Policy Brief

Excess Reserves in Uganda's Banking System and the Effectiveness of Monetary Policy

By xxxxxxxxx?

Executive Statement

The objective of this policy brief is to establish how high excess reserves in the banking system affect the effectiveness of monetary policy formulation. This has implications on theBank of Uganda's role in implementing policies and advocating for complimentary policies aimed at encouraging banks to reduce their holdings of excess reserves.It is important to address this problem of excess reserves because Uganda is on the verge of receiving heavy foreign exchange inflows from the oil sector which could significantly scale up the amounts and complicate monetary policy.

Introduction

Monetary policy is focused on controlling the amount of liquidity in the economy to ensure that it is consistent with inflation and growth objectives. The implementation is achieved by issuing Treasury Bills and Bonds, sales of foreign exchange and issuing of repurchase agreements (REPOS), all ofwhich extracts liquidity from the economy. For injection of liquidity, Bank of Uganda (BOU) issues currency, reverse REPO's or purchases foreign exchange. The success of monetary policy therefore depends on the extent to which banks as the key intermediaries react to BOU's policy actions.

However, it has been observed that when banks hold large excess reserves, defined as the amount by which reserves of banks exceed the statutory requirements; it is often difficult to anticipate their reactions to monetary policy signaling. This is because when banks have high levels of excess reserves, they may respond asymmetrically to monetary policy signals. For instance, an increase in interest rates by BOU may not result in an increase in deposit interest

rates of banks as these could induce households to shift more assets into bank deposits – thereby increasing the initial problem of excess reserves in banks. Similarly, an increase in interest rates by BOU may result in rising lending rates but the rise could be countered by softer collateral requirements or more generally an easing of credit standards. Banks would have the incentive to behave in this way in order to stimulate the demand for loans as opposed to the anticipated effect of a reduction in loan demand, to avoid further increase in excess reserves if borrowing were to be constrained further. Given that it is important for BOU to accurately predict bank reaction to its policy actions, the asymmetrical behavior when banks hold excess reserves weakens the expected transmission of monetary policy. This study therefore attempted to answer two key questions;(i) what the effect of excess reserve accumulation has on monetary policy implementation; and (ii)what levelsof excess reserves affect monetary policy implementation.

Methodology

The methodology involved comparing monetary policy transmission when the effect of excess reserves is ignored with the transmission when the effect of excess reserves is controlled for in a vector auto regression (VAR)framework. The endogenous variables used in the VAR were production measured by real Gross Domestic Product (GDP), the domestic prices measured by the consumer price index,interest rates measured by the 91-day Treasury bill rate, and the monetary aggregate measured by broad money. The novel approach used for controlling for excess reserves involved establishing a threshold above which monetary transmission is weakened using a grid search and then applying a threshold vector auto regression (TVAR) to demonstrate monetary transmission below and above the identified threshold. The TVAR approach was used because of its simple and intuitive mechanism for integrating excess reserves as a potential non-linear propagator of shocks in a VAR framework. The study also analyzed the permanence of excess reserves and found them to be persistent.

Results and conclusions

Main findings
The key results showed that when the usual VAR was used the impulse response functions were consistent with theoretical predictions of increases in production and prices when the money supply increased and a decrease in prices when interest rates increased.However, the expected response of production to an increase in interest rateswas not found. The failure to find the theoretically expected effect; falling production arising from an increase in interest rates could partly be attributed to the absence of the excess reserves effect in the usual VAR framework. Indeed, the findings from the alternative methodology based on the TVAR demonstrated a decrease in production occurring when interest rates were increased in addition to confirming the other three results. The expected results were however only found when excess reserves expressed as a share of deposits were below the established threshold value of 2.1 percent. When the level of excess reserves exceeded the threshold, the study found that all of the expected effects of monetary policy could not be confirmed.The findings also indicated that excess reserves accumulation in the banking system were a permanent feature and not transitory. These findings confirmed that high excess reserves (above the threshold level of 2.1 percent as a share of deposits) undermined the effectiveness of monetary policy. The study also confirmed that excess reserves in the banking system were quite persistent and not transitory.

Policy Implications and Recommendations

The implication of the findings is that monetary policy signaling weakens when excess reserves rise beyond 2.1 percent as a share of deposits. The persistent nature of the excess reservesimplies that there are structural reasons why banks are not making credit available or buying securities in the financial markets with some of the available resources at their disposal. Since this is bad for monetary policy implementation, policies should aim at reducing the level of excess reserves held by banks.

Examples of these types of policies are those that serve to reduce the risk associated with credit extension and deepening of the financial markets. For instance the Bank of Uganda could encourage banks to improve their credit risk management strategies and capacity to enable them increase credit extension. In addition, it could deepen financial markets through introduction of more financial instruments that are of a highly liquid nature to offer alternative investment opportunities for banks as opposed to keeping excess reserves.

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