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# Analyzing the Impact of Macroeconomic Conditions on Third-Party Funds at Bank BCA: A Comprehensive Empirical Study

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**Abstract**

This study aims to investigate the impact of macroeconomic conditions on third-party funds at Bank BCA. The independent variables analyzed include inflation, the US Dollar exchange rate, and interest rates, while the dependent variable is the third-party funds from 2016 to 2021. Employing multiple linear regression analysis through EViews 9, the findings reveal that the independent variables collectively exert a significant influence on third-party funds at Bank BCA. Specifically, inflation demonstrates a negative correlation with third-party funds, indicating that rising inflation adversely affects deposit levels. Conversely, the US Dollar exchange rate shows a positive relationship, suggesting that a stronger dollar enhances third-party fund accumulation. Additionally, interest rates negatively impact third-party funds, highlighting the sensitivity of depositors to changes in interest rates. These results underscore the importance of macroeconomic stability in fostering a conducive environment for bank deposits, particularly in the context of Bank BCA.

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## 1. Introduction

Banking is a crucial financial institution that plays a significant role in advancing the economy of a country in the modern era. Almost all sectors related to financial activities are intertwined with banking services. The primary activities of banking involve mobilizing funds from the public in the form of deposits and channeling them as credit (Kasmir, 2014).

One prominent example of a commercial bank is Bank Central Asia (BCA), which is the largest private bank in Indonesia. According to the official website of Bank BCA, it was established on October 10, 1955, originally named NV Perseroan Dagang dan Industrie Semarang Knitting Factory. Like other banks, Bank BCA serves the same functions of collecting funds from the public in the form of deposits and distributing them as credit. The quality of Bank BCA as a financial institution is determined by its ability to gather public funds through Third-Party Funds (DPK), which consist of savings, time deposits, and current accounts.

Third-Party Funds are the primary source of funds derived from the public and are essential for the bank's operations. They represent the most critical funding source and serve as a measure of success for the bank in financing its operations (Kasmir, 2014). With the availability of Third-Party Funds, banks play a vital role in maintaining the economic stability of a country by providing credit to individuals

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and businesses in need of capital. The disbursement of these funds indirectly influences the economic conditions of society (Fahrial, 2018).

As the largest private bank in Indonesia, Bank BCA must sustain and enhance the growth of its Third-Party Funds. However, in the current era, various challenges such as rising inflation, a weakening Dollar exchange rate, and fluctuating interest rates have led to an increasing number of individuals opting to invest in gold rather than depositing their funds in banks. This study aims to investigate whether macroeconomic variables, such as inflation, the Dollar exchange rate, and interest rates, still significantly affect the amount of Third-Party Funds in banking, particularly at Bank BCA.

## 2. Literature Review

The relationship between macroeconomic conditions and third-party funds (DPK) in the banking sector has been extensively explored in prior research, providing a foundation for understanding the dynamics observed in this study.

### Third-Party Funds (DPK)

Third-Party Funds (DPK) are recognized as the primary source of funding for banks, derived from public deposits such as savings accounts, time deposits, and current accounts (Kasmir, 2014). Effective mobilization of DPK is critical for banks to sustain operations and support economic growth by channeling funds to borrowers. Prior studies emphasize DPK as a key performance indicator for banks, reflecting their ability to attract and retain public savings (Kasmir, 2014; Fahrial, 2018).

### Inflation

Inflation, defined as a sustained increase in price levels, negatively impacts DPK in banking systems. Research by Kristina and Esya (2022), Al-Jihadi and Suprayogi (2020), and Muttaqiena (2013) consistently shows that rising inflation erodes purchasing power, reducing public savings and deposits in banks. This phenomenon aligns with Keynesian theory, where inflationary gaps arise from excess demand, leading to higher prices and decreased real income (Kamaroellah & Kutsiyah, 2018). Inflation's adverse effect on DPK underscores the importance of monetary policies aimed at stabilizing price levels to maintain public confidence in banking institutions.

### US Dollar Exchange Rate

The US Dollar exchange rate positively influences DPK, as demonstrated in studies by Tripuspitorini and Setiawan (2020), Jatnika (2020), and Kristina and Esya (2022). A weaker Dollar makes Indonesian goods more competitive in global markets, potentially boosting exports and economic growth. This, in turn, increases household income and savings, thereby enhancing DPK in banks. Gustav Cassel's theory supports this relationship, linking exchange rates to purchasing power parity and trade dynamics (Kamaroellah & Kutsiyah, 2018). A favorable exchange rate thus strengthens banks' capacity to mobilize funds by improving economic conditions and public savings capacity.

### Interest Rates

Interest rates exhibit a negative correlation with DPK, as higher rates deter savings in banks. Research by Widiasti and Hadi (2022), Jamaluddin et al. (2020), and Saputra and Gunistiyo (2016) confirms that elevated interest rates encourage investments in higher-yield assets, reducing deposits. Keynesian theory explains this behavior through the demand-supply dynamics of money, where higher rates increase borrowing costs and decrease liquidity preferences (Boediono, 2018). Banks face challenges in attracting DPK during periods of high interest rates, necessitating strategies to offer competitive savings products.

**Synthesis of Relationships**

The interplay between macroeconomic variables and DPK is complex. Inflation and interest rates negatively affect DPK by reducing disposable income and incentivizing alternative investments, respectively. Conversely, a weaker Dollar positively impacts DPK by stimulating economic growth and increasing savings capacity. These relationships highlight the sensitivity of DPK to external economic factors, emphasizing the need for banks to adapt strategies in response to macroeconomic fluctuations.

Prior literature establishes clear linkages between macroeconomic conditions and DPK, with inflation and interest rates acting as inhibitors, while a favorable Dollar exchange rate serves as a catalyst for deposit growth. These insights guide the current study's analysis of Bank BCA's DPK dynamics.

## 3. Methodology

This study employs a quantitative research design to investigate the impact of macroeconomic conditions on Third-Party Funds (DPK) at Bank BCA over the period from 2016 to 2021. The methodology includes data collection, operational definitions of variables, and analytical techniques aligned with Scopus standards.

**Data Collection and Sample**

The study utilizes secondary data sourced from Bank BCA's financial reports and the official website of Indonesia's central bank (Bank Indonesia, BI). The dataset comprises monthly observations from January 2016 to December 2021, totaling 72 data points. This census approach ensures comprehensive coverage of the study period.

**Operational Definitions of Variables:**

1. Dependent Variable (Y)**:**
    - Third-Party Funds (DPK)**:** Measured in million rupiah (IDR), representing the total deposits mobilized by Bank BCA, including savings accounts, time deposits, and current accounts (Kasmir, 2014).
2. Independent Variables (X)**:**
    - Inflation ($X_1$)**:** Defined as the annual percentage change in the Consumer Price Index (CPI), reflecting price stability (Kamaroellah & Kutsiyah, 2018).
    - US Dollar Exchange Rate ($X_2$)**:** Measured as the IDR per USD exchange rate, indicating the value of the Indonesian rupiah relative to the US Dollar (Gustav Cassel, as cited in Kamaroellah & Kutsiyah, 2018).
    - Interest Rates ($X_3$)**:** Represented by the annualized BI Rate, reflecting borrowing costs and monetary policy stance (Boediono, 2018).

Data for inflation and interest rates are sourced from BI's official statistics, while exchange rate data is obtained from BI's daily foreign exchange reports. DPK data is derived from Bank BCA's monthly financial statements.

**Analytical Method**

The study employs multiple linear regression analysis using EViews 9 to assess the relationships between macroeconomic variables (X) and DPK (Y). The regression model is specified as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

- $Y$ = Third-Party Funds (DPK)
- $X_1$ = Inflation

- $X_2$ = US Dollar Exchange Rate
- $X_3$ = Interest Rates
- $\beta_0, \beta_1, \beta_2, \beta_3$ = Regression coefficients
- $\varepsilon$ = Error term

**Classical Assumption Tests**:

1. Multicollinearity**:** Assessed using Variance Inflation Factor (VIF) to ensure independent variables are not highly correlated (VIF < 10).
2. Autocorrelation**:** Evaluated via Durbin-Watson statistic (DW test) to detect residual autocorrelation (-2 < DW < 2).
3. Heteroskedasticity**:** Tested using the Chi-Square test to ensure homoscedasticity (Prob. Chi-Square > 0.05).
4. Normality**:** Verified via Jarque-Bera test to confirm residual normality (Prob. > 0.05).

**Hypothesis Testing**:

- t-Test**:** To evaluate the individual significance of each independent variable on DPK.
- F-Test**:** To assess the overall model significance (p-value < 0.05).
- Coefficient of Determination ($R^2$)**:** To measure the proportion of variance in DPK explained by the independent variables.

## 4. Results

**Classical Assumptions**

According In this study, several classical assumptions were tested to ensure the validity of the regression model.

Multicollinearity Test: The multicollinearity test was conducted to determine whether there was a high correlation among the independent variables. The results indicated that the Variance Inflation Factor (VIF) values for all independent variables were below 10, suggesting that multicollinearity was not an issue in this regression model.

Autocorrelation Test: The Durbin-Watson statistic was calculated to assess the presence of autocorrelation in the residuals. The Durbin-Watson value obtained was 0.325148, which falls outside the acceptable range of -2 to +2, indicating that there is no autocorrelation present in the data.

Heteroscedasticity Test: Heteroscedasticity was evaluated using the Chi-Square test. The results showed a Prob. Chi-Square value of 0.5363, which is greater than 0.05. This indicates that the regression model does not suffer from heteroscedasticity.

Normality Test: The normality of the residuals was assessed using the Jarque-Bera test. The Jarque-Bera statistic was 2.939739 with a probability value of 0.229956, which is greater than 0.05. Therefore, it can be concluded that the data is normally distributed.

**Data Regression Analysis**

The multiple linear regression analysis yielded the following regression equation:

$Y = 143{,}000{,}000 - 75{,}939{,}487\ X_1 + 68{,}217.79\ X_2 - 45{,}720{,}159\ X_3 + e$

The constant $\beta_0$ of 143,000,000 indicates that if inflation, the Dollar exchange rate, and interest rates are all zero, the Third-Party Funds at Bank BCA would be 143,000,000 million rupiah. The coefficient $\beta_1$ of -75,939,487 suggests that a 1% increase in inflation would lead to a decrease in Third-Party Funds by 75,939,487 million rupiah. Conversely, the coefficient $\beta_2$ of 68,217.79 indicates that a 1 rupiah increase in the Dollar exchange rate would increase Third-Party Funds by 68,217.79 thousand rupiah. Lastly, the coefficient $\beta_3$ of -45,720,159 implies that a 1% increase in interest rates would decrease Third-Party Funds by 45,720,159 million rupiah.

**Hypothesis Testing**

**t-Test**

The t-test was conducted to evaluate the individual impact of the independent variables on the dependent variable, Third-Party Funds. The results indicated that all independent variables—inflation, the Dollar exchange rate, and interest rates—significantly influence Third-Party Funds at Bank BCA.

**F-Test**

The F-test was performed to assess the overall significance of the regression model. The significance value obtained was 0.000000, which is less than the alpha level of 0.05. This indicates that the independent variables collectively have a significant effect on Third-Party Funds.

**Coefficient of Determination ($R^2$)**

The adjusted R-squared value was found to be 0.823125, indicating that 82.31% of the variation in Third-Party Funds can be explained by the independent variables (inflation, the Dollar exchange rate, and interest rates), while the remaining 17.69% is attributed to other factors not included in this study.

## 5. Discussion

The study's findings reveal significant relationships between macroeconomic conditions and Third-Party Funds (DPK) at Bank BCA, consistent with prior research. This section discusses these relationships and their implications.

**Impact of Macroeconomic Conditions on DPK**

**Inflation**

The negative impact of inflation on DPK aligns with studies by Kristina and Esya (2022), Al-Jihadi and Suprayogi (2020), and Muttaqiena (2013). Inflation erodes purchasing power, reducing public savings and deposits in banks. This phenomenon is rooted in Keynesian economics, where inflationary gaps arise from excess demand, leading to higher prices and decreased real income (Kamaroellah & Kutsiyah, 2018). The study's coefficient of -75,939,487 underscores the substantial adverse effect of inflation on DPK, highlighting the need for inflation stabilization policies.

**US Dollar Exchange Rate**

The positive influence of the US Dollar exchange rate on DPK is supported by research from Tripuspitorini and Setiawan (2020), Jatnika (2020), and Kristina and Esya (2022). A weaker Dollar enhances the competitiveness of Indonesian exports, potentially boosting economic growth and public income. This, in turn, increases savings capacity, positively affecting DPK. Gustav Cassel's theory on purchasing power parity reinforces this relationship, linking exchange rates to trade dynamics (Kamaroellah & Kutsiyah, 2018). The coefficient of 68,217.79 indicates a notable positive impact on DPK, emphasizing the role of exchange rate stability in fostering bank deposits.

**Interest Rates**

The negative correlation between interest rates and DPK is consistent with findings by Widiasti and Hadi (2022), Jamaluddin et al. (2020), and Saputra and Gunistiyo (2016). Higher interest rates increase borrowing costs, discouraging savings in favor of higher-yield investments. Keynesian theory explains this behavior through the demand-supply dynamics of money, where elevated rates reduce liquidity preferences (Boediono, 2018). The coefficient of -45,720,159 highlights the significant deterrent

effect of interest rates on DPK, underscoring the need for monetary policies that balance rate adjustments with savings incentives.

**Policy Implications and Recommendations**

**Inflation Stabilization**

Given inflation's adverse impact on DPK, policymakers should prioritize measures to stabilize price levels. Central banks can adjust monetary policies to control inflationary pressures, such as managing money supply and interest rates. This will enhance public confidence in saving with banks, ensuring a stable source of DPK for Bank BCA.

**Exchange Rate Management**

The positive relationship between the US Dollar exchange rate and DPK underscores the importance of maintaining a competitive and stable exchange rate. Policymakers should implement strategies to foster export growth and manage foreign exchange reserves effectively. A stable exchange rate will support economic growth, indirectly boosting DPK by increasing public income and savings capacity.

**Interest Rate Adjustments**

The negative effect of interest rates on DPK suggests that high rates may deter savings. Financial authorities should explore ways to lower interest rates, particularly during economic uncertainties, to encourage savings and investment in the banking sector. This could involve coordinated fiscal and monetary policies to stimulate economic activity while maintaining financial stability.

**Banking Sector Strategies**

Bank BCA should enhance marketing strategies to attract DPK, especially during periods of high inflation or fluctuating interest rates. Offering competitive savings products with attractive returns and ensuring liquidity for depositors can help maintain public interest in banking services. Additionally, banks can leverage digital platforms to improve customer engagement and accessibility, further supporting DPK growth.

The macroeconomic conditions significantly influence Third-Party Funds at Bank BCA. Inflation and interest rates negatively affect DPK, while a favorable US Dollar exchange rate positively impacts it. These findings highlight the need for coordinated policy interventions to stabilize macroeconomic indicators, manage exchange rates effectively, and adjust interest rates to promote savings. Bank BCA should also adopt proactive strategies to attract and retain DPK, ensuring sustained growth and economic stability. Future research could explore the impact of other macroeconomic variables and consumer behavior on DPK, providing a more comprehensive understanding of the banking sector's dynamics.

## 6. Conclusion

Based on the findings of the study, it can be concluded that inflation has a negative impact on Third-Party Funds (DPK) at Bank BCA. As inflation rates increase, the purchasing power of the public tends to decline, leading to a reduction in the allocation of funds for savings in banks. This condition highlights the importance of maintaining inflation stability to ensure that public interest in saving remains high. Conversely, the exchange rate of the dollar has a positive influence on DPK at Bank BCA. When the dollar weakens, Indonesian goods and services become more affordable, potentially increasing the attractiveness of saving in local banks.

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