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Central Bank Independence and Macroeconomic Performance: Implications for Current Account Deficit in Indonesia

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Abstract:
Central bank independence (CBI) has long been promoted as an institutional arrangement to enhance macroeconomic stability, particularly through inflation control. However, empirical evidence regarding its impact on broader macroeconomic indicators—such as economic growth, government budget deficits, and current account deficits (CAD)—remains inconclusive, especially in developing economies. This study investigates the effects of CBI on macroeconomic performance and examines its policy implications for addressing Indonesia's current account deficit. Using panel data from 182 countries over the period 1970–2012, this study applies a quasi-experimental approach through Regression Discontinuity Design (RDD). Central bank independence is measured using legal indices, namely the Legal Variable Aggregate Unweighted (LVAU) and Legal Variable Aggregate Weighted (LVAW). Thresholds distinguishing lower and higher levels of CBI are determined empirically using k-means clustering. The findings indicate that higher central bank independence has a statistically significant but relatively small negative effect on inflation. In contrast, CBI does not show a significant impact on economic growth, government budget deficits, or current account deficits. These results suggest that while central bank independence enhances the credibility of monetary policy in achieving price stability, it is not sufficient to directly address structural macroeconomic imbalances such as current account deficits. For Indonesia, the findings imply that Bank Indonesia's primary mandate should remain focused on inflation control. Improvements in the current account balance require coordinated fiscal, structural, and trade policies beyond the scope of monetary policy alone.

***Keywords**: central bank independence; monetary policy; inflation; current account deficit; Indonesia*

INTRODUCTION

Since the 1990s, central bank independence (CBI) has emerged as a crucial reform aimed at stabilizing economies, particularly by ensuring inflation control and monetary credibility (Alesina & Summers, 2020; Ghosh & Ostry, 2019). In Indonesia, this reform was institutionalized through Law No. 23 of 1999, which granted Bank Indonesia a high degree of autonomy (Siregar & Ali, 2021; Nugroho & Setiawan, 2020). The central bank's independence was designed with the primary goal of price stability, but this institutional autonomy has led to questions about its broader impact on other macroeconomic variables (Tovar, 2021; Pratama & Suryanto, 2022).

Despite the perceived importance of central bank autonomy, many emerging economies—including Indonesia—continue to face external economic imbalances, such as persistent current account deficits (Della, 2021; Tovar & Wong, 2020). These imbalances have led to debates about whether central banks should take on a broader role, influencing policies to manage these deficits beyond traditional monetary functions (Liu & Tan, 2021; Prasad, 2020).

The challenge is that central banks, particularly those in developing economies, are often pressured to contribute not only to inflation control but also to economic growth and external balance—despite the potential conflicts this may create (Batini & Laxton, 2020; Fernandes, 2021). Such a broad mandate can lead to tensions between achieving macroeconomic stability and fostering growth, raising the question of whether central bank independence should be recalibrated (Levin et al., 2020; Goyal & Sharma, 2021).

Urgency arises from Indonesia's ongoing macroeconomic imbalances, where current account deficits remain a significant concern. These issues demand careful consideration of whether Bank Indonesia's existing role is sufficient or whether a broader mandate would better serve national economic interests. Additionally, the rise of global economic uncertainties calls for a re-examination of institutional arrangements to ensure that Indonesia can adapt to external pressures without compromising domestic stability (Maharani et al., 2024; Saleh & Wahyu, 2020).

Previous research has generally shown that central bank independence can enhance credibility and lead to lower inflation rates. However, the relationship between central bank autonomy and broader macroeconomic indicators—such as economic growth, government budget deficits, and current account deficits—remains inconclusive. This gap in the literature motivates a deeper empirical investigation to determine whether the benefits of central bank independence extend beyond inflation control.

This study aims to fill this gap by investigating the effects of central bank independence on key macroeconomic performance indicators, specifically focusing on inflation, economic growth, government budget deficits, and current account deficits. Through empirical analysis, the study will assess whether greater autonomy leads to meaningful changes in these macroeconomic variables.

The novelty of this research lies in its application of a quasi-experimental approach using Regression Discontinuity Design (RDD) to estimate causal effects. By employing legal indices of central bank independence and focusing on empirical thresholds, this study provides a unique methodological framework for analyzing the broader impacts of central bank independence on macroeconomic performance.

The objectives of this study are twofold: first, to empirically assess whether central bank independence influences key macroeconomic outcomes; and second, to examine the implications of these findings for Indonesia's monetary policy and management of external imbalances. The benefits of this research extend to policymakers, offering insights into how institutional design can affect broader economic performance and guide future reforms in Indonesia's central banking system.

RESEARCH METHODS

This study used panel data from 182 countries covering the period 1970–2012. Central bank independence was measured using two legal indices: LVAU and LVAW. Macroeconomic performance indicators included inflation, GDP growth, government budget deficit, and current account deficit.

To identify the causal effect of higher central bank independence on macroeconomic performance, this study employed a Regression Discontinuity Design (RDD). The RDD framework exploited discontinuities in outcomes that occurred when an explanatory variable crossed a predefined threshold. In this study, the running variable was the legal index of central bank independence, while the treatment occurred when the index exceeded an empirically determined threshold.

Unlike conventional regression approaches, RDD allowed for more credible causal inference by comparing observations close to the threshold—observations that were therefore similar in observable and unobservable characteristics, except for their treatment status. Since no universally accepted cutoff existed to distinguish independent from non-independent central banks, this study determined the threshold value empirically using k-means clustering. This approach classified observations into two groups representing lower and higher levels of central bank independence, and the midpoint between these groups was used as the cutoff value. The empirical model was specified as follows:

$$Y = \alpha + \tau D + \beta\ (X - c) + \beta\ D(X - c) + \varepsilon$$

where:

Y represents macroeconomic outcome variables, including inflation, GDP growth, government budget deficit, and current account deficit, in country i at time t; CBI denotes the legal index of central bank independence, measured by LVAU or LVAW; c is the threshold value of central bank independence determined through k-means clustering; D is a dummy variable equal to 1 if CBI ≥ c and 0 otherwise; τ captures the local average treatment effect of higher central bank independence on macroeconomic outcomes; ε is the error term.

The coefficient of primary interest is τ, which measures the discontinuous change in macroeconomic performance when central bank independence crosses the threshold. The model is estimated separately for each macroeconomic outcome variable. Robust standard errors are employed to account for heteroskedasticity. To reduce the influence of extreme values, all macroeconomic variables are winsorised at the 1st and 99th percentiles. Missing observations for government budget deficits and current account balances are addressed using linear interpolation, which is commonly applied in cross-country macroeconomic analyses with incomplete time series.

The validity of the Regression Discontinuity Design relies on the assumption that macroeconomic outcomes vary smoothly around the threshold of central bank independence, except for the discontinuous change induced by the treatment. To support this assumption, visual inspection using regression discontinuity plots is employed.

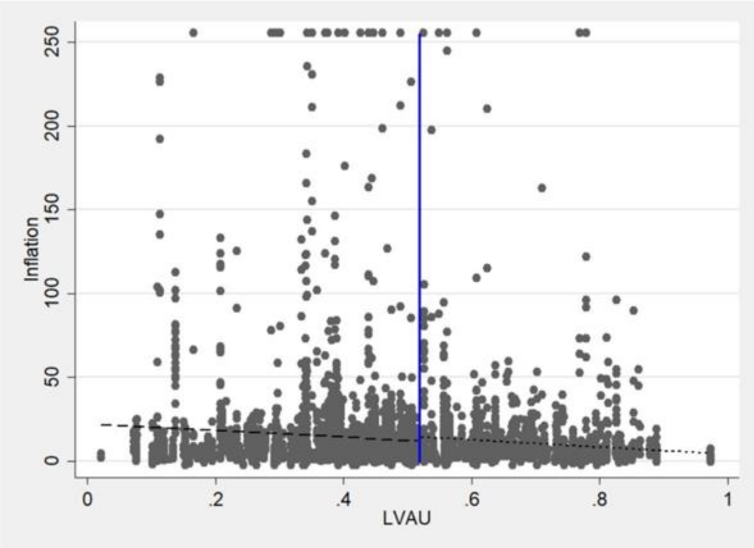

Figure 1. *Regression Discontinuity Plot of Central Bank Independence and Inflation.*

Figure 1 provides graphical evidence of a discontinuous change in inflation outcomes at the central bank independence threshold. The visible downward shift at the cutoff supports the identification strategy and confirms that higher central bank independence is associated with lower inflation. This figure illustrates the discontinuity in inflation outcomes at the central bank independence threshold. The vertical line indicates the cutoff value, while the fitted lines represent local linear regressions on either side of the threshold.

RESULTS AND DISCUSSION

This section presents the empirical results of the regression discontinuity design (RDD) analysis and discusses their implications considering existing theoretical and empirical literature. The discussion focuses on whether crossing a higher threshold of central bank independence produces meaningful changes in macroeconomic performance indicators, particularly inflation, economic growth, government budget deficits, and current account deficits.

Central Bank Independence and Inflation

The RDD estimates indicate that an increase in central bank independence beyond the empirically determined threshold is associated with a statistically significant reduction in inflation. This finding is consistent across both legal independence measures (LVAU and LVAW), although the magnitude of the estimated effect remains relatively small.

This result supports the dominant theoretical argument that independent central banks enhance monetary policy credibility by insulating policy decisions from short-term political pressures. When monetary authorities are protected from fiscal dominance and electoral incentives, they are better positioned to commit to price stability objectives. However, the modest size of the estimated effect suggests that central bank independence alone does not fully determine inflation outcomes.

This finding aligns with studies arguing that inflation dynamics are shaped by a broader set of institutional and structural factors, including fiscal discipline, openness to trade, and political stability. In this sense, central bank independence should be understood as a necessary but not sufficient condition for sustained price stability. The result also explains why some developing economies with legally independent central banks continue to experience inflation volatility despite formal institutional reforms.

In the Indonesian context, this finding confirms that the post-1999 reform granting Bank Indonesia a high degree of independence was effective primarily in strengthening inflation control. Nevertheless, the relatively small effect size implies that complementary policies—particularly prudent fiscal management and supply-side reforms—remain crucial to maintaining low and stable inflation.

Central Bank Independence and Economic Growth

The empirical results show no statistically significant relationship between central bank independence and economic growth. This finding suggests that crossing the independence threshold does not generate a measurable impact on output growth in the short to medium term.

This result is consistent with the view that central bank independence is designed to promote macroeconomic stability rather than to act as a direct driver of economic expansion. While low and stable inflation may support long-term growth by reducing uncertainty and encouraging investment, such effects are likely indirect and contingent on other growth-enhancing factors, such as capital accumulation, human capital development, and institutional quality.

The absence of a significant growth effect also helps explain why empirical findings in the literature on this relationship are mixed. In some cases, restrictive monetary policies aimed at inflation control may dampen short-term growth, while in others, credibility gains may only materialise over longer horizons. The RDD framework employed in this study captures local effects around the independence threshold, which may not fully reflect long-run growth dynamics.

For Indonesia, this finding implies that expecting Bank Indonesia's independence to directly stimulate economic growth may reflect a misunderstanding of the central bank's institutional role. Growth-oriented objectives are more appropriately pursued through fiscal policy, industrial policy, and structural reforms, with monetary policy playing a supportive stabilising role.

Central Bank Independence and Government Budget Deficit

The analysis finds no statistically significant effect of central bank independence on government budget deficits. This result indicates that higher legal independence of central banks does not automatically translate into improved fiscal discipline. This finding challenges the argument that independent central banks constrain fiscal profligacy by limiting governments' access to monetary financing. While legal restrictions on central bank lending to governments are an important component of independence, fiscal outcomes ultimately depend on political incentives, budgetary institutions, and enforcement mechanisms.

In many countries, governments may comply with formal borrowing limits while still running persistent deficits through alternative financing channels, such as domestic bond markets or external borrowing. As a result, the disciplining effect of central bank independence on fiscal policy may be weaker than theoretically expected. In Indonesia's case, this result suggests that Bank Indonesia's independence should not be viewed as a substitute for sound fiscal governance. Fiscal discipline remains primarily the responsibility of the government and requires credible fiscal rules, transparent budgeting processes, and effective legislative oversight.

Central Bank Independence and Current Account Deficit

The most critical finding of this study is the absence of a statistically significant relationship between central bank independence and current account deficits. This result holds across both measures of legal independence and remains robust under different model specifications. This finding suggests that improvements in central bank independence do not directly lead to better external balance outcomes. While monetary policy can influence the current account indirectly through interest rates and exchange rates, such channels appear insufficient to offset structural determinants of external imbalances.

Current account deficits are largely driven by factors such as export competitiveness, import dependence, industrial structure, and global economic conditions. Monetary tightening aimed at supporting currency stability may reduce imports in the short term, but it can also suppress investment and economic activity, potentially weakening export capacity over time. This result provides empirical support for arguments cautioning against assigning external balance objectives to central banks.

Expanding the central bank's mandate to include current account targets may create policy conflicts with inflation control and undermine monetary policy credibility. Figure 2 complements the regression results by showing no visible discontinuity in current account deficits at the central bank independence threshold. The absence of a sharp break at the cutoff reinforces the conclusion that higher central bank independence does not exert a direct causal effect on current account performance.

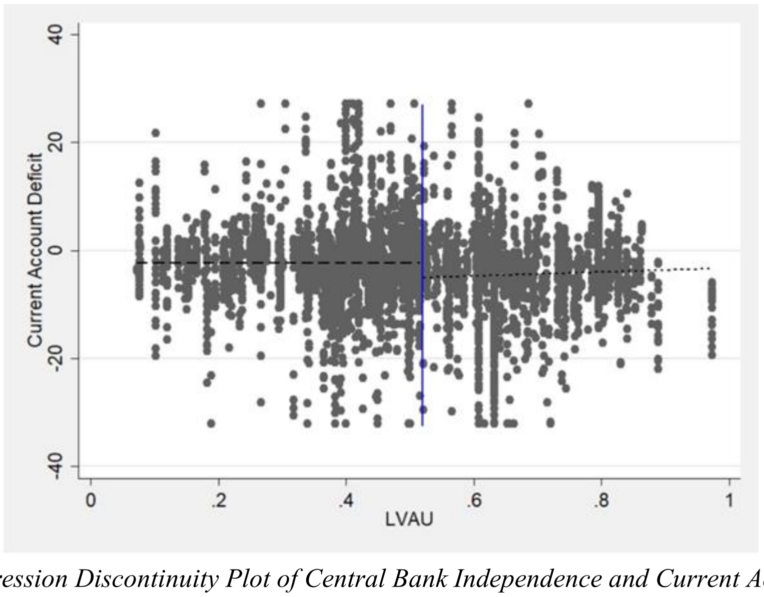

Figure 2. *Regression Discontinuity Plot of Central Bank Independence and Current Account Deficit.*

This figure presents the relationship between central bank independence and current account deficits around the independence threshold. No visible discontinuity is observed at the cutoff. For Indonesia, this finding is particularly relevant. While Bank Indonesia has occasionally adjusted monetary policy in response to current account pressures, the results of this study suggest that such efforts should remain complementary rather than primary. Sustainable improvements in the current account balance require structural policies aimed at enhancing export competitiveness, reducing reliance on imported inputs, and improving domestic value chains.

Policy Implications for Indonesia

Taken together, the results indicate that central bank independence is most effective when narrowly focused on price stability. Attempts to broaden the central bank's mandate to include growth or current account objectives risk diluting its effectiveness and credibility. Indonesia's experience demonstrates that strong legal independence has supported inflation control but has not resolved structural macroeconomic challenges such as current account deficits. This suggests that macroeconomic policy coordination—rather than mandate expansion—is the more appropriate approach. Monetary policy should continue to focus on maintaining inflation stability, while fiscal and structural policies address external imbalances. Clear institutional boundaries between policy domains can reduce policy conflicts and enhance overall macroeconomic governance.

CONCLUSION

This study employed a Regression Discontinuity Design (RDD) on panel data from 182 countries (1970–2012) to examine the effects of central bank independence—measured via legal indices LVAU and LVAW—on macroeconomic performance, with a focus on implications for current account deficits in developing economies like Indonesia. Findings revealed a statistically significant but modest reduction in inflation from higher independence, reinforcing its role in enhancing monetary credibility and price stability as a complement to fiscal and structural policies; however, no significant effects emerged on economic growth, government budget deficits, or current account deficits, underscoring monetary policy's limited direct influence on structural external imbalances. For Indonesia, post-1999 Bank Indonesia reforms effectively supported inflation control per its mandate, but addressing persistent current account deficits requires coordinated fiscal, trade, and structural measures rather than expanding the central bank's role. A suggestion for future research is to incorporate de facto independence measures, explore heterogeneous effects across income groups, or analyze monetary-fiscal interactions to capture long-term dynamics beyond threshold-based local effects.

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