia for the period 2000-2006.

The exchange rate and imports are negatively correlated with GDP. This means that a higher exchange rate (a weakening exchange rate) and a lower import volume will reduce GDP. Conversely, a lower exchange rate (a strengthening exchange rate) and a decrease in imports will tend to increase GDP.

Meanwhile, other variables such as inflation, costs, debt, and exports, at a 95% confidence level and a 5% standard error, do not have a significant effect on GDP.

5.3. The Influence of Regime Differences on Stability Governance - GDP

From Tables 2 and 5, it is also known that all *dummy variables* (the Soeharto regime as a comparison) have a t-test probability below 0.05. This means that all Reform Order regimes (starting from BJ Habibie, Abdurrahman Wahid, Megawati Soekarnoputeri, Susilo Bambang Yudhoyono and Joko Widodo) are significantly different from the Soeharto regime in terms of monetary-fiscal stability governance towards GDP

achievement. A positive sign indicates that the Reform Order regime is better than the New Order regime. This shows that the capabilities of the Habibie, Abdurrahman Wahid, Megawati, SBY and Jokowi governments are different and better than the capabilities of the Soeharto government in managing monetary stability to support GDP achievement.

So, in conclusion, based on Indonesian GDP data for the 1990-2019 period, the econometric model of multiple linear regression with valid *dummy variables* (standard error 5%, confidence level 95%) is as follows:

$$\text{GDP\$} = 178.54196 + 0.09995 \cdot \text{M1M2} - 0.018614 \cdot \text{EXCHANGE_RATES\$} + 9.587177 \cdot \text{BI_RATE} + 1.193015 \cdot \text{INVEST\$} - 0.0002245 \cdot \text{IMPORT} + 0.1810037 \cdot \text{APBN} + 182.4882 \cdot \text{REGIME1} + 171.0377 \cdot \text{REGIME2} + 199.8609 \cdot \text{REGIME3} + 214.5996 \cdot \text{REGIME4} + 173.7841 \cdot \text{REGIME5}$$

From the econometric model, it can be interpreted that if money circulation is limited, the exchange rate is stable, the benchmark interest rate is affordable, investment is running smoothly, imports are not too large and governance is running normally, then Indonesia's GDP value still has the potential to reach 178.54 billion US dollars.

- If the money supply were increased by one trillion, *ceterus paribus* (if other variables remain unchanged), then GDP is predicted to increase by 99.95 billion dollars.
- If the exchange rate rises (the rupiah exchange rate weakens) *ceterus paribus*, then GDP tends to decrease by 18.614 billion dollars.
- If the BI rate increases by 1 point, *ceterus paribus*, then GDP is predicted to increase by 9.587 billion dollars.
- If investment rises by \$1,000, *ceterus paribus*, then GDP rises by \$1,193
- If the APBN increases by 1,000 dollars, *ceterus paribus*, then GDP has the potential to increase by 181 dollars
- If Habibie had ruled, GDP would have potentially increased by 182.488 billion dollars from the achievements of the Soeharto era.
- If Abdurrahman Wahid had ruled, *ceterus paribus*, GDP could have potentially increased by 171.038 billion dollars from the achievements of the Soeharto era.
- If Megawati governs, *ceterus paribus*, GDP could potentially increase by 199.86 billion dollars from the achievements of the Soeharto era.
- If the SBY regime were to rule, *ceterus paribus*, then Indonesia's GDP would potentially increase by 214.6 billion dollars from the achievements of the Soeharto era.
- If the Jokowi regime were to rule, *ceterus paribus*, Indonesia's GDP would potentially be 173.784 billion dollars higher than the Soeharto era's achievement.

Therefore, researchers can say that efforts to achieve GDP can be carried out effectively when monetary stability governance is running well, there is sufficient money in circulation (thus having good liquidity capacity), investment is enthusiastic, imports are controlled and the APBN is sufficient.

Inflation has no significant impact, but there is a tendency for a positive impact on GDP achievement. The error rate is relatively high at 67.34%. Debt tends to have a positive impact, although not a significant one, with an error rate of up to 91.13%. This raises the question of financing, which has no significant impact, but tends to have a negative impact, with an error rate above 33.84%. This indicates that financing growth

still needs to be stimulated to trigger GDP achievement. At the same time, governance and effectiveness of financing still need to be improved to have a positive impact on the economy. Exports tend to have a positive impact, although not a very strong one, on achievement, with an error probability of 60.75%. The state budget has a positive impact but needs to be improved in order to have a higher multiplier effect on efforts to increase GDP.

Previously, Dedi Junaedi (2018) conducted research on the relationship between foreign debt and GDP and poverty, using Indonesian data from 1947 to 2017. His analysis concluded that foreign debt correlates with national economic conditions, specifically Indonesia's Gross Domestic Product (GDP) and poverty levels. Debt tends to increase GDP but decreases poverty rates for the general population. This applies to all government regimes.

In terms of debt management as a driver of the economy and poverty, the Soeharto and Habibie eras tended to be different and better than the Soekarno era. Meanwhile, debt management during the Abdurrahman Wahid, Megawati Soekarnoputeri, Susilo Bambang Yudhoyono, and Jokowi eras was neither different nor better than the Soekarno era. While nationally, debt can increase GDP and reduce poverty, it fails to improve people's welfare (read: per capita income). Foreign debt even tends to lower welfare levels.

On the other hand, debt can have negative impacts (Junaedi, 2019). Among other things, it can trigger an economic crisis that becomes increasingly widespread and deepens. The government will be burdened with debt payments, leaving only a small portion of the state budget available for development. Interest installments further burden the Indonesian economy. Furthermore, in the long term, foreign debt can lead to various economic problems for Indonesia. These include a decline in the rupiah exchange rate, inflation, and dependence on debt and the interests of creditor countries.

The debt-to-GDP ratio is an indicator commonly used by investors, both foreign and domestic, when purchasing government securities (SBN). This ratio can reflect a country's ability to repay its debt. A lower ratio indicates that domestic production activity is relatively greater than the amount of debt. Therefore, domestic economic activity is sufficient to repay the national debt.

The IMF (2015) published a safe limit for the debt-to-GDP ratio. For developed countries, the ratio is 80%, while for developing countries, it's 40%. However, this figure isn't rigid, as various other indicators serve as benchmarks. Therefore, a country can exceed this limit and still be considered safe.

Mariusz Maziarz (2017) mentions a number of OECD (*Organization for Economic Co-operation and Development*) countries with relatively high debt/GDP ratios. These include Belgium (105.4%), France (116.1%), Greece (188.2%), Ireland (132%), Italy (147.4%), Japan (232.5%), Portugal (142.2%), Spain (111.5%), and the United Kingdom (103.1%). Japan, for example, according to Maziarz (2017), has a relatively high debt-to-GDP ratio (in 2016, it even reached 250%). Japan's economy is still relatively safe, because inflation is very low, and interest rates are close to zero. With just an increase in inflation, nominal GDP will increase, and its debt-to-GDP ratio will decrease (assuming debt does not increase).

However, some research suggests that in a number of developing countries, a high debt-to-GDP ratio is an early indicator of economic decline. Research by Lucy Anning, Collins F. Ofori, and Ernest K. Affum (2016) in Ghana showed that a high debt-to-GDP ratio indicates an economic crisis in the country.

Similar cases occurred in Nigeria, according to research by Jimoh Olatunji and He Weihang (2017), and in Albania, according to research by Dorjan Teliti and Adriatik

Kotorri (2017). These two studies confirmed a link between high debt/GDP ratios and the economic crises in Nigeria and Albania.

Referring to this data, it appears that understanding this debt cannot be oversimplified by drawing conclusions about the relationship between debt levels and the three factors the government has identified as indicators of public prosperity, as mentioned previously. Large debt levels do not necessarily indicate a country is in economic bankruptcy. Conversely, the government cannot simply declare that debt can be a source of financing that can lead to rapid economic growth and prosperity.

Differences in research results may occur due to different internal and external conditions. The Financial System Stability Committee (KSSK) (2019) examined several potential risks disrupting the national economy, particularly those originating from the global economy, in the form of weakening global economic growth and declining world trade volume, as highlighted in the 2019 *Spring Meetings* of the International Monetary Fund - World Bank (IMF-WB, 2019). From a domestic perspective, the challenge faced is maintaining the momentum of economic growth by stimulating investment and exports while maintaining financial system stability. Responding to this, the KSSK continues to strengthen coordination of monetary, fiscal, macroprudential, microprudential, and deposit insurance policies to maintain economic stability and maintain the momentum of economic growth.

The influence of monetary stability on GDP has also emerged in a number of other studies, both domestic and international. Research by Yunanto and Medyawati (2014), using Indonesian data from 1992 to 2012, showed that monetary policy was more effective than fiscal policy in increasing GDP. The monetary policy multiplier effect was greater than the fiscal policy multiplier, as evidenced by the highly elastic slope of the quantity curve in the IS curve model, while the LM curve model was less elastic.

In contrast, Safriadi et al (2014), using Indonesian GDP data from 1984 to 2012, concluded that fiscal policy would be more effective in influencing Gross Domestic Product compared to monetary policy. Based on the IS LM equilibrium value obtained, it appears that there is still room for the government to increase National Income, as long as the government consistently maintains stable interest rates and encourages policies that can improve the real sector, balanced with loose monetary policy, so that the economy can continue to grow and stability is maintained.

Over the past few decades, considerable effort and talent have been applied to measuring real income and inflation. However, according to Martin Feldstein (2017), they are far from perfect. There are still errors in accurately measuring both real output and inflation. This is crucial for economists to recognize the limits of our knowledge and adapt accordingly when making statements and designing public policy. The Harvard University economist argues that the actual inflation rate is lower than the measured inflation rate. The problem of debt deflation does not arise in the calculations because the nominal value of wage income does not decline, and real monthly wages increase more rapidly.

The actual inflation rate does not imply the real interest rate when measured conventionally. Uncertainty about the inflation rate will undoubtedly affect the validity of monetary policy. According to Feldstein, there is no point in having a precise inflation target when the inflation rate is measured with so much uncertainty. The goal of price stabilization will have a different impact if actual negative inflation is measured as positive.

The perception of slow real growth, Feldstein (2017) continues, is often cited in support of the Federal Reserve's low interest rate policy, while the real growth rate is

actually higher (because it is not yet included in official statistics), so the Fed's ultra-low interest rate policy has provided little reserve profit to anticipate potential risks of financial instability.

Perhaps for this reason, Gadanez and Jayaram (2009) argue that, in theory, composite indicators of financial stability are better suited to indicate the state of financial system stability than individual variables. Furthermore, they are useful measures of stress (e.g., they can be used to gauge the buildup of imbalances) in the system even in the absence of extreme events.

However, as Geršl and Heřmánek (2006) point out, constructing a single aggregate measure of financial stability is a difficult task given the complex nature of the financial system and the complex relationships between various sectors. In the absence of a comprehensive aggregate, partial composite measures such as the banking stability index or the market liquidity index are used in some financial stability reviews (FSRs). Regardless of whether a single aggregate measure of financial stability can be created, FSRs need to analyze key variables in the real, banking, and financial sectors, as well as variables in the external sector. Interest rates can be used as indicators of market volatility and financial institutions.

Global risk shocks can severely destabilize financial markets and, in the absence of an adequate policy response, can trigger a severe recession. Caballero and Kamber (2019) document that unconventional policies adopted by central banks are effective in curbing asset price declines following *risk-off episodes*.

These policies have long-term impacts and inspire confidence in a policy framework that mitigates the persistence of risk-off shocks. The two US economists also point out that domestic macroeconomic and financial conditions play a key role in benefiting from these policy spillovers during *risk-off episodes*.

Research by Syeda and Shaikh (2013) demonstrated that macroeconomic variables significantly impact Pakistan's GDP. Between 1990 and 2011, GDP tended to increase. This was driven by price stability, improved public services, improved agricultural infrastructure, development of fisheries and mining, and improvements in education, which shifted people's businesses from agriculture to non-agricultural sectors.

In 2016 and 2017, Italy's debt-to-GDP ratio reached 131.8% of GDP, well above the SGP reference value of 60%. Based on this, the European Commission (EC, 2018) requested efforts to reduce the debt ratio in the following years. The European Commission (EC) asked Italy to cut primary government spending by around 0.2-0.6% of GDP. At the annual meeting of Directors-General for Economic Affairs and Finance in May 2018 in Brussels, Belgium, the European Commission (EC, 2018) recommended that Italy ensure that the nominal growth rate of government spending does not exceed 0.1%. Conversely, to maintain the stability program, efforts should be made to increase it to 0.7% of GDP. Otherwise, Italian GDP growth will worsen, from 0.3% to -2.0%.

5.4. The Impact of Monetary Stability on PCI

To answer the third question, whether monetary stability affects the average income of Indonesians (PCI), a multiple regression analysis was conducted with a *dummy* variable representing differences in government regimes. The results are depicted in Table 6 as follows:

Table 6. Regression Results of the Monetary Stability Relationship – GDP per capita

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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M1M2	0.003224	0.001478	2.181613	0.0467
EXCHANGE \$	-0.000600	0.000236	-2.547459	0.0232
BI_RATE	0.309264	0.078141	3.957778	0.0014
INFLATION	1.557294	3.617618	0.430475	0.6734
COST	-0.007459	0.007525	-0.991275	0.3384
INVEST\$	0.038484	0.017650	2.180428	0.0468
DEBT\$	0.001687	0.014871	0.113459	0.9113
EXPORT	2.57E-07	4.90E-07	0.525472	0.6075
IMPORT	-7.24E-06	3.47E-06	-2.086054	0.0558
State Budget	0.005839	0.002263	2.580018	0.0218
REGIME 1	5.886716	2.289065	2.571669	0.0222
REGIME 2	5.517345	2.501768	2.205379	0.0446
REGIME 3	6.447124	2.502440	2.576336	0.0220
REGIME 4	6.922551	2.174924	3.182894	0.0066
REGIME 5	5.605939	2.660995	2.106708	0.0537
C	5.759418	1.255149	4.588631	0.0004
R-squared	0.997982	Mean dependent var	19.00552	
Adjusted R-squared	0.995820	SD dependent var	7.734720	
SE of regression	0.500050	Akaike info criterion	1.756311	
Sum squared residual	3.500706	Schwarz criterion	2.503616	
Log likelihood	-10.34467	Hannan-Quinn criter.	1.995380	
F-statistic	461.6269	Durbin-Watson stat	1.918709	
Prob(F-statistic)	0.000000			

Source: Eviews 10 statistical processing

Classical Assumptions

Can the regression model be used for conclusion-drawing analysis? Therefore, the Classical Assumption Test was conducted again using five test tools: autocorrelation, heteroscedasticity, normality, linearity, and multicollinearity. The results: of the five tested aspects, four (autocorrelation, heteroscedasticity, normality, and linearity) passed the test. The model still has multicollinearity, but this is normal because this multiple regression involves many variables and includes *dummy* variables. Therefore, this regression model is suitable as a basis for further analysis.

Table 7 Summary of Classical Assumption of Stability Test – PCI

Test Type		Test Result Data	Conclusion
Autocorrelation	B r u s c h -G o d f r e y L M (L a g r a n g e M u l t i p l i e r) T e s t	F-statistic 1.672760 Prob. F(2,12) 0.2287 > 0.05	No autocorrelation
	Durbin Watson Analysis	1.5229 (dU) < DW=1.919 < 2.4771 (4-dL)	No autocorrelation
Heteroscedasticity	Breusch-Pagan-Godfrey Test	F-statistic 1.156402 Prob. F(15,14) 0.3954 > 0.05	Does not contain heteroscedasticity
Normality	Jarque-Bera Values	Jarque-Bera value 0.17496 > 0.05	Meets the requirements of normal distribution
Linearity	Ramsey Test	t-statistic 1.111219 (1.13) 0.2866 F-statistic 1.23480 8 (1, 13) 0.2866	Meets the linearity requirement

Multicollinearity	VIF Diagnostic Coefficient	Variable	Coefficient Variance	Uncentered VIF	Centered VIF	There are 3 variables that are not multicollinear
		M1M2	2.18E-06	1916.151	914.1599	There are 7 multicollinearity variables
		KURS\$	5.56E-08	619.1211	134.2155	
		BI_RATE	0.006106	124.7297	25.97380	
		INFLASI	13.08716	41.12722	26.90891	
		BIAYA	5.66E-05	310.7950	162.9402	
		INVEST\$	0.000312	14.70197	3.050429	
		DEBT\$	0.000221	1008.636	364.6993	
		EKSPOR	2.40E-13	3.615810	2.922034	
		IMPOR	1.21E-11	16.57775	6.713307	
		APBN	5.12E-06	701.0146	353.1278	
Conclusion		Four tests passed, one test doubtful				The regression model meets the statistical requirements

Source: Eviews 10 statistical processing

From the classical assumption test, the researchers found that the linear regression model of the effect of stability on per capita income (PCI) was free from autocorrelation and heteroscedasticity, with a normal data distribution, and linear correlation between variables. However, several variables still had multicollinearity issues. Of the five assumption tests, the regression model passed four. In the fifth test, three variables were free from multicollinearity, while the remaining seven had multicollinearity issues.

However, according to Hardius Usman (2010), multicollinearity in *dummy regression models*, especially those involving multiple independent variables, is common. The existence of correlation between research variables can be demonstrated using the Granger Causality test. Importantly, this model meets the requirements for stationary data and meets most of the requirements for the classical assumption test. Therefore, researchers can conclude that the multiple regression model with *dummy* variables passes the classical assumption test.

Regression Model Feasibility Test

From the results of the classical assumption test, the econometric regression model that meets the following requirements:

$$PCI\$ = \beta_0 + \beta_1 M1M2 + \beta_2 \text{Inflation} + \beta_3 \text{Exchange Rate} + \beta_4 \text{Investment} + \beta_5 \text{Financing} + \beta_6 \text{BIRate} + \beta_7 \text{APBN} + \beta_8 \text{Export} + \beta_9 \text{Import} + \beta_{10} \text{ERA1} + \beta_{11} \text{Era2} + \beta_{12} \text{Era3} + \beta_{13} \text{Era4} + \beta_{14} \text{Era5} + \epsilon$$

$$PCI\$ = 5.75941812617 + 0.003224 * M1M2 - 0.0006005 * EXCHANGE RATES\$ + 0.309264 * BI_RATE + 1.55729 * INFLATION - 0.00746 * COSTS + 0.038484 * INVEST\$ + 0.0016872 * DEBT\$ + 0.00000026 * EXPORTS - 0.0000072 * IMPORTS + 0.0058388 * APBN + 5.886716 * REGIME1 + 5.517345 * REGIME2 + 6.44712 * REGIME3 + 6.92255 * REGIME4 + 5.6059388 * REGIME5 +$$

F test

From the results of the multiple regression analysis of the effect of stability on GDP per capita (see Table 6), the probability data obtained F statistic = 0.0000001 with R² = 0.9958. This indicates that simultaneously the independent variable indicators (money supply, BI rate, financing, inflation, exchange rate, investment, APBN, and debt) have a significant effect on GDP per capita. The correlation coefficient is high, reaching 0.9958.

This means that all independent variables can explain GDP per capita by 99.58%. The remainder is influenced by other variables not examined.

t-test

Table 8 Results of the Partial t-Test Calculating the Correlation of Independent Variables to GDP Per Capita

Independent Variable	Coefficient	Probability t Statistics	Conclusion (α 5%)
M1M2	0.003224	0.0467	have a real impact
EXCHANGE \$	-0.000600	0.0232	have a real impact
INFLATION	0.309264	0.6734	no real effect
BI RATE	1.557294	0.0014	have a real impact
COST	-0.007459	0.3384	no real effect
INVEST\$	0.038484	0.0468	have a real impact
DEBT\$	0.001687	0.9113	no real effect
EXPORT	2.57E-07	0.6075	no real effect
IMPORT	-7.24E-06	0.0558	have a real impact
State Budget	0.005839	0.0218	have a real impact
REGIME 1	5.886716	0.0222	have a real impact
REGIME 2	5.517345	0.0446	have a real impact
REGIME 3	6.447124	0.0220	have a real impact
REGIME 4	6.922551	0.0066	real impact
REGIME 5	5.605939	0.0537	have a real impact
C	5.759418	0.0004	

Source: Eviews 10 statistical processing

Table 8 above shows that six independent variables and five *dummy variables* have a t-test probability below 0.05. This means that partially, the money supply, exchange rate, BI rate, investment, imports, and APBN variables significantly influence GDP per capita achievement. The money supply, investment, BI rate, investment, and APBN variables are positively correlated with GDP per capita. This means that the amount of money in circulation, BI rate, investment, and the amount of APBN are directly proportional to GDP per capita. Therefore, greater money supply, investment, a higher BI rate, and higher financing tend to increase GDP per capita. This research finding aligns with Dedi Latif's (2009) study, which found a positive relationship between foreign investment and GDP achievement in Indonesia during the 2000-2006 period.

The exchange rate and imports are negatively correlated with GDP per capita. This means that a higher exchange rate (a weakening exchange rate) and higher imports will reduce GDP per capita. Conversely, a lower exchange rate (a strengthening exchange rate) and a decrease in imports will lead to a higher GDP per capita.

Meanwhile, other variables such as inflation, costs, debt, and exports, at a 95% confidence level and a 5% standard error, do not have a significant effect on GDP per capita.

5.5. The Impact of Regime Differences on Monetary Stability Governance – PCI

Table 8 also shows that all *dummy variables* (the Soeharto regime as a comparison) have a t-test probability below 0.05. This means that all reform regimes (starting from BJ Habibie, Abdurrahman Wahid, Megawati Soekarnoputri, Susilo Bambang Yudhoyono, and Joko Widodo) are significantly different from the Soeharto regime in terms of monetary stability governance towards GDP per capita achievement. A positive sign indicates that the Reform Order regime is better than the New Order regime. This indicates that the capabilities of the Habibie, Abdurrahman Wahid, Megawati, SBY, and

Jokowi governments differ from the capabilities of the Soeharto government in monetary stability governance to support GDP per capita growth.

Based on 1990-2019 data, the econometric model of multiple linear regression of the research on the influence of monetary-fiscal stability on GDP per capita is as follows :

$$\text{PCI\$} = 5.7594 + 0.0032 \cdot \text{M1M2} - 0.0006 \cdot \text{EXCHANGE RATES\$} + 0.3092 \cdot \text{BI_RATE} + 0.0385 \cdot \text{INVEST\$} - 0.0000072 \cdot \text{IMPORT} + 0.00584 \cdot \text{APBN} + 5.8867 \cdot \text{REGIME1} + 5.5173 \cdot \text{REGIME2} + 6.4471 \cdot \text{REGIME3} + 6.9226 \cdot \text{REGIME4} + 5.6059 \cdot \text{REGIME5}$$

Based on the econometric model, it can be interpreted that if the money supply is limited, the exchange rate is stable, the benchmark interest rate is affordable, investment is ongoing, imports are not too large and governance is not running effectively, then Indonesia's PCI value still has the potential to reach 5,759 US dollars.

- If the money supply is increased by one trillion, *ceterus paribus* (if other variables remain unchanged), then the PCI is predicted to increase by 38,484 dollars.
- If the exchange rate rises (the rupiah exchange rate weakens), *ceterus paribus* , then PCI tends to decrease by 0.6 dollars
- If the BI rate rises by 1 point, *ceterus paribus*, then PCI is predicted to increase by 309.2 dollars.
- If investment increases by 1 dollar, *ceterus paribus*, then PCI increases by 38.48 dollars
- If imports increase by 1,000 dollars, *ceterus paribus*, then PCI decreases by 0.72 thousand dollars
- If the APBN increases by 1,000 dollars, *ceterus paribus*, then PCI has the potential to increase by 5.8388 dollars

Therefore, it can be concluded that efforts to achieve GDP per capita (PCI) can be carried out effectively when monetary stability governance is running well, there is sufficient money in circulation (thus having good liquidity capacity), investment is enthusiastic, imports are controlled and the APBN is sufficient.

Inflation has no significant impact, but there is a tendency for a positive impact on PCI achievement. The error rate is 67.34%. Debt tends to have a positive impact, although not a significant effect, with an error rate of up to 91.13%. This raises the question of financing, which has no significant effect, but there is a tendency for a negative impact with an error rate above 33.84%. This indicates that financing still needs to be encouraged in terms of growth and effectiveness to spur PCI achievement. Financing governance and effectiveness still need to be improved to have a positive impact on the economy, especially GDP per capita or PCI. Exports tend to have a positive impact, although not too strong, on achievement, with an error probability of 60.75%. The state budget has a positive impact but needs to be improved in order to have a higher multiplier effect on PCI improvement efforts.

Thus, efforts to increase PCI per capita or the average income of Indonesian citizens can be carried out when monetary stability governance is running well, money in circulation is sufficiently available (thus having good liquidity capacity), interest rates are quite attractive, and the financing industry is developing well.

Ideally, according to Muhammad Mustaqim (2018), the development trilogy concept was a good and positive concept to be implemented in Indonesia during the New Order

era. National stability is indeed a prerequisite for development. No development can thrive when the country is unstable. National stability is also necessary for implementing strategic development initiatives and increasing international trust.

Likewise, with economic growth. Currently, one relevant indicator for measuring a country's progress (especially economically) is economic growth. Developed countries worldwide are always characterized by high economic growth.

The issue of equitable distribution of development outcomes is also a noble concept that must be championed, and this has consistently been a problem for third-world countries. Equitable distribution of development outcomes is currently the greatest challenge for an archipelagic nation like Indonesia. Although the term "Development Trilogy" has disappeared from formal development planning documents post-reform, the urgency of stability and growth remains the focus of economic development policy under all Indonesian governments.

According to Arthur M. Diamond Jr. (2005) and Julie A. Nelson (2011), foreign debt has both positive and negative impacts on a country. Foreign debt has a positive impact on economic development and increases public savings. Its flow can increase domestic income and savings, thus foreign debt has a positive *multiplier effect* on the economy by increasing economic growth and public savings. According to them, the flow of foreign aid can increase investment, which in turn increases domestic income and savings, and so on.

In theory, according to Supriyanto And Perfect AF (1999) argues that foreign aid actually produces positive multiplier effects *on* the economy. In the short term, foreign loans can cover the state budget deficit. This is far better than allowing a state budget deficit, allowing the government to carry out development. Thus, the government can implement fiscal expansion to increase the rate of national economic growth. Increasing the rate of economic growth means increasing national income, which in turn allows for increased per capita income.

According to Kravis et al. (1978), the growth of GDP per capita is a benchmark for a country's growth, including reflecting its population's purchasing power. Studies of GDP across countries also offer a rich source of information on comparing the economic structures of countries, including comparisons of prices and quantities for consumption, capital formation, and the role of government spending.

Dynan and Sheiner's (2018) exploration shows that, although GDP is not a comprehensive measure of welfare, it is useful for policy studies because it contains a wealth of information closely related to welfare. The two US economists found that changes in real GDP can capture changes in national economic welfare with exceptions. This means that it ignores non-market activities that contribute to economic welfare, even though changes in such activities over time can potentially alter GDP's ability to capture changes in welfare. According to Dynan and Sheiner (2018), GDP measurements do not capture the value of new goods and services or goods in services and changes in quality. Current methods may not adequately capture consumer surplus.

Alex Reuben Kira's (2018) research in Tanzania shows that GDP is influenced by household consumption, government spending, and exports. The investment sector has not yet had a significant impact, so it needs to be encouraged to have a positive impact on GDP, specifically by directing it towards stimulating industrialization. Kira found that rising oil prices, electricity shortages, and political instability were determining factors in Tanzania's GDP growth.

Zaghdoudi and Hakimi (2018) investigated the impact of external debt on poverty for a panel of 25 developing countries over the period 2000–2015. Using a panel

cointegration model, they found strong evidence for a positive and significant long-run relationship between poverty, external debt, GDP per capita, gross domestic product, and fixed investment. The findings also indicated a negative and significant relationship between poverty, infrastructure, health conditions, and openness. Granger causality results indicated a bidirectional causality between external debt and poverty. This study supports the view that external debt increases poverty in developing countries.

Ms. Eesha Pathak (2018) from the Symbiosis Centre for Management Studies, Pune, India, proposed *the Better Life Index* as an alternative to GDP. After 80 years of use, the GDP measure has failed to measure actual well-being and economic progress. She believes *the Better Life Index* is superior to GDP in measuring the actual state of people's prosperity. Collaboration between governments, policymakers, and citizens worldwide is needed to formulate appropriate policies that will benefit citizens and ultimately lead to economic prosperity.

Aziz and Azmi (2017) from Malaysia identified FDI and female labor force factors as having a positive impact on GDP growth. However, FDI was the only variable that significantly contributed to GDP growth in Malaysia. Furthermore, inflation was negatively correlated with GDP growth, but it was not a significant factor in GDP growth in Malaysia. The Malaysian government is advised to maintain inflation stability, increase taxes, and reduce government spending to mitigate inflationary pressures.

Research by Musau et al. (2018) in Kenya found that bank availability, bank accessibility, and bank utilization significantly influence commercial bank credit risk in Kenya. The Peacock study also concluded that financial inclusion significantly impacts commercial bank credit risk in Kenya. The study also recommends collaboration between the Central Bank and the Ministry of Finance to formulate policies that support macroeconomic variables that benefit GDP growth, which influence the level of financial inclusion and bank credit risk.

Jain et al.'s (2017) study investigated the impact of various macroeconomic factors on GDP components. Using secondary data on India's GDP for the period 2000–2012, they found significant effects of FDI, net FII equity, and imports on GDP components. However, net FII debt had no significant effect on GDP and PCI. They also found no significant effect of exports on GDP components (manufacturing and industry), but public services had a significant effect on GDP and PCI.

VI. CONCLUSIONS AND POLICY RECOMMENDATIONS

6.1. Conclusion

Based on the results of the analysis and discussion, this study concludes: Some monetary stability indicators (money supply, exchange rate, BI rate, investment, imports, and the state budget) significantly impact the economy (GDP). Meanwhile, inflation, financing, and external debt have no significant impact on GDP achievement. The government regime of the Reformation era (BJ Habibie, Abdurrahman Wahid, Megawati Soekarniputeri, Soesilo Bambang Yudhoyono, and Joko Widodo) was different and better than the New Order era government (Soeharto) in terms of managing stability towards GDP achievement. The econometric model is $GDP\$ = 178.54196 + 0.09995 * M1M2 - 0.018614 * EXCHANGE\ RATE\$ + 9.587177 * BI_RATE + 1.193015 * INVEST\$ - 0.0002245 * IMPORT + 0.1810037 * APBN + 182.4882 * REGIME1 + 171.0377 * REGIME2 + 199.8609 * REGIME3 + 214.5996 * REGIME4 + 173.7841 * REGIME5$.

Several monetary stability indicators (money supply, exchange rate, BI rate, investment, imports, and the state budget) also significantly impact per capita income (PCI). Meanwhile, inflation, financing, and external debt have no significant impact on PCI achievement.

The Reform era government regime (BJ Habibie, Abdurrahman Wahid, Megawati Soekarniputeri, Soesilo Bambang Yudhoyono, and Joko Widodo) is different and better than the New Order era government (Soeharto) in terms of stability governance towards PCI achievement. The econometric model: $PCI\$ = 5.7594 + 0.0032 * M1M2 - 0.0006 * EXCHANGE\ RATE\$ + 0.3092 * BI_RATE - 0.0385 * INVEST\$ - 0.0000072 * IMPORT + 0.00584 * APBN + 5.8867 * REGIME1 + 5.5173 * REGIME2 + 6.4471 * REGIME3 + 6.9226 * REGIME4 + 5.6059 * REGIME5$

6.2. Policy Recommendations

To improve government performance, particularly GDP and PCI, in the future, the research team recommends:

1. So that the government prioritizes the management of the money supply system, the benchmark interest rate, the exchange rate, and investment, and oversees the management of the State Budget to improve it in the future.
2. The government and related *stakeholders* need to improve the financing system to be more *prudent*, selective and careful, starting from the procedural mechanisms, planning, implementation and supervision of effective and efficient financing so that it can have a positive impact in encouraging national economic growth.
3. So that the government and stakeholders work together to improve the quality of exports, reduce the number of imports, and optimize the allocation of foreign debt/loans for productive business interests, not for consumptive interests.
4. To improve the quality of the influence of monetary and fiscal stability on the achievement of GDP and GDP per capita (PCI), the government should not hesitate to continue good past policies, but must also be firm in not repeating misguided and ineffective policies of the past.

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