The Effect of Monetary Variables on Household Consumption in Indonesia: Empirical Analysis

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Abstract

This study aims to analyze the influence of the main monetary variables of interest rates, money supply (JUB), and inflation on household consumption in Indonesia. Household consumption is the largest component in the structure of Gross Domestic Product (GDP), so its fluctuations greatly affect the direction of national economic growth and stability. A deep understanding of the monetary determinants of consumption is important in formulating policies that are adaptive to macroeconomic changes. This study uses a quantitative approach with the path analysis method to evaluate both direct and indirect influences between variables. The data used are sourced from national official institutions in the period 2003 to 2022. The results of the analysis show that only the money supply variable has a direct and significant influence on household consumption. In contrast, interest rates and inflation do not have a significant direct or indirect influence on consumption. However, interest rates significantly affect inflation, although the mediating effect of inflation on consumption is not statistically proven. The implications of these findings indicate that in the Indonesian context, liquidity (in the form of money supply) plays a more important role in driving consumption expenditure compared to price mechanisms or borrowing costs. Therefore, careful liquidity management by monetary authorities is crucial to maintaining the continuity of consumption growth and national economic stability.

Keywords: Household Consumption, Money Supply, Interest Rates, Inflation, Monetary Policy, Path Analysis, Indonesian Economy

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Introduction

Developing countries like Indonesia often face high economic vulnerability due to global fluctuations, dependence on the primary sector, and a domestic market structure that is not yet fully efficient (World Bank, 2023). Therefore, macroeconomic stability is a top priority in formulating national economic policies. One of the main approaches to maintaining this stability is through monetary policy, which utilizes instruments such as interest rates, money supply, and inflation control to direct economic dynamics (Mishkin, 2022; Blanchard & Johnson, 2021). These monetary indicators have a direct impact on aggregate demand, particularly through the household consumption channel, which is the dominant component of Gross Domestic Product (GDP). In the context of Indonesia, household consumption consistently contributes between 60% and 75% of the total national GDP (BPS, 2023). Data from 2022 shows that the value of Indonesian household consumption reached IDR 6,938.19 trillion, confirming that fluctuations in the consumption sector have a major impact on national economic conditions (Bank Indonesia, 2023).

Theoretically, consumption is defined as the total expenditure on goods and services by individuals or households in a given time period (Mankiw, 2021). According to Keynesian Consumer Theory, consumption is determined by real income, future expectations, and marginal propensity to consume (Keynes, 1936; Romer, 2022). Furthermore, Friedman's (1957) Permanent Income Theory and Modigliani and Brumberg's (1954) Life Cycle Hypothesis emphasize the importance of long-term expectations of income and the influence of wealth on consumption decisions. In the context of modern economics, this approach has been reinforced by contemporary studies stating that the digitalization of finance and access to microloans also affect consumption patterns (Chen & Qian, 2020).

Changes in the money supply, as measured by the M2 indicator, have the potential to increase liquidity in society and ultimately encourage increased consumption. According to Fisher's quantity theory of money, an increase in the money supply in the short term can encourage economic growth, but in the long term it actually creates inflationary pressures (Friedman, 1968; Bernanke, 2020). If inflation is not controlled, people's purchasing power will decrease, so that consumption will contract (Shapiro, 2020). Therefore, the balance between the money supply and the inflation rate is very important to maintain the sustainability of household consumption. In addition to money supply and inflation, interest rates are also an important instrument in managing consumption. High interest rates will increase borrowing costs and reduce consumption incentives, while low interest rates encourage consumer financing through credit (Taylor, 2019; Gali, 2022). The IS-LM model shows that changes in interest rates will affect aggregate demand through investment and consumption. In the Indonesian context, recent studies have shown that the transmission of interest rates to consumption is slow due to the uneven level of financial inclusion (Harahap et al., 2023).

Various empirical studies show that the relationship between interest rates, inflation, and consumption is not always linear. Several studies found that the effect of interest rates on consumption depends on price stability and consumer confidence (Akram & Li, 2020; Purnomo & Haryanto, 2021). Likewise, moderate inflation can actually encourage consumption because people try to spend money before its real value decreases (Ginting & Susanto, 2023), but high inflation will reduce expectations and consumption.

Based on the phenomena and theories that have been explained, it can be concluded that the relationship between monetary variables and household consumption is complex and multidimensional. Therefore, this study aims to empirically analyze the effect of interest rates, broad money, and inflation on household consumption in Indonesia, and explore the mediating role of inflation in bridging the relationship between monetary variables and consumption. The findings of this study are expected to provide policy input for the government and monetary authorities in designing appropriate macroeconomic strategies to support consumption as a driver of national economic growth.

Literature review

A. Monetary Policy

Monetary policy is an important instrument used by central banks to control macroeconomic stability by regulating the money supply and interest rates. According to Mishkin (2019), monetary policy aims to maintain price stability, create employment opportunities, and support economic growth. In the context of Indonesia, Bank Indonesia implements monetary policy to achieve rupiah stability by controlling inflation and financial system stability (Bank Indonesia, 2022). Bernanke and Gertler (2020) emphasize that the effectiveness of monetary policy is highly dependent on the speed of transmission of the policy through interest rates and liquidity to the real sector, including household consumption. Expansionary monetary policy is generally carried out when the economy slows down, by lowering interest rates and increasing the money supply to stimulate aggregate demand (Blanchard & Johnson, 2022).

B. Household Consumption

Household consumption is the largest component in the GDP structure and is heavily influenced by factors such as income, future expectations, interest rates, and access to credit (Keynes, 1936; Friedman, 1957). Friedman's Permanent Consumption Theory explains that consumption is determined by permanent income, not just temporary income. According to Hall (2017), consumption tends to be stable in the long run because individuals plan spending based on expectations of future income. Meanwhile, Campbell & Mankiw (2021) found that most households are liquidity-constrained, so their consumption is highly responsive to current income. In Indonesia, data from BPS (2023) shows that household consumption contributes more than 55% to GDP, making it an important indicator of national economic growth.

C. Interest Rate

Interest rates are the price of borrowing money and are the main tool in the transmission of monetary policy. Changes in interest rates directly affect household consumption and investment decisions. According to Mishkin (2021), high interest rates will increase borrowing costs and reduce consumption, especially consumption of durable goods. Conversely, low interest rates encourage consumption because they reduce credit costs. Deaton & Muellbauer (2020) show that households will adjust their consumption behavior to changes in real interest rates. In developing countries, as stated by Siregar & Wahyudi (2022), the sensitivity of consumption to interest rates is higher due to limited savings and dependence on consumer credit.

D. Money Supply

The money supply (M2) includes currency, demand deposits, and public savings. According to the quantity theory of money, an increase in the money supply will increase aggregate demand which ultimately impacts consumption (Mankiw, 2007; Lucas, 2018). Friedman and Schwartz (2021) stated that consistent growth in the money supply can support economic growth through increased consumption and investment. In Indonesia, Bank Indonesia (2023) noted that spikes in M2 often accompany increases in household consumption, especially when monetary easing is carried out. According to research by Wahyuni & Arifin (2021), there is a long-term relationship between the money supply and consumption, with a positive elasticity to M2.

E. Inflation

Inflation is a general increase in the prices of goods and services that directly affects people's purchasing power. High inflation usually reduces consumption because it reduces consumers' real purchasing power (Shapiro, 1970; Blanchard & Johnson, 2022). However, moderate inflation can encourage consumption because people will accelerate purchases to avoid future price increases. According to Dornbusch, Fischer, & Startz (2021), inflation expectations also affect short-term consumption behavior. In the context of Indonesia, stable inflation below 5% is considered healthy and does not have a negative impact on household consumption (Bank Indonesia, 2022). Recent research by Rahmawati et al. (2023) found that inflation above the 6% threshold began to show a significant decline in household consumption, especially the lower middle income group.

Methodology

This study uses a quantitative approach with an associative research type, which aims to analyze the causal relationship between monetary variables and household consumption in Indonesia. The quantitative approach was chosen because it is able to objectively measure the relationship between variables through numerical data and systematic statistical analysis.

Data Types and Sources

The data used in this study are secondary data obtained from official publications such as the Central Statistics Agency (BPS), Bank Indonesia (BI), and the Indonesian Ministry of Finance. The data collection period covers a certain year range (eg 2003-2022) in order to analyze long-term trends and relationships between variables.

Research Variables

a. X1 is the Interest Rate**,** Bank Indonesia's benchmark interest rate (BI-Rate), which represents monetary policy in controlling inflation and consumption.
b. X2 is the Money Supply (M2)**,** includes cash, demand deposits, and time deposits, used to measure the level of liquidity in the economy.
c. Y is Inflation**,** the rate of change in the consumer price index (CPI), as an indicator of price stability.
d. Z is Household Consumption**,** total household consumption expenditure in GDP at current prices.

Data Analysis Techniques

Data analysis was conducted using path analysis technique which is a development of multiple linear regression. This technique is used to determine the direct and indirect relationship between independent variables and dependent variables through mediating variables. Path analysis is very relevant in this study because it is able to test the simultaneous relationship model between interest rates, money supply, inflation, and household consumption.

The path analysis model in this study is formulated in two main paths, namely:

1. Path I is the Influence of X1 and X2 on Y (Inflation)
2. Path II is the Influence of X1, X2, and Y on Z (Household Consumption)

Analysis and Testing Tools

Data processing is done with the help of statistical software such as SPSS or SmartPLS, to test the significance, path coefficient, p-value, and R-squared. Significance testing is done at a 95% confidence level ($\alpha = 0.05$).

Testing steps include

a. Test the validity and reliability of data
b. Classical assumption tests (normality, multicollinearity, heteroscedasticity)
c. Estimation of path coefficients
d. Direct and indirect significance tests

Results and Discussion

This study examines the direct and indirect relationship between monetary variables (interest rates, money supply, inflation) and household consumption in Indonesia. The following are the results of path analysis.

Table 1. Results of the Significance Test of the Influence of Monetary Variables

No	Variable Relationship	p-value (Significance)	Information
1	Interest Rate → Inflation	0.002	Significant
2	Money Supply → Inflation	0.498	Not Significant
3	Interest Rate → Consumption	0.338	Not Significant
4	Money Supply → Consumption	0.046	Significant
5	Inflation → Consumption	0.574	Not Significant
6	Interest Rate → Inflation → Consumption (Indirectly)	0.219	Not Significant

Result Explanation:

1. Interest Rate → Inflation.

A significant relationship was found ($p = 0.002 < 0.05$), indicating that changes in interest rates affect the rate of inflation. This is in line with the monetaristic theory that interest rate policy is the main control tool against price pressures.

2. Money Supply → Inflation.

The results are not significant ($p = 0.498 > 0.05$), indicating that in the analyzed period, the increase in the money supply did not directly trigger inflation. This may be influenced by the velocity of money circulation or aggregate supply factors.

3. Interest Rate → Consumption.

Not significant ($p = 0.338$), meaning that interest rates do not directly affect household consumption. This may indicate that people are not too dependent on consumer credit, or that there is intermediation from other variables such as income or consumer confidence.

4. Money Supply → Consumption.

Significant ($p = 0.046$), indicating that the increase in the amount of money in circulation has a direct impact on increasing household consumption. High liquidity in society contributes to purchasing power and consumption.

5. Inflation → Consumption.

Not significant ($p = 0.574$), indicating that inflation fluctuations within moderate limits have not significantly affected people's consumption patterns. This is in line with the assumption that basic consumption remains stable even though prices fluctuate.

6. Indirect Effect of Interest Rates → Inflation → Consumption.

Not significant, with a total influence value of 0.219. This shows that although interest rates affect inflation, the indirect channel is not strong enough to affect overall consumption.

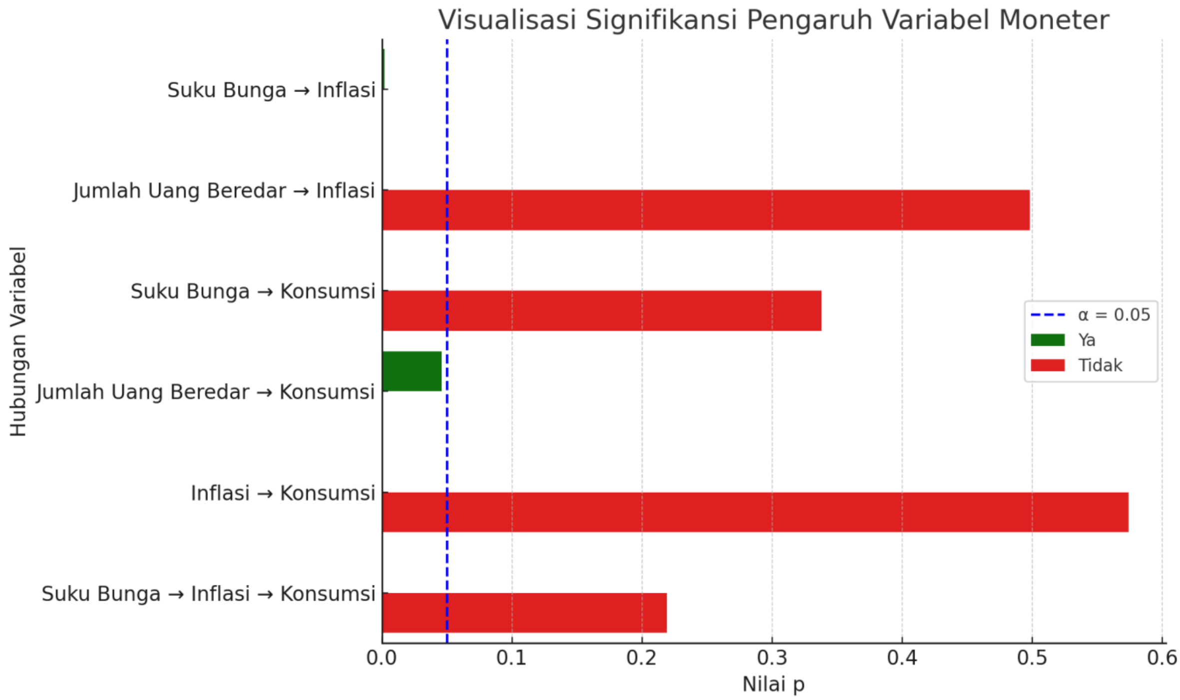

Figure 1. Visualization of Significance Value (p-value).

This graph shows the significance of each relationship. The blue line shows the significance limit (α = 0.05). The relationships in green are significant, while the red ones are not significant.

Conclusion and Suggestions

Conclusion

Based on the results of path analysis on the influence of monetary variables (interest rates, money supply, and inflation) on household consumption in Indonesia, several important points can be concluded as follows:

1. Interest rates have a significant impact on inflation, meaning that changes in the benchmark interest rate (BI Rate) set by the monetary authority will have a direct impact on the inflation rate. Interest rates are an effective tool for controlling price pressures in the short term.
2. The amount of money in circulation does not have a significant effect on inflation, shows that in the Indonesian context, an increase in the money supply has not automatically given rise to inflationary pressures, possibly due to the low velocity of money or the existence of strict price controls.
3. Interest rates do not have a significant effect on household consumption, indicating that household consumption is not very sensitive to interest rate fluctuations, perhaps because most consumption is funded from fixed income, not consumer loans.
4. The amount of money in circulation has a significant effect on household consumption., shows that increasing liquidity in society contributes positively to increasing purchasing power and consumption. This makes the money supply a strategic variable in driving economic growth through the demand side.
5. Inflation does not have a significant effect on household consumption, which could mean that as long as inflation is at a moderate level, people are still able to maintain their consumption patterns.
6. The indirect effect of interest rates and money supply through inflation on household consumption is also not significant., strengthening the conclusion that the direct path primarily from the money supply to consumption is the main mechanism in the influence of monetary policy on consumption activity.

In general, these results indicate that in the Indonesian context, the influence of monetary variables on consumption is stronger through direct liquidity mechanisms (money supply) than through price mechanisms (inflation) or borrowing costs (interest rates).

Suggestion

Based on the findings and conclusions of this research, the author provides several strategic and practical suggestions as follows, namely:

1. For the Government and Bank Indonesia
    a. Focus on controlling the money supplyas a tool to encourage growth in public consumption, while maintaining balance so as not to cause excessive inflationary pressure.
    b. Improving the effectiveness of monetary policy transmission, especially from interest rates to the real sector, through strengthening financial literacy, access to productive consumer credit, and an inclusive digital financial system.
2. For Economic Policy Makers
    a. Designing a synergistic fiscal policywith monetary policies, such as subsidies for low-income household consumption in the form of cash transfers or proportional consumption taxes.
    b. Developing additional macro indicatorswhich can bridge monetary dynamics and consumption behavior, such as consumer confidence index, consumer loan to income ratio, and digital payment trends.
3. For Business Actors and Retail Industry
    a. Taking advantage of the momentum of high public liquidity with marketing and product strategies that adapt to consumption trends, especially in the basic needs and digital sectors.
    b. Manage prices wiselyand increase distribution efficiency so as not to increase the burden of consumption due to price fluctuations.
4. For Academics and Further Researchers
    a. It is recommended to develop the model with additional variables such as disposable income, consumer confidence, and inequality index, in order to obtain a more comprehensive understanding of the factors influencing consumption.
    b. The use of the Structural Equation Modeling (SEM) method or the multivariate time-series approach (VAR/VECM) is also recommended for deeper exploration of causality.

Thus, monetary policy management must continue to be directed not only to maintain price stability, but also to encourage public consumption in a measured manner to support the sustainability of national economic growth.

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