Interest Rate Pass-Through in Malawi: Implications for Effectiveness of Monetary Policy

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Abstract

This study investigated the interest rate pass-through and its implications for monetary policy effectiveness in Malawi. Using the cost-of-funds approach and monthly data from 2009 to 2015, an autoregressive distributed lag model was estimated. Results suggest that the structure of the banking industry (banking environment) matters. Also, market power is important in understanding the resulting variation in the savings and lending rates across banks in the market as well as the transmission of monetary policy impulses. Overall, our findings suggest that short-term rates as operating target are consistent with inflation targeting as a monetary policy objective.

Introduction

The objective of this study is to assess the interest rate pass-through and draw lessons for the effectiveness of monetary policy in Malawi. According to Karagiannis et al. (2010), interest rate pass-through measures the adjustment of retail bank interest rates (lending and deposit rates) in response to changes in wholesale rates (Central Bank policy rate and interbank market rates). The success of monetary policy largely relies on proper understanding of how the Central Bank policy actions steer the economy in the desired direction. This is known as the monetary policy transmission mechanism. One of the channels of transmission is the interest rate channel. This channel has attracted growing attention, especially under inflation targeting frameworks.

O'Connell (2011) observes that several African countries have made substantial macroeconomic progress. This progress places them on the right path to rely on the interest rate as a policy instrument. This suggests moving away from the long history of monetary aggregate targeting. According to Liu et al. (2008), monetary aggregate targeting is deficient in signaling the stance of monetary policy. They argue that policy transparency and effectiveness can be enhanced by shifting to active use of interest rate instruments. Other studies, such as Gali (2008) also show that the monetary policy rate, which is defined as the rate at which commercial banks rediscount securities at the Central Bank, has more influence on short-term interest rates than the monetary aggregates. Understanding the transmission of the policy rate impulses to retail rates (interest rate pass-through) is therefore key in ensuring the effectiveness of monetary policy. The need to examine the interest rate pass-through is more pronounced for low income countries such as Malawi due to the nature of their macroeconomic landscape.

The significance of this study is that it will assist authorities to improve effectiveness of monetary policy by determining policy rate changes which are necessary to bring about desired movements in retail interest rates. As argued by Bredin et al. (2001), the effectiveness of monetary policy depends on the existence, degree and speed of the interest rate pass-through. For the interest rate policy to have impact on aggregate demand and inflation, policy signals should be transmitted to the retail rates with speed. This should also be done in relatively large magnitudes (Lim, 2001; Karagiannis et al., 2010). Without the knowledge of the speed and magnitudes of transmission, the policy rate changes tend to be ad hoc. When this happens, monetary policy may contribute to financial market instability and not deliver the intended objectives. This study further highlights the oligopolistic behaviour in banks which may require appropriate supervision approach. Furthermore, as argued by Zulkhibri (2012), understanding the interest rate pass-through in the financial market provides insight into the transmission mechanism.

The gap that is filled by this paper is that studies on Malawi, such as Chirwa and Mlachila (2006), have only concentrated on assessing the impact of financial market liberalization on interest rate spreads. Another class of studies, such as Mangani (2012) and Simwaka et al. (2012), mainly assess the impact of monetary policy on prices. These studies do not analyse interest rate pass-through as a first step of monetary policy transmission. The available evidence which is more on developed countries has divergent results. For example, complete pass-through is documented by Graeve et al. (2007), document overreaction by Bogoev and Petrevcki (2012), and Karagiannis et al. (2010) found mixed results. This dichotomy in literature suggests that the pass-through might be dependent on country and bank characteristics.

In this study, we built on the results of Francesco and Mota (2015) and estimate an Autoregressive Distributed Lag (ARDL) model which is conditioned on several financial sector variables. We estimated two models, namely the lending and savings models, for each of the nine banks in our sample. Although Malawi has 13 banks, the study was conducted on 9 banks because 2 of the banks were in the process of being acquired by other banks and the other 2 were relatively short-lived and therefore had too few data points to provide meaningful inference. We also estimated aggregate models for the lending and savings rates. We used these models to: i) examine the short-run and long-run pass-through of the short-rates to lending and savings rates; ii) estimate the mark-ups over lending and savings rates for each bank; and iii) estimate the speed of adjustment of the lending and savings rates. By estimating individual equations, we expose the heterogeneity in each bank's pricing behaviour. We also compared the interest rate pass-through under the cost of funds and the monetary policy approach. Macroeconomic landscape

Malawi is a small, open land-locked economy. According to the Reserve Bank of Malawi January 2016 monthly economic review, real gross domestic product (GDP) and per capita income were estimated at US$6.9 billion and US$393.2 respectively in 2015. Agriculture is the lead sector and is mostly driven by rainfall. The sector generates over 80% of the country's foreign exchange. The main exports are raw produce with tobacco alone generating over 60% of the export proceeds. Other exports include tea, coffee and sugar. About 72% of the agricultural output is produced by the smallholder sector. The manufacturing sector is mostly in agro-processing. Malawi mostly imports fertilizer, fuel and pharmaceuticals. The current production pattern and the international trading system have remained relatively unchanged since the colonial period. Historically, up to 40% of the country's total expenditure has been financed by donors. This macroeconomic landscape leaves the country susceptible to weather, terms of trade shocks and changing approaches to budget support by donors.

Table 1 shows that there has been a general rise in inflation while the GDP growth rate patterns are rather mixed. The lowest inflation and highest GDP growth rates were recorded between 2008 and 2012, owing to a fixed exchange rate system and expansion

in agriculture and infrastructure projects. However, the policy frameworks during this period emphasized production that generated little foreign exchange inflows in an economic system where consumption and production mostly rely on imports. Consequently, in May 2012 the fixed exchange rate system became unsustainable and was abandoned.

Table 1:   Selected economic indicators (%, unless otherwise stated)

	Policy rate	T-bill rate	M2**	MK/USD*	Inflation rate	GDP
1980-1986	10.3	11.9	17.6	1.3	14.1	1.6
1987-1993	15.4	16.6	22.3	3.0	19.7	3.3
1994-2007	34.8	32.8	34.9	67.0	26.6	3.4
2008-2012	16.2	10.9	29.9	167.6	10.7	6.0
2012	17.8	14.3	27.8	235.5	21.4	2.1
2013	25.0	21.2	31.3	369.2	28.6	6.3
2014	25.0	22.6	20.7	421.4	23.8	6.2
2015	27.0	24.4	23.7	636.5	21.9	2.9

* Malawi Kwacha per US dollar, ** broad money supply.
Source: Reserve Bank of Malawi 2016.

Monetary policy and the interbank market

The objective of monetary policy is to achieve price and financial stability. For a relatively long period (1990–2012), monetary policy was implemented using the Monetary Aggregate Targeting (MAT) framework. Although MAT remains a de jure monetary policy framework, de facto, monetary policy conduct since 2012 has shifted towards influencing interbank market rates (IBR). Under the current framework, the monetary policy stance is signaled by the policy rate which is decided upon six times in a year. There are implicit considerations of inflation and output developments in setting the monetary policy rate. In between monetary policy committee meetings, the Reserve Bank of Malawi uses Open Market Operations (OMOs) to influence liquidity condition to ensure that IBR is in line with the monetary policy stance.

When the Central Bank wishes, for example, to lower rates it purchases Treasury securities from the banking system which then increases the price of the securities and lowers their yields. Since Treasury yields are the bellwether, returns on alternative assets start adjusting as well. Evidence suggests that the IBR tends to mimic the policy stance when excess reserves are almost zero. This highlights the critical role of OMOs in transmitting the policy stance to short and long-term rates. This transmission is expected to lead to convergence of actual inflation towards the target. The resulting distribution of rates in the financial markets is, however, a function of the structural characteristics of the

economy. Figure 1 shows that the policy rate (pr) has mostly been above the interbank and the Treasury bill (T-bill) rates. Exceptionally, in 2012/13 the policy rate was below the T-bill rate and IBR due to severe liquidity shortages in the banking system.

Figure 1: Policy rate and money market rates
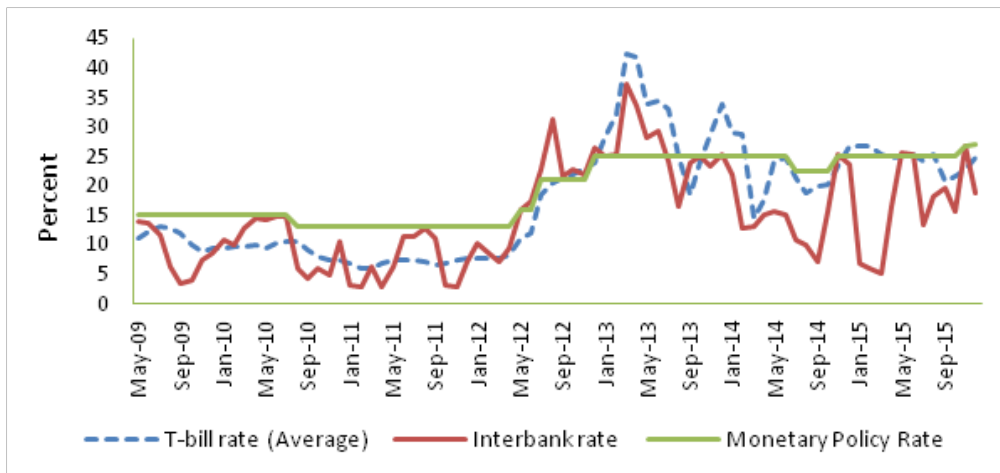
One of the features of Malawi's interbank market is that traded values are agreed upon bilaterally between the borrower and the lender. The borrower and the lender transact mostly based on their liquidity positions and on the borrower's risk profile. The borrower, however, seeks quotations from several banks before deciding. Some caveats exist. First, this process may enhance price discrimination following the lender's uncompetitive assessment of the borrower's risk profile. For example, bigger banks are perceived to have low risk profiles and therefore borrow at lower rates. Not surprisingly, the smaller banks still seek recourse from the Central Bank at relatively higher interest rates despite the presence of the interbank market. This is a major caveat in the transmission of monetary policy in most low-income countries (LICs) as the IBR may not completely reflect demand and supply dynamics on the interbank market.

The banking system in Malawi is also characterized by volatile and excess liquidity (Figure 2). The main sources of this are two. First, the persistent fiscal deficits which inject liquidity in the banking system. Second, the donor inflows which are often not sterilized. As observed by Baldini et al. (2015), excess liquidity does not always reflect monetary policy stance, but some systemic risks associated with banking in African economies. High risk premium leads to an increase in commercial banks holding excess reserves and may impede the transmission of monetary policy impulses to lending and deposit rates. This implies that in low income countries like Malawi, high liquidity levels may affect the effectiveness of monetary policy. More so, the excess liquidity is skewed towards larger banks which eventually distorts the overall pattern of the interbank trades.

Figure 2: Excess reserves and the Interbank rate
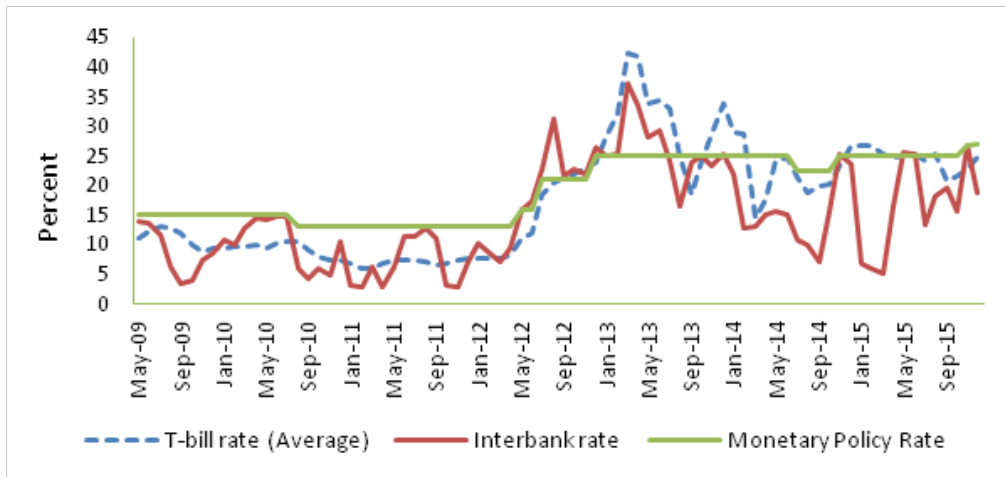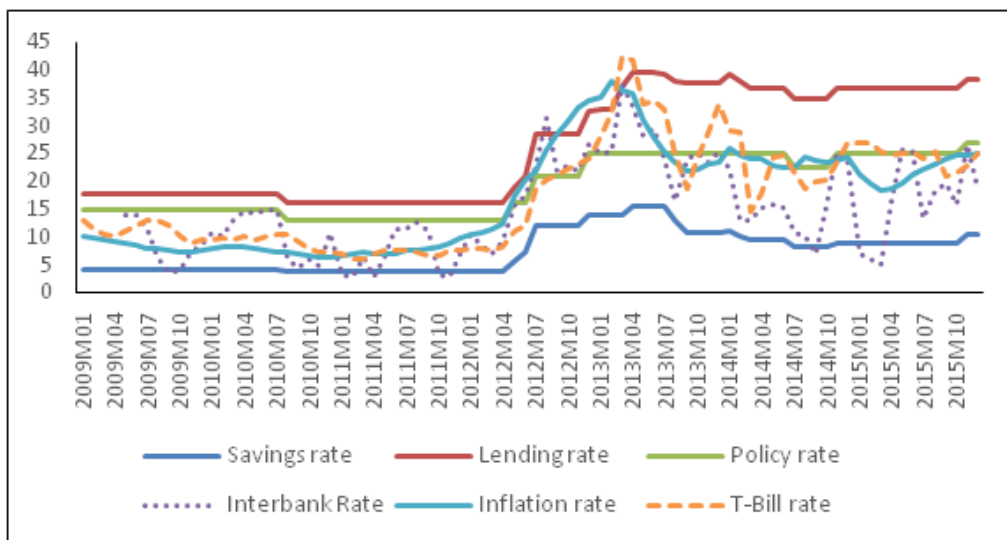

Source: Reserve Bank of Malawi

Figure 3 shows that between mid-2012 and mid-2013 there was a narrow gap between the policy and savings rate. During this period, the country moved from a fixed to a floating exchange rate system. A liquidity crunch ensued as the private sector moved deposits around the banks in search for foreign exchange to clear the huge import backlog. Due to this process, deposit rates kept rising as banks competed to protect their customer base. During this time, the Central Bank unconventionally accorded non-collateralized lending to the banks to manage the liquidity problems that ensued. Before and after this period, the interest rate pattern shows that the gap between the deposit rate and the lending rates is widening.

Figure 3: Interest rates and Inflation
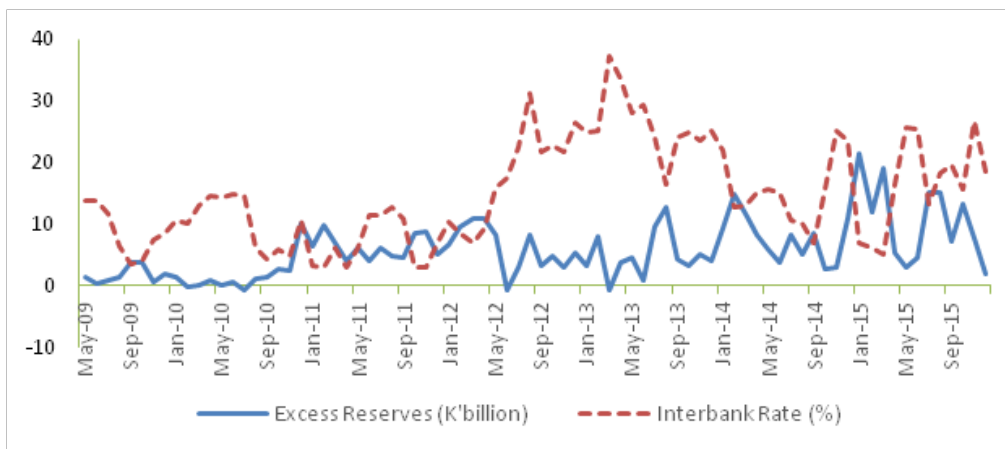
Source: Reserve Bank of Malawi 2016.

Due to high levels of interest rates and declining real GDP growth rates, non-performing loans measured as volume of non-performing loans as a ratio of total loans steadily rose between 2012 and 2013 and remained elevated (Figure 4). As a ratio of GDP, money supply has been steadily rising.

Figure 4: Selected banking sector indicators

Source: Reserve Bank of Malawi 2016

Conclusion

This paper investigates the interest rate pass-through and its implications for effectiveness of monetary policy in Malawi. We used the T-bill rate to capture official policy stance and estimated our models using the cost of funds approach for each of the nine banks. We also estimated the aggregate models. The estimates were conditioned on several financial sector variables. Results show that there is incomplete pass-through to the lending and savings rate. However, the pass-through to lending rates is significantly higher than to the savings rate. The higher pass-through to the lending rate signifies that authorities can use short-term rates as operating objectives in order to improve monetary policy performance. It also signifies a relatively high transmission mechanism of policy signals to the lending rates. This is a necessary step for the effectiveness of monetary policy. Our results also reveal that bigger banks maintain relatively higher lending rates than smaller banks but have lower savings rates than smaller banks. The big banks have low (higher) volatility of lending (savings) compared to smaller banks. The magnitude of the pass-through is higher under larger banks compared to smaller banks. Our results also show that non-performing loans, financial development, and excess liquidity have a bearing on the levels of interest rates.

These results have several policy implications. First, the relatively high transmission of the short-term rates to long-term lending rates signals some efficiency of the banking system in transmitting monetary policy signals to the lending rate. The lower pass-through to the savings rate puts speed pumps in the inter-temporal consumption substitution channel. There is also heterogeneity in pass-through which, according to Gambacort (2008) and Graeve et al. (2007), may reflect market segmentation. Policies that deal with financial market segmentation may reduce the heterogeneity and enhance monetary policy effectiveness. Where oligopolistic tendencies are clearly visible, appropriate banking supervision may be necessary to smoothen market operations. Due to differences in mark-ups over deposit and lending rates, changes in the official policy stance tend to contribute to the widening of the interest rate spread. This could partly reflect differences in risk definitions between the authorities and the financial sector which results in over or under-reaction of the retail rates to monetary policy signals. Improved communication between the authorities and the market participants may help to reduce this discrepancy.

Overall, our results suggest that the structure of the banking industry (banking environment) matters. Also, market power is important in understanding the resulting variation in the savings and lending rates across banks in the market as well as the transmission of monetary policy impulses. Overall, our findings suggest that short-term rates as operating target are consistent with inflation targeting as a monetary policy objective in Malawi.

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