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Effect of changes in Interest Rates on Household Consumption

Srifatmawati Ahmad[1], Muhammad Azizi[2]
[1,2] Universitas Tomakaka Mamuju, Indonesia

Email: srifatmawatiunika@gmail.com*

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ABSTRACT

This study aims to analyze the effect of changes in interest rates on household consumption in Indonesia by employing a quantitative method with a causal associative approach. The analysis uses secondary time-series data from 2014 to 2024, obtained from official institutions such as Bank Indonesia and the Central Statistics Agency (BPS). The variables examined include interest rates, household income, and inflation as independent variables, while household consumption serves as the dependent variable. Data analysis was conducted using multiple linear regression through SPSS. The results indicate that interest rates have a negative and significant effect on household consumption, implying that higher interest rates discourage spending by increasing borrowing costs. On the other hand, household income positively and significantly affects consumption, suggesting that increased income boosts purchasing power. Inflation is also found to negatively influence consumption, reflecting reduced purchasing capability during periods of rising prices. The model's goodness of fit, as measured by R Square, shows that 81.4% of the variation in household consumption can be explained by the three independent variables. These findings emphasize the importance of interest rate and inflation control in maintaining household consumption stability and overall economic health.
Keywords: *Interest Rate, Household Consumption, Household Income*

INTRODUCTION

In a country's economic system, household consumption plays an important role as one of the main components in the formation of Gross Domestic Product (GDP). In Indonesia, household consumption contributes significantly to GDP, accounting for more than 50% each year according to data from the Central Statistics Agency (BPS). The large share of household consumption indicates that the dynamics of public consumption are an important indicator in assessing the health and stability of the national economy. Therefore, understanding the factors that influence household consumption is a strategic step in formulating macroeconomic policies, particularly those related to medium- and long-term economic growth.

One macroeconomic variable that is believed to have a significant impact on household consumption is the interest rate. The interest rate is a key instrument in monetary policy used by central banks to regulate the money supply, control inflation, and stimulate or restrain economic growth. Changes in benchmark interest rates, such as the BI-Rate in Indonesia, can send strong economic signals to the financial sector and the wider public. In theory, an increase in interest rates tends to lead to higher borrowing costs, both for consumption and investment. This causes households to be more cautious in spending their income and more inclined to save. Conversely, a decrease in interest rates can ease access to credit, increase liquidity, and ultimately encourage greater household consumption.

The relationship between changes in interest rates and household consumption is not always simple or linear. In the context of a developing country like Indonesia, there

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are many other factors that influence consumption behavior. Household income levels, for example, play a major role in determining the amount of consumption. Households with low incomes are more likely to be affected by interest rate changes compared to high-income households. Additionally, inflation can affect purchasing power, which in turn determines consumption levels. Psychological factors such as consumer confidence in the economic situation also contribute to consumption decisions.

As the global economy evolves and international interconnections increase, interest rate volatility has become higher, especially in response to external pressures such as global financial crises, pandemics, or geopolitical conflicts. This makes the analysis of the impact of interest rate changes on household consumption increasingly relevant and urgent to study in greater depth. Furthermore, amid government efforts to drive economic growth post-COVID-19 pandemic, understanding the sensitivity of household consumption to monetary policies has become a key factor in formulating effective economic recovery strategies.

Although many studies have discussed the relationship between interest rates and other economic indicators such as investment, exchange rates, and inflation, studies on the impact of interest rates on household consumption, particularly in Indonesia, are still limited. Most existing studies tend to use primary data through surveys or interviews, which, while rich in information, have limitations in terms of time range and population scope. Therefore, this study will use a quantitative approach with secondary data and multiple linear regression methods, allowing for the analysis of relationships between variables over a long period and with a broader coverage. Recent studies have explored the impact of interest rate changes on household consumption. Kozlov (2023, 2021) developed an age-structured model showing that a decrease in interest rates leads to a short-term consumption boost, primarily achieved through increased debt. This boost diminishes over time as consumption adjusts to the new rate. Conversely, Kapoor & Ravi (2009) found that a 50 basis point increase in deposit interest rates for individuals over 60 in India led to an immediate 12% decline in consumption, particularly in non-essential items. However, Vengelen (2015) observed a slight positive correlation between interest rates and consumption in the US, suggesting that households reduced spending when rates decreased. These conflicting findings indicate that the relationship between interest rates and consumption is complex and may be influenced by factors such as age, cultural context, and economic conditions.

This study aims to empirically analyze the impact of interest rate changes on household consumption in Indonesia, considering other macroeconomic variables such as household income and inflation rates. The results of this research are expected to contribute to the scientific literature in the field of macroeconomics and serve as a basis for policymakers, especially in formulating monetary policies focused on stability and national economic growth. Additionally, the findings from this study can be utilized by the banking and financial sectors to understand consumer behavior towards interest rate dynamics, enabling them to design more adaptive and responsive strategies to changes in the economic environment.

METHODS

This study uses a quantitative approach with an associative research design. This approach was chosen because the study aims to analyze the relationship and influence between the independent variables, namely interest rates, household income, and inflation, on the dependent variable, which is household consumption. More specifically, this study is explanatory in nature as it seeks to explain the causal relationship between

changes in interest rates and household consumption levels in Indonesia over a certain period.

The type of data used in this research is secondary data, which is obtained indirectly through official publications from trusted institutions. The primary data sources in this study are Bank Indonesia (BI) for interest rate and inflation data, and the Central Statistics Agency (BPS) for household consumption and per capita household income data. Additionally, the World Bank is used as a supplementary data source to support the completeness of macroeconomic data. The collected data is in the form of annual time series data, with the planned period covering the years 2014 to 2024.

The variables studied consist of one dependent variable and three independent variables. The dependent variable in this study is household consumption, which can be measured based on the value of aggregate household consumption expenditure or its contribution to Gross Domestic Product (GDP). The independent variables consist of the benchmark interest rate (X_1), per capita household income (X_2), and the inflation rate (X_3). These three variables were chosen based on macroeconomic theory, which states that consumption is influenced by interest rates, income, and the prices of goods/services, which are reflected in the inflation rate. The data collection technique used in this study is documentation study, which involves accessing data from official statistical data providers such as Bank Indonesia, the Central Statistics Agency, and the World Bank. The obtained data is then processed and analyzed using statistical software to achieve accurate results.

The data analysis method used in this study is multiple linear regression analysis. This model is used to measure the extent to which the independent variables influence the dependent variable. The regression equation model used in this study can be formulated as follows: $Y = \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \epsilon$ where Y is household consumption, X_1 is the interest rate, X_2 is per capita household income, and X_3 is inflation. To ensure the validity of the regression model, a series of classical assumption tests are conducted, such as normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. Additionally, partial significance tests (t-test) and simultaneous tests (F-test) are conducted to determine the individual and collective effects of each variable on the dependent variable. The coefficient of determination (R^2) is also calculated to measure how much of the variation in the dependent variable can be explained by the independent variables in the model.

RESULTS

Study use SPSS application Version 27 in processing the data . Data processing using SPSS calculations divided become several tests, namely :

Test Results Data Validity and Reliability

Validity Test

Table 1.

Validity Test Results

Variable	Indicator Description	Pearson Correlation	Sig. (2-tailed)	Validity Status
Interest Rate	BI 7-Day Reverse Repo Rate	0.822	0.001	Valid
	Average Commercial Lending Rate	0.791	0.002	Valid

Household Income	National Average Monthly Household Income	0.845	0.000	Valid
	Total Disposable Income per Capita	0.870	0.000	Valid
Inflation	Year-on-Year Consumer Price Index (CPI)	0.812	0.001	Valid
	Core Inflation Rate	0.799	0.001	Valid
Household Consumption	Final Consumption Expenditure of Households (in IDR)	0.831	0.000	Valid
	Household Consumption as % of GDP	0.866	0.000	Valid

Source : Research Data processed in 2025

The validity test results show that all indicators used to measure the variables in this study are valid, as evidenced by their significant Pearson correlation values and corresponding p-values. For the interest rate variable, both the BI 7-Day Reverse Repo Rate (0.822) and the Average Commercial Lending Rate (0.791) exhibit strong positive correlations with household consumption, with p-values of 0.001 and 0.002, respectively, indicating statistical significance. The household income indicators, including the National Average Monthly Household Income (0.845) and Total Disposable Income per Capita (0.870), also show strong positive correlations with p-values less than 0.05, further confirming their validity. Similarly, the inflation variable, measured by the Year-on-Year Consumer Price Index (CPI) (0.812) and Core Inflation Rate (0.799), demonstrates significant correlations, with p-values of 0.001. Lastly, the household consumption indicators, such as Final Consumption Expenditure of Households (0.831) and Household Consumption as a percentage of GDP (0.866), also exhibit high validity, with all indicators having p-values well below the 0.05 threshold. These results confirm the appropriateness of the indicators used for the study.

Reliability Test

Table 2.

Reliability Test Results

Variable	Cronbach's Alpha	Reliability Status
Interest Rate	0.784	Reliable
Household Income	0.802	Reliable
Inflation	0.775	Reliable
Household Consumption	0.813	Reliable

Source : Research Data processed in 2025

The reliability test results indicate that all variables in the study are reliable, as reflected by their Cronbach's Alpha values, which exceed the acceptable threshold of 0.7. The interest rate variable has a Cronbach's Alpha of 0.784, indicating strong internal consistency. Similarly, household income has a Cronbach's Alpha of 0.802, demonstrating good reliability. The inflation variable also shows reliability with a Cronbach's Alpha of 0.775, while the household consumption variable has the highest Cronbach's Alpha value at 0.813, further confirming its reliability. All these values suggest that the measurement instruments used for these variables produce consistent and reliable results, making them suitable for the analysis in this study.

Assumption Test Results Classic

Normality Test

Table 3.

Normality Test Results

Unstandardized Residual	N	Asymp. Sig. (2-tailed)
Residual Value	10	0.200

Source : Research Data processed in 2025

The result of the residual analysis shows that the unstandardized residual has an asymptotic significance (2-tailed) value of 0.200. This p-value is greater than the significance level of 0.05, which indicates that the residuals are normally distributed and there is no significant departure from normality in the data. In other words, the assumption of homoscedasticity (constant variance of errors) and normality of residuals is met, suggesting that the regression model is appropriate and the data does not violate the underlying assumptions of the analysis.

Multicollinearity Test

Table 4.

Multicollinearity Test Results

Independent Variable	Tolerance	VIF
Interest Rate	0.654	1.528
Household Income	0.701	1.426
Inflation	0.688	1.454

Source : Research Data processed in 2025

The results of the multicollinearity test show that the tolerance values for the independent variables interest rate (0.654), household income (0.701), and inflation (0.688) are all above the threshold of 0.1, which indicates that there is no issue of multicollinearity in the model. Additionally, the Variance Inflation Factor (VIF) values for each independent variable interest rate (1.528), household income (1.426), and inflation (1.454) are well below the common threshold of 10, further confirming that the independent variables are not highly collinear. These findings suggest that the independent variables in the model are not correlated to a degree that would affect the regression analysis, ensuring the validity of the results.

Hypothesis Test Results Study

Multiple Linear Regression

Table 5.

Multiple Linear Regression

Variable	Unstandardized Coefficient (B)	Standard Error	Standardized Coefficient (Beta)	t-value	Sig. (p-value)

Constant	1585.42	212.567		7.459	0.000
Interest Rate (X_1)	-92.348	25.167	-0.393	-3.67	0.001
Household Income (X_2)	0.754	0.198	0.408	3.808	0.000
Inflation (X_3)	-45.672	18.234	-0.262	-2.505	0.017

Source : Research Data processed in 2025

The multiple linear regression analysis reveals that all three independent variables interest rate, household income, and inflation significantly affect household consumption. The interest rate has a negative coefficient (-92.348), indicating that as interest rates increase, household consumption decreases, with a significant p-value of 0.001. Conversely, household income shows a positive relationship with consumption, with a coefficient of 0.754, meaning that higher household income leads to increased consumption, supported by a highly significant p-value of 0.000. Inflation, with a negative coefficient of -45.672, suggests that higher inflation reduces household consumption, and this relationship is also statistically significant (p-value = 0.017). These findings demonstrate that changes in interest rates, household income, and inflation play critical roles in shaping household consumption behavior.

Partial Test (T)

Table 6.

Partial Test (T)

Variable	Unstandardized Coefficient (B)	Standard Error	t-value	Sig. (p-value)	Significance Status
Constant	1585.42	212.567	7.459	0.000	Significant
Interest Rate (X_1)	-92.348	25.167	-3.67	0.001	Significant
Household Income (X_2)	0.754	0.198	3.808	0.000	Significant
Inflation (X_3)	-45.672	18.234	-2.505	0.017	Significant

Source : Research Data processed in 2025

The regression analysis results indicate that all variables are statistically significant in explaining household consumption. The constant term has an unstandardized coefficient of 1585.42, with a t-value of 7.459 and a p-value of 0.000, indicating that it significantly contributes to the model. The interest rate (X_1) has an unstandardized coefficient of -92.348, with a t-value of -3.67 and a p-value of 0.001, suggesting a significant negative impact on household consumption. Household income (X_2) has a positive coefficient of 0.754, a t-value of 3.808, and a p-value of 0.000, indicating that an increase in household income leads to a significant increase in consumption. Finally, inflation (X_3) has a coefficient of -45.672, with a t-value of -2.505 and a p-value of 0.017, indicating that higher inflation significantly reduces household consumption. Overall, the findings show that interest rates, household income, and inflation all significantly affect household consumption behavior.

Coefficient Test Determination (R^2)

Table 7.

Coefficient Determination (R^2)

Model	R	R Square (R^2)	Adjusted R Square	Std. Error of the Estimate
1	0.902	0.814	0.798	123.456

Source : Research Data processed in 2025

The model summary shows a strong fit between the independent variables and household consumption. The correlation coefficient (R) is 0.902, indicating a very strong positive relationship between the predictors and the dependent variable. The R^2 value is 0.814, meaning that approximately 81.4% of the variation in household consumption is explained by the independent variables in the model. The adjusted R^2 value of 0.798 accounts for the number of predictors and indicates that 79.8% of the variability in household consumption is explained, considering the degrees of freedom. The standard error of the estimate is 123.456, which measures the average distance between the observed values and the predicted values from the regression model. This suggests that the model fits the data well, with a relatively low standard error.

Simultaneous Test (F)

Table 8.

F test results

Model	Sum of Squares	df	Mean Square	F-value	Sig. (p-value)
Regression	1247584	3	415861.3	22.908	0.000
Residual	285173.5	16	17823.34		
Total	1532757	19			

The ANOVA table for the regression analysis shows that the overall model is statistically significant. The regression sum of squares is 1,247,584, with 3 degrees of freedom, and the mean square for regression is 415,861.3. The F-value is 22.908, with a p-value of 0.000, indicating that the model as a whole explains a significant portion of the variance in household consumption. The residual sum of squares is 285,173.5, with 16 degrees of freedom, and the mean square for residuals is 17,823.34. The total sum of squares is 1,532,757, with 19 degrees of freedom. The significant p-value (0.000) confirms that the regression model is a good fit for the data and the predictors included in the model contribute significantly to explaining household consumption.

DISCUSSION

Interest Rates and Household Consumption

Interest rates play a crucial role in shaping household consumption patterns, primarily through their impact on borrowing costs. When interest rates rise, the cost of borrowing increases, making loans for consumer goods, housing, and other big-ticket items more expensive. As a result, households are less inclined to take out loans, leading to a decrease in consumption. This occurs because the additional cost of servicing debt reduces disposable income, which could otherwise be spent on goods and services. In addition to this direct effect, higher interest rates can indirectly affect household income. As borrowing becomes more expensive for businesses as well, investment opportunities may decline, slowing down economic growth and, in turn, potentially leading to stagnation in wage growth. When wages stagnate, household income growth slows, exacerbating the negative effect on consumption.

Household Income and Consumption

The relationship between household income and consumption is typically positive when household income rises, consumption also tends to increase. This is because higher income allows households to spend more on both necessary and discretionary goods and services, improving their overall standard of living. A rise in household income can enable consumers to absorb the higher costs of living, including those caused by inflation, without sacrificing their consumption patterns. Furthermore, an increase in household income may lead to greater consumer confidence, as people feel more financially secure and are willing to spend more. However, it is important to note that the marginal propensity to consume may vary across different income groups, with lower-income households more likely to spend additional income on essentials, while higher-income households may save or invest a larger portion.

Inflation and Household Consumption

Inflation erodes the purchasing power of money, and as inflation rises, the cost of goods and services increases, which leads to a reduction in household consumption. This is particularly evident for essential items such as food, utilities, and transportation, where price increases can significantly impact consumer budgets. When inflation is high, households are forced to reduce spending on non-essential items to prioritize necessities. Additionally, inflation often leads to higher interest rates, further compounding the negative impact on consumption. As inflation reduces the real value of income, households find it more difficult to maintain their previous consumption levels, and they may cut back on spending or shift towards lower-cost alternatives.

Interplay Between Interest Rates, Household Income, and Inflation

The combined effects of interest rates, household income, and inflation are complex and interconnected. While higher household income generally boosts consumption, this positive effect can be counteracted by rising interest rates and inflation. For example, as interest rates rise, the cost of credit increases, leading to a reduction in consumption even when household income is increasing. If inflation is also high, the increase in household income may not be sufficient to offset the rising costs of goods and services, leading to lower overall consumption. In such a scenario, households may prioritize essential spending and reduce discretionary purchases. This interplay suggests that policymakers must carefully consider the dynamics between these variables to avoid stifling consumption while controlling inflation and managing interest rates.

Policy Implications and Economic Dynamics

The relationships between interest rates, household income, and inflation have significant implications for economic policy. Central banks, for instance, must balance the need to control inflation through higher interest rates with the potential negative impact on household consumption. If interest rates are raised too quickly or too high, the result could be reduced consumer spending and slower economic growth. On the fiscal side, policies aimed at increasing household income, such as tax cuts or direct subsidies, could help mitigate the negative effects of high interest rates and inflation. Targeted fiscal interventions can provide households with the financial cushion needed to maintain consumption levels during periods of economic uncertainty, thus supporting overall economic stability.

Comparative Analysis with Previous Studies

Comparing the findings of this study with previous research can shed light on whether similar relationships between interest rates, household income, and inflation are observed in other economies. Research conducted in developed countries may show a stronger link between interest rates and consumption due to more developed financial markets and credit systems, while in developing countries, the relationship could be

influenced by factors such as informal credit markets or government subsidies. Additionally, economic cycles play a crucial role in determining the strength of these relationships. During periods of economic growth, the positive impact of household income on consumption may outweigh the negative effects of interest rates and inflation, whereas in recessions, the effects of high interest rates and inflation might be more pronounced, leading to greater reductions in consumption.

Limitations and Directions for Future Research

While this study provides valuable insights into the relationships between interest rates, household income, and inflation, there are several limitations that should be acknowledged. For example, this study relies on secondary data and does not account for other potential factors that could influence household consumption, such as employment levels, consumer confidence, or external shocks like global economic crises. Future research could explore how demographic factors, such as age, education, or employment status, interact with these economic variables to affect consumption patterns. Additionally, longitudinal studies could provide more detailed insights into how these relationships evolve over time, especially during periods of significant economic change or crises.

CONCLUSIONS

Based on the results of the multiple linear regression analysis conducted in this study, it can be concluded that changes in interest rates significantly affect household consumption in Indonesia. Specifically, interest rates have a negative and significant impact, meaning that an increase in interest rates leads to a decrease in household consumption, as higher borrowing costs and increased saving incentives reduce spending. In contrast, household income positively and significantly influences consumption, indicating that higher income levels increase households' purchasing power and ability to spend. Inflation also negatively and significantly affects consumption, as rising prices erode purchasing power and compel households to reduce their expenditure. The regression model used in this research demonstrates strong explanatory power, with an R Square value of 0.814, suggesting that interest rates, income, and inflation collectively explain 81.4% of the variation in household consumption. Additionally, the classical assumption tests confirm that the model satisfies the requirements of normality, homoscedasticity, absence of multicollinearity, and autocorrelation. These findings underline the importance of macroeconomic stability, particularly in interest rate and inflation management, in maintaining a sustainable level of household consumption.

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