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Post-crisis Monetary Policy Frameworks in sub-Saharan Africa

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***Abstract*:** Most of the monetary policy frameworks which use a domestic anchor for monetary policy in sub-Saharan Africa (SSA) employ quantitative money targets. Although these frameworks proved useful in reducing inflation in SSA, they are not well suited to the discretionary fine tuning of monetary policy. Monetary policy frameworks should be reformed in the post-crisis period, especially in the 'frontier markets' of SSA, where the need for activist demand management will grow in line with economic development and the integration of domestic financial sectors into global markets. Reforms should include adopting a broader set of policy objectives in addition to inflation, replacing broad money as the intermediate target with a more sophisticated set of indicators and forecasts and reform of the operating target. In essence, central banks should introduce a form of inflation targeting lite. This should be complemented by measures to strengthen the transmission mechanism of monetary policy.

1. Introduction

Better macroeconomic management, including better monetary policies, contributed to an improvement in macroeconomic performance in sub-Saharan Africa (SSA) in the 2000s, manifested in higher real GDP growth, lower inflation and a stronger balance of payments. Nevertheless, the exogenous shocks of 2008–2009, arising first from the steep rise in global fuel and food prices and then from the global financial and economic crisis, posed major challenges for monetary policy in SSA, not least because the monetary policy frameworks used by most countries in SSA are not well suited to discretionary countercyclical macroeconomic stabilization.

The purpose of this paper is to assess how monetary policy frameworks in SSA might be reformed in the post-crisis period, taking account of the lessons learned from the impact of the global economic crisis and the monetary policy response to the crisis in SSA. As discussed in Section 2, monetary policy frameworks in SSA fall mainly into two types; monetary targeting frameworks and fixed exchange rate regimes (including the CFA monetary unions). We focus on the former in this paper for two reasons. First, fixed exchange rate regimes allow only limited room for independent monetary policy because the need to defend the exchange rate peg takes precedence over other objectives. Secondly, whereas it is unlikely that there will be significant changes to the monetary policy framework of the monetary unions in the foreseeable future, the reform of monetary targeting frameworks is under consideration in several countries which currently use them.

The paper addresses a set of questions pertaining to monetary policy frameworks in SSA. Should the policy objectives of monetary policy be wider than the control of inflation? Should central banks move away from monetary targeting and adopt an alternative framework, such as some form of inflation targeting? How can the transmission mechanism of monetary policy be strengthened? We argue that, in the post-crisis period, central banks should aim to replace monetary targeting frameworks with some form of inflation targeting regime, with a role for output stabilization and probably exchange rate management. Regimes such as these are sometimes referred to as inflation targeting lite (ITL) because they are essentially eclectic and incorporate some, but not all, of the key features of inflation targeting (Stone, 2003). We do not deal in this paper with some of the broader institutional issues related to the reform of monetary policy frameworks, such as the operational independence of the central bank and whether or not monetary policy is constrained by fiscal dominance, although these issues are undoubtedly very important.

The paper is organized as follows. Section 2 outlines the basic features of monetary policy frameworks in SSA. Section 3 examines how monetary policy responded to the exogenous shocks arising from the global economic crisis. Section 4 discusses how monetary policy frameworks might be reformed in the post crisis environment.

The empirical data in this paper are drawn from ten SSA countries which have an independent monetary policy — they are not members of monetary unions — and whose economies have performed well in the 2000s: Ethiopia, Ghana, Kenya, Nigeria, Malawi, Mozambique, Rwanda, Tanzania, Uganda and Zambia. All of these countries employ a monetary targeting monetary policy framework except for Ghana, which has an inflation targeting framework, and Kenya, which has a hybrid regime of IT and

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Table 1: Typology of 'de jure' monetary policy frameworks in SSA

Type of framework and number of countries	Main policy objective	Intermediate target	Operational target	Main instruments
Exchange rate pegs (23)	Stability of exchange rate regime		Exchange rate	OMOs FX sales
Monetary targets (18)	Price stability	Monetary aggregates	Reserve money	OMOs FX sales
Inflation targeting (3)	Price stability	Inflation forecast	Interest rate	OMOs FX sales

Notes: Some countries have economic growth as an additional policy objective. OMOs are open market operations, mainly sales of government securities.
Source: IMF (2008, Table 2.1).

monetary targets. Seven of these countries are classified as 'frontier markets', because of their strong private sector led growth, because their financial systems are becoming deeper and because they have begun to attract foreign institutional investors into their financial markets (Nellor, 2008). The rapid economic and financial development of the frontier markets will generate new challenges for macroeconomic management and spur reforms to their monetary policy frameworks.

2. The Framework for Monetary Policy in Sub-Saharan Africa

The monetary policy framework comprises the institutional arrangements for determining and implementing monetary policy. It provides an anchor for monetary policy, identifies the policy objectives and describes how monetary policy is implemented through a set of instruments and operating and intermediate targets. A key distinguishing feature of a monetary policy framework is whether monetary policy is anchored on external or domestic targets. Table 1 provides a typology of 'de jure' monetary policy frameworks and their key features in SSA.[1]

Approximately half of the countries in SSA anchor monetary policy on an exchange rate peg (an external target) including the 14 countries which are members of the two CFA zone monetary unions; in effect monetary policy is subordinated to the dictates of exchange rate policy and cannot be used independently to target another variable such as domestic output or inflation.[2] Domestic anchors are used by those countries which do not peg their exchange rate: for all of these countries controlling inflation is a key policy objective of monetary policy, although some have additional objectives such as output stabilization.

Most of the countries which have a domestic anchor for monetary policy use a monetary policy framework built around quantitative monetary targets, with broad money used as an intermediate target and reserve money as an operating target. The main instruments of monetary policy in these frameworks are primary auctions of government securities and sales/purchases of foreign exchange by the central bank; the latter are often constrained by targets for international reserve accumulation. In monetary targeting regimes, interest rates play a secondary role, if any, as a policy tool; central banks cannot simultaneously determine quantities and prices of money. What are termed 'policy rates' in money targeting regimes are either determined endogenously, through a link to a market interest rate such as a Treasury Bill rate or are not binding in the sense that they do not influence interest rates in financial markets.

Only three countries in SSA have adopted inflation targeting (IT): South Africa, Ghana and Mauritius. Central banks with IT frameworks generally use a short-term interest rate as the operating target and use an inflation forecast as the key guide to monetary policy decisions (i.e. whether to raise, lower or keep unchanged the policy interest rate). Kenya currently has a hybrid monetary policy framework involving elements of both IT and monetary targets (Adam *et al*., 2010a).

In global terms, the widespread use of monetary targets as domestic anchors in SSA is somewhat anomalous. Outside of SSA, in both industrialized and emerging market economies, monetary targets have largely been replaced by some form of IT, because the lack of a stable relationship, especially in the short term, between monetary aggregates and inflation (or other nominal variables) makes them a poor choice for intermediate target. In attempting to control monetary aggregates in the face of shifts in the velocity of circulation of money (or mistakes in forecasting velocity), central banks may exacerbate instability in interest rates, exchange rates and output, if prices are sticky in the short run (O'Connell, 2008).[3] Monetary targeting regimes in SSA have proved quite successful in bringing down inflation from high levels, but because of the instability of money demand they are less useful at controlling inflation when it is at low levels. In a cross-country econometric analysis of 36 African countries, Thornton (2008) found that the relationship between money growth and inflation is weak at low rates of inflation (below 10 per cent) but strong at inflation rates above 10 per cent.

Monetary targeting regimes are strongly 'rules based'. The monetary targets are usually set for a period of 12 months and leave little room for discretionary changes to monetary policy on the part of the central bank.[4] This contrasts with IT frameworks in which the central bank makes a monetary policy decision, usually every month, on the basis of the latest available data and forecasts. Nevertheless, the volatility of the velocity of money has motivated some central banks in SSA to adopt a more flexible approach to monetary targets in recent years, allowing deviations from targets to occur especially if there appears to be

little threat to inflation objectives. For example, faced with strong inflows of foreign exchange (from aid and capital flows) in the 2000s, some central banks, such as in Uganda, responded by accumulating international reserves by more than planned, to stem an appreciation of their exchange rates, and by allowing monetary growth to rise above targeted levels in order to avoid having to fully sterilize the inflows of foreign exchange by issuing domestic securities, because this could have crowded out bank lending to the private sector.

The implementation of monetary targeting frameworks in SSA has, in practice, paid little attention to the stabilization of output. The monetary targets have usually been derived from a target for inflation, with projected real output assumed to be exogenous to monetary policy or other factors related to aggregate demand: implicitly real output is assumed to be always at its equilibrium level and hence output gaps do not occur. Hence the question of how monetary policy should respond to an output gap, whether negative or positive, does not arise. This framework for monetary policy is thus better suited to providing medium-term anchors for monetary policy (which can constrain inflation over the medium term) rather than for short-term fine tuning of aggregate demand.

Basing the setting of intermediate targets on the assumption that actual output does not deviate from potential output can, perhaps, be defended on two grounds. First, in low income, predominantly agrarian, economies with large informal sectors, fluctuations in real output are more likely to be caused by supply side shocks (which shift potential output) than aggregate demand shocks, Secondly, even if the latter are important, the lack of reliable and timely macroeconomic data makes it very difficult for the central bank to estimate the sign and size of the output gap. Nevertheless, the first premise will become less tenable as the economies of SSA develop and become more urbanized and formalized, acquiring the features of emerging markets, while macroeconomic data can be improved if this is necessary to support better monetary policy.

3. The Impact of the Global Economic Crisis on SSA Economies

In the years leading up to the global economic crisis, the economies of SSA had performed strongly by their own historical standards. The average real GDP growth over the period 2004–2008 was 6.5 per cent and average inflation fell to 8.3 per cent, although by 2008 inflation was pushed back up by rising global food and fuel prices. The global economic crisis reduced real GDP growth rates in SSA, although its impact was not homogeneous: oil exporting and middle income countries suffered much sharper decelerations in growth than did low income countries. Of the main country groups in SSA, only the middle income countries suffered a recession in 2009. Table 2 shows average real GDP growth rates from 2005 to 2009, plus a forecast for 2010, for the major groups, characterized by income and whether or not they are oil exporters. The average growth rate for the 10 countries which are the main focus of this study is also shown in Table 2: these countries all fall into the low income category with the exception of Nigeria which is an oil exporter.

The global economic crisis affected the economies of SSA mainly by reducing demand for their exports of goods and services and by reducing net inflows of remittances and private capital. As a share of GDP, SSA's exports fell by 4.6 percentage points in 2009 compared to the average for 2004–2008; the most severe impact was felt by oil exporters and middle income countries with the low income countries suffering a fall of only one percentage point in their exports as a share of GDP (IMF, 2010). Export earnings fell because of both lower demand in export markets and lower prices for commodity exports. The external shock hit household incomes and hence led to a weakening of private consumption demand, which was partly offset by a more expansionary fiscal stance. The fall in demand, from the external and domestic private sectors, pulled real GDP growth down. Compared to the average for 2005–2008, GDP growth in SSA in 2009 was 4 percentage points lower. However growth in low income countries held up better than in the rest of SSA, falling by only about 2 percentage points in 2009 from the average in the previous four years.

Table 2: Real GDP growth rates in SSA (per cent)

Country/country group	2005	2006	2007	2008	2009	2010 Forecast
SSA	6.3	6.4	7.0	5.6	2.2	4.8
Oil-exporting countries	7.6	7.4	9.2	7.0	4.0	6.1
Middle income countries	4.9	5.6	5.5	3.7	–1.7	3.5
Low income countries	7.4	7.3	7.2	6.9	5.1	5.1
10 Countries with domestic monetary policy anchors*	7.5	7.9	7.4	7.6	5.8	6.0

Note: Low income countries exclude the fragile states.
*Ethiopia, Ghana, Kenya, Nigeria, Malawi, Mozambique, Rwanda, Tanzania, Uganda and Zambia.
Source: AfDB (2010) and IMF (2010).

Table 3: Consumer price inflation in SSA (percent)

Country/country group	2005	2006	2007	2008	2009	2010 Forecast
SSA	8.8	6.9	6.8	11.7	10.4	7.6
Oil-exporting countries	14.8	8.1	5.6	10.5	11.0	10.5
Middle income countries	3.6	5.1	7.1	11.5	7.1	5.5
Low income countries	8.3	7.6	7.6	13.7	13.7	5.6
10 Countries with domestic monetary policy anchors*	11.1	9.6	8.6	13.4	13.9	7.8

Note: Low income countries exclude the fragile states.
*See Table 2 for list of countries.
Source: AfDB (2010) and IMF (2010).

Some of the frontier markets in SSA experienced a reversal of portfolio capital flows, especially in the first few months after the eruption of the global financial crisis in September 2008. This reversal of portfolio capital flows, which was triggered by the liquidity problems facing institutional investors in the industrialized countries and a general flight from riskier assets, led to a depreciation of the exchange rate and, in some cases, liquidity shortages. Central banks responded by selling foreign currency to slow down the speed of exchange rate depreciation and by injecting more liquidity into the domestic money markets.

The global fuel and food price shocks which preceded the global financial crisis pushed up inflation in SSA, above the inflation targets for most central banks. Inflation rose by almost 5 percentage points on average in SSA in 2008 (Table 3). Although the primary cause of the rise in inflation was a supply side shock, unrelated to domestic demand conditions, many central banks responded by cautiously tightening their monetary policy in 2008 to forestall second round effects which might have led to a more persistent increase in inflation.

The slowdown in GDP growth in SSA which followed the global economic crisis posed dilemmas for central banks — should monetary policy be eased to stimulate output growth and if so, how should this be done in a monetary targeting framework? The answer to the first question hinged on whether the slowdown in growth had opened up a negative output gap; this was not axiomatic because a major external shock could have negative effects on both aggregate supply and aggregate demand. The difficulty facing policymakers in most SSA countries is that high frequency reliable data needed to estimate an output gap, such as data on employment and capacity utilization, are unavailable.[5]

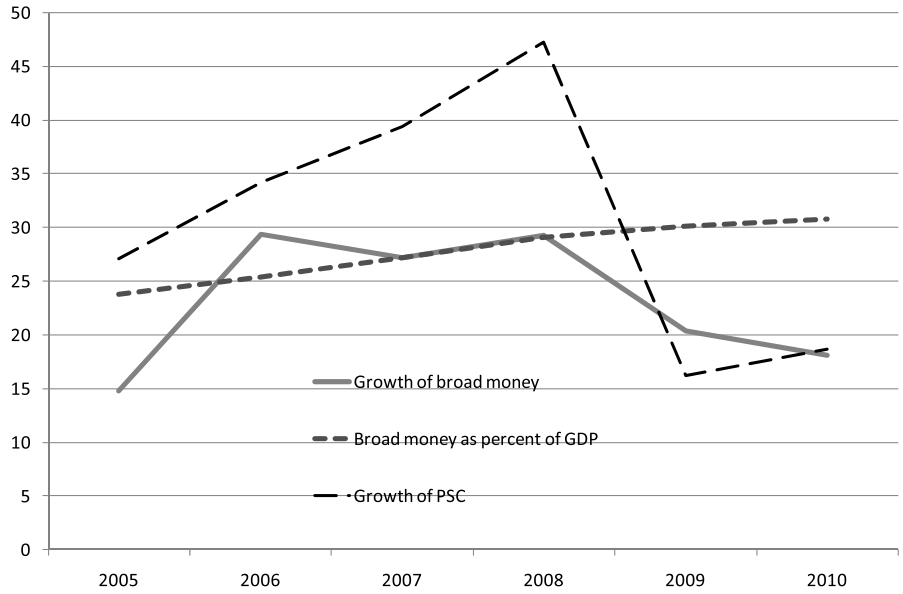
The magnitude of the expected fall in growth motivated policymakers in some SSA countries to implement a more expansionary macroeconomic stance in 2009, through fiscal and monetary policies (Kasekende *et al.,* 2010). Furthermore, inflation began to turn down during 2009 in most countries, as the food and fuel price shocks subsided and weakening domestic demand eased pressure on consumer prices, creating more room for easing monetary policies without jeopardizing long-term targets for inflation.

How is monetary policy eased in a monetary targeting framework? As noted in Section 2 these frameworks were not designed to fine tune monetary policy to stabilize output. However, in conditions where output has fallen below its equilibrium, monetary policy can be eased by supplying more money than would be required to meet money demand at the prevailing level of output, with the magnitude of the excess determined by the size of the negative output gap. This will boost real output, reducing the negative output gap, if the excess money supply is translated into higher spending by the private sector and if domestic prices are sticky.

Figures 1 and 2 provide data on monetary and credit aggregates and interest rates for 2005 through to the forecast for 2010, for the 10 countries listed in the introduction (interest rate data for two of these countries are unavailable). After rapid growth during 2006–2008, of close to 30 per cent per annum, broad money growth slowed in 2009, but it still grew slightly faster than nominal GDP in 2009, leading to a small rise in the ratio of broad money to GDP. The growth in broad money was not matched by growth in bank credit to the private sector, which fell sharply in 2009, after a credit boom in the mid 2000s.[6] Both nominal and real interest rates fell in 2009 and continued falling in 2010. In 2010 nominal interest rates on one year government securities averaged about 8 per cent, approximately half the level in the mid-2000s, while real interest rates were around 1 per cent compared to 5 per cent in the mid-2000s.

How should we interpret these trends? With the exception of Ghana, all of these countries use broad money as an intermediate target, hence broad money growth provides the best direct indicator of the central banks' monetary policy actions.[7] The fact that broad money continued to grow quite rapidly in 2009 — at an average of about 20 per cent — indicates that central banks attempted to provide a monetary stimulus by expanding the money supply in the face of a slowing economy. For most of these countries, interest rates are endogenous to monetary policy. The sharp fall in interest rates in 2009 and 2010 suggests that the money supply grew faster than money demand, which was weak because the slowing economy depressed transactions demand for money. Hence the data indicate that monetary policy moved in the right direction to stimulate aggregate demand in 2009 and 2010.

Figure 1: Annual growth of broad money and private sector credit, broad money as a percentage of GDP, averages for 10 SSA economies, 2005–2010



Notes: 2010 is a forecast. PSC is private sector credit. The countries are Ethiopia, Ghana, Kenya, Nigeria, Malawi, Mozambique, Rwanda, Tanzania, Uganda and Zambia.
Source: IMF (2010).

However, the attempt to stimulate aggregate demand through monetary policy was not fully successful. The growth in broad money was only partially translated into growth in bank lending to the private sector, which fell sharply in 2009 to an average of 16 per cent, from an average of 37 per cent in the previous four years. Banks must instead have increased the share of liquid assets, such as reserves with the central bank or government securities, in their portfolios.[8] Furthermore, in most of these countries, the fall in government securities' yields was not transmitted into lower bank lending rates; hence there was no price stimulus to private sector demand for bank credit.

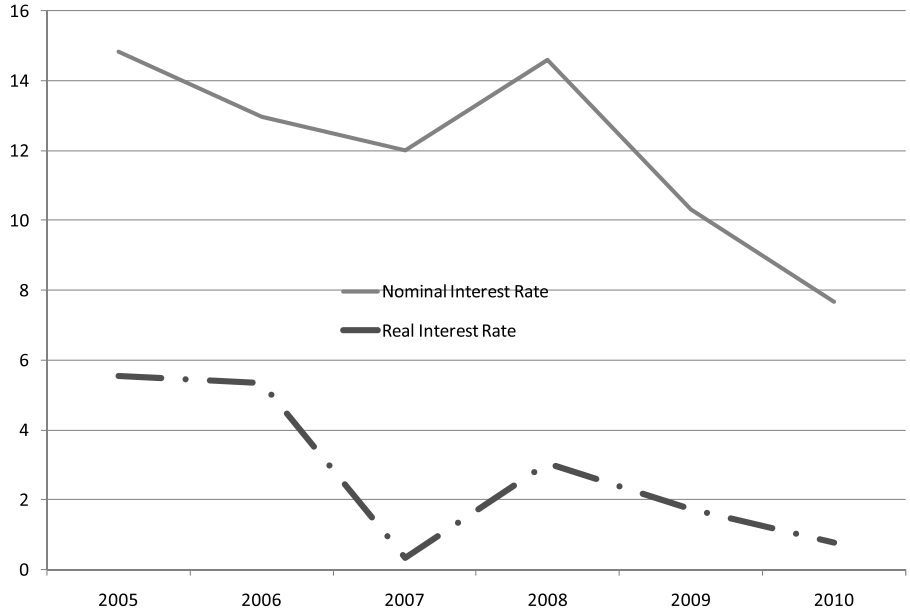
Figures 3–7 depict the monthly trends in two sets of interest rates in five countries (Ghana, Kenya, Tanzania, Uganda and Zambia) over the three and half years from January 2007 to June 2010; a Treasury Bill (TB) rate which responds directly to monetary policy because primary TB auctions provide one of the main instruments for controlling monetary aggregates and an average interest rate for bank lending to the private sector. For Ghana, we also include the Bank of Ghana (BOG) prime rate as this signals its monetary policy stance under its inflation targeting regime. The figures all depict a similar picture. TB interest rates began to fall in the first half of 2009 and this fall continued through the first half of 2010, except for Ghana where the fall in the TB rate and the BOG prime rate began later, at the start of 2010. In all five countries the fall in TB rates left bank lending rates virtually unchanged. The stickiness of bank lending rates is probably attributable to credit rationing by banks on the basis of borrower creditworthiness (so that there is excess demand for bank credit) and lack of competition in the banking industry.

Without lower bank lending rates, it is not surprising that bank credit fell in line with slower economic growth. Moreover, commercial banks may also have been reluctant to expand their lending because of concerns that the economic slowdown would impair the creditworthiness of borrowers. Given the poor development of financial markets, the bank credit channel is one of the most important channels for the transmission of monetary policy in SSA (Mishra *et al*., 2010), but this channel did not operate very effectively during the economic crisis. SSA central banks were not alone in experiencing difficulties in using monetary policy to stimulate output. Monetary policy in many of the industrialized economies was constrained by the zero lower bound on nominal interest rates and the fragile balance sheets of commercial banks which impeded the resumption of credit growth.

4. How Should Monetary Policy Frameworks Be Reformed in the Post-crisis Period?

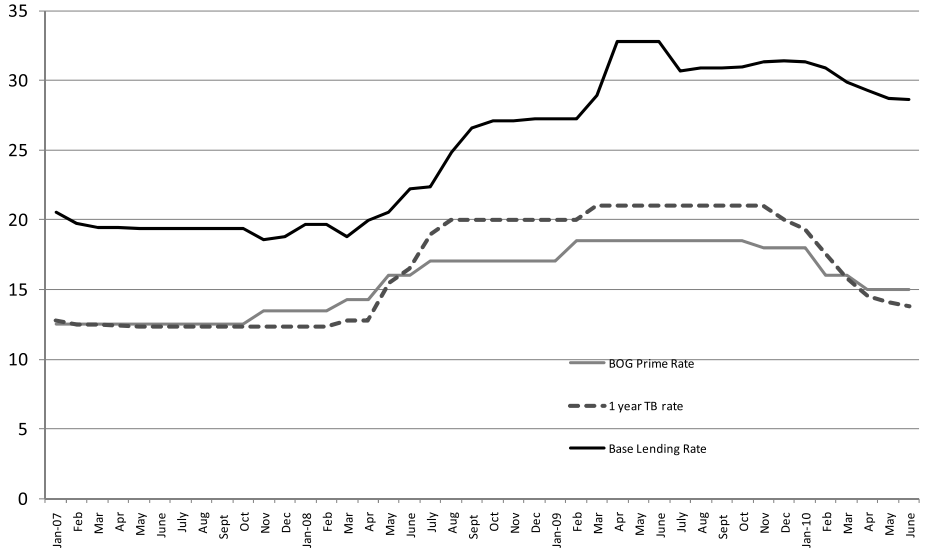
The global economic crisis may prove to be a watershed for monetary policy in many SSA economies. In the decade or so prior to the crisis, monetary targeting frameworks provided a relatively successful anchor against high inflation. There was less need

Figure 2: Nominal and real interest rates, averages for 8 SSA economies, 2005–2010



Notes: 2010 is a forecast. Interest rates are for one year government securities. Real interest rates are calculated as the one year nominal interest rate for the end of year t, minus the period end inflation (or forecast inflation for 2010 and 2011) for year $t + 1$. The countries are Ghana, Kenya, Nigeria, Malawi, Mozambique, Tanzania, Uganda and Zambia.
Source: Standard Bank (2010).

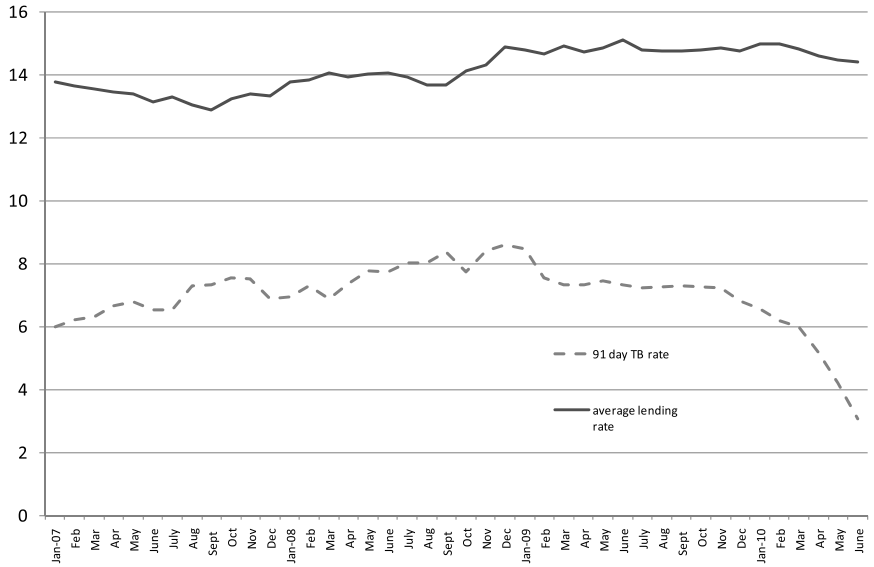
Figure 3: Ghana: Bank of Ghana prime rate, 1 year TB rate and base lending rate of banks, January 2007–June 2010



Source: Bank of Ghana website.

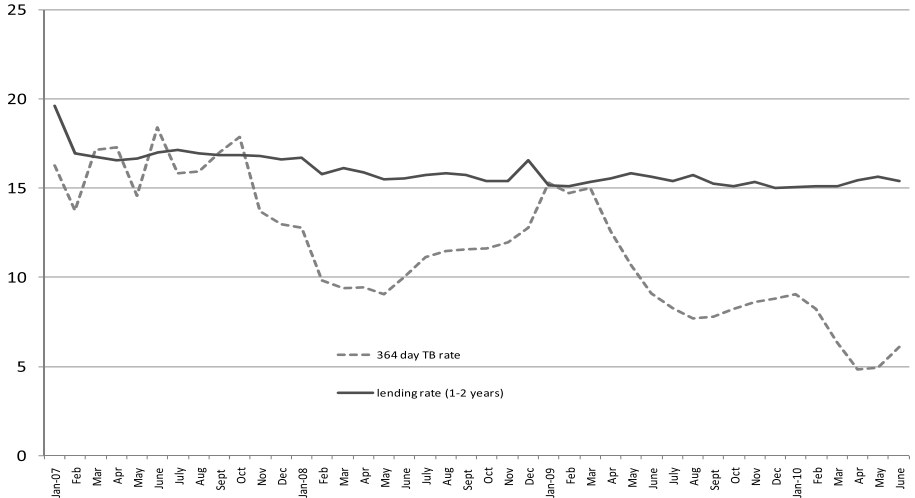
to use monetary policy for the active management of aggregate demand because this was a period in which the benign external economic environment, with booming commodity prices and inflows of external finance, facilitated robust real output growth. Monetary policy is likely to be more challenging in the post crisis period, not least because the external environment facing SSA economies will probably be less benign and more volatile. In this section, we discuss three related issues. First, should the policy objectives of monetary policy be broadened beyond the control of inflation? Secondly, what feasible changes can be made to

Figure 4: Kenya: 91 day TB rate and average bank lending rate, January 2007–June 2010



Source: Central Bank of Kenya website.

Figure 5: Tanzania: 364 day TB rate and average bank lending rate (1–2 years), January 2007–June 2010



Source: Bank of Tanzania website.

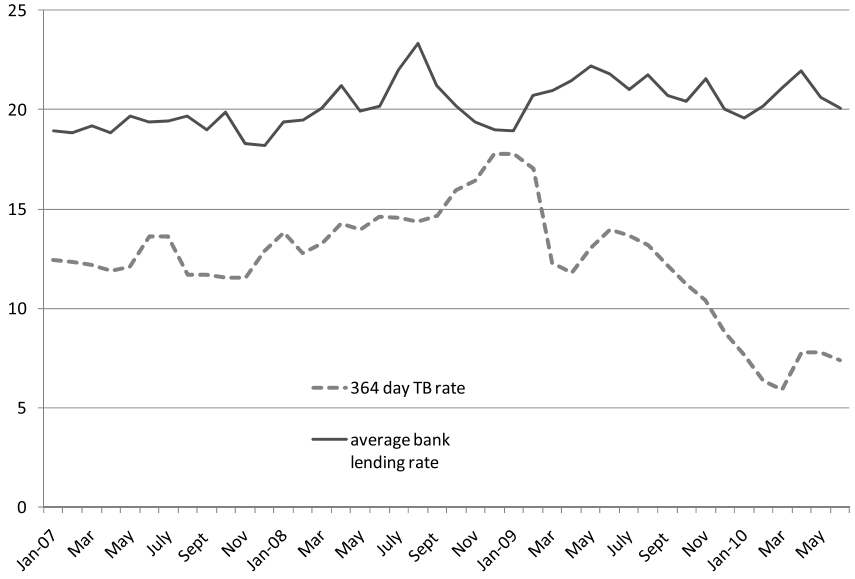
monetary policy frameworks in the medium term? Thirdly, what measures can be taken to strengthen the transmission mechanism of monetary policy?

4.1 The Policy Objectives of Monetary Policy

The implicit assumption underlying the implementation of monetary targeting frameworks in SSA is that deviations of output from the equilibrium level are not substantial and hence monetary policy should focus exclusively on a target for inflation. In addition, these frameworks have been premised on a flexible nominal exchange rate, with any intervention to smooth exchange rate volatility kept to a minimum so as not to jeopardize domestic monetary targets or targets for international reserve accumulation.

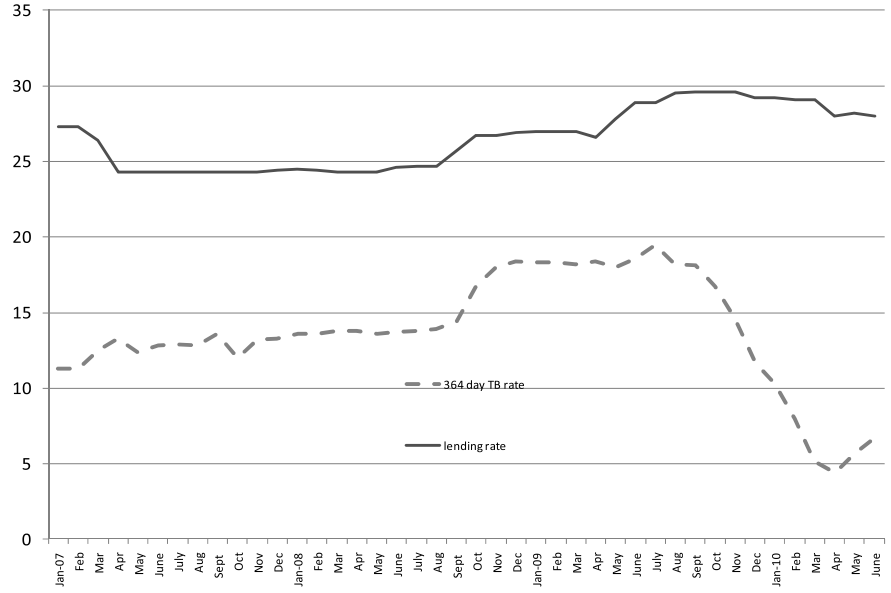
Macroeconomic management in the post-crisis period will require a broader view of policy objectives, with greater priority accorded to stabilizing output and possibly the exchange rate, alongside the control of inflation. As SSA economies develop and become more integrated into global financial markets they will acquire the characteristics of emerging market economies.

Figure 6: Uganda: 364 day TB rate and average bank lending rate, January 2007–June 2010



Source: Bank of Uganda.

Figure 7: Zambia: 364 day TB rate and bank lending rate, January 2007–June 2010



Source: Bank of Zambia website.

Business cycle volatility is likely to become more pronounced; aggregate demand shocks will become more important relative to aggregate supply shocks, thus creating a role for macroeconomic policy to stabilize output. Moreover, larger private capital account flows may exacerbate the volatility of the exchange rate. Monetary policy will need to play the primary role in stabilization policy because it is much more flexible than fiscal policy, which suffers from implementation constraints especially in the short term.

Monetary policy objectives will also have to take more account of exchange rate stabilization, for several reasons. First, the exchange rate itself affects aggregate demand, output and inflation. Secondly, the integration of the financial sectors of SSA into global financial markets, already evident in the frontier markets, provides a channel for capital account flows to generate exchange

rate volatility. Volatility in the exchange rate can be very disruptive to the users and producers of traded goods in the domestic economy. Thirdly, several SSA economies, such as those in the East African Community (EAC), intend to introduce a monetary union with a common currency. The transition to a monetary union will require a period of exchange rate management to align the bilateral exchange rates of each prospective member of the monetary union. Some form of intermediate exchange rate regime, rather than a pure float, will therefore probably be optimal in SSA, although central banks will need to be very careful to avoid trying to defend unsustainable exchange rates. The degree of priority given to exchange rate management will vary according to country specific circumstances.

Multiple policy objectives inevitably involve tradeoffs when central banks have limited policy instruments. The credibility of the central bank to deliver low inflation is integral to the success of an inflation targeting framework, because this is essential to anchor the private sector's expectations of inflation over the medium term. The central bank's credibility to deliver low inflation will be jeopardized if any policy objectives, such as output stabilization, are perceived by the public to be in conflict with the medium term inflation target. Multiple policy objectives need not necessarily be inconsistent: for example, if inflation is forecast to be below its target and there is also a negative output gap, an easing of the monetary policy stance could move the economy towards both the output and inflation objectives. Nevertheless, there is the potential for conflict if the central bank has multiple objectives.[9] Therefore, to maintain its credibility, the central bank must explain its monetary policy actions to the public, especially in terms of how they are related to policy objectives, and if there is a conflict between policy objectives it must give priority to the inflation objective and ensure that the public understands this. Hence, establishing and maintaining the credibility of the central bank will require both that its monetary policy actions are actually consistent with achieving its medium-term inflation target and that its monetary policy is sufficiently transparent to be clearly understood by the public.

4.2 Intermediate and Operating Targets

Using monetary policy as an active tool of macroeconomic stabilization will require a more sophisticated intermediate target than broad money to guide the setting of monetary policy on a regular basis. The intermediate target need not be a single variable and ideally would include proxies and/or forecasts for all of the policy objectives of the central bank. This will inevitably be more demanding in terms of data and technical expertise than a broad money intermediate target. A key component of the intermediate target will be an inflation forecast with the forecast period, in principle, aligned with the lag length in the monetary transmission mechanism. An estimate and forecast of the output gap is also needed if monetary policy is to be used to stabilize output. High frequency data directly measuring the output gap are not available in most SSA countries. However, suitable proxy variables could be used for the output gap, such as wage and credit growth (Olsen *et al.*, 2002).

What role, if any, should broad money or other monetary and credit aggregates play in the intermediate target? Movements in monetary aggregates can provide useful information about developments in the policy objectives, especially in financial markets where borrowers are credit constrained, so they should not be ignored. However, they should not be used as rigid rules for driving monetary policy decisions. The challenge facing central banks is to judge whether deviations of money supply growth from projected money demand represent only an endogenous accommodation to a portfolio shift by the private sector, and hence are not a threat to inflation targets, or entail a shock to money supply which will raise aggregate demand and threaten the inflation target (Goodhart, 2007).

For many countries in SSA, substantial improvements in the range, reliability and timeliness of macroeconomic data are essential to enable central banks to move away from quantitative monetary targets; for example, GDP by expenditure data are essential for analysing aggregate demand, but such data are available, if at all, only on an annual basis in most SSA countries.

The operating target in monetary targeting frameworks is reserve money. The key criteria for an effective operating target is that it must be under the control of the central bank, it must give an accurate indicator of the stance of monetary policy and, crucially, it must have some traction in the monetary transmission mechanism. The options available for central banks are to retain a quantitative target such as reserve money or bank reserves, adopt a short-term interest rate target (such as an interbank rate) and to adopt a combination of variables as in a monetary conditions index (MCI). Several central banks have used MCIs as operating targets, usually involving a weighted sum of a short-term interest rate and the exchange rate, with the weights derived from an econometric estimate of inflation (Lattie, 2010; Kesriyeli and Kocaker, 1999).

Using reserve money as the operating target is not necessarily incompatible with a more discretionary monetary policy which takes account of the estimated output gap and forecast inflation (Berg *et al.*, 2009). In the short term, interest rate operating targets may be difficult to implement for two reasons. First, estimating the real interest rate is often difficult when supply side shocks make inflation very volatile. Secondly, the interest rate itself often plays a marginal role in the money transmission mechanism, as discussed below. Reforms to the operating target will have to be guided by country specific characteristics.

4.3 Strengthening the Monetary Policy Transmission Mechanism

The effectiveness of monetary policy depends on the transmission mechanism and the central bank understanding of this, so that monetary policy actions have a predictable impact on policy variables. Although the monetary policy transmission mechanism has been studied extensively in industrialized countries, much less is known about this in economies with rudimentary financial systems. Mishra *et al*. (2010) review the various channels through which the monetary policy transmission mechanism potentially operates and discuss their relevance for low income economies (LICs). The monetary policy transmission mechanism is weaker in LICs than in more developed economies for several reasons. The size of the financial system in LICs is much smaller and fewer people have access to financial services, at least from the formal sector. The lack of deep and integrated financial markets impedes the transmission of interest rates from the short end of the market, which the central bank can potentially control, to the interest rates on loans and securities with longer maturities. Bank lending rates are sticky because of credit rationing and limited competition in the banking sector. Without well-integrated financial markets, asset prices are not sensitive to interest rates, which impedes transmission through wealth effects on consumption and the net worth of borrowers.

As such, the most effective channels of monetary policy transmission are the bank lending channel, through which an expansion in the magnitude of resources available to banks, such as deposits or reserves with the central bank, allow an increase in bank lending to the private sector, and the exchange rate channel. However, the former channel may be dampened by banks holding high levels of involuntary excess reserves, which is a feature of the banking systems of several SSA economies (Saxegaard, 2006) and the impact of the latter on aggregate demand is uncertain: as well as the conventional expansionary effects, exchange rate depreciation could have contractionary effects through either the cost of imported inputs or the net worth of domestic borrowers with foreign currency denominated liabilities.

Strengthening the monetary policy transmission mechanism in SSA will require deeper, better integrated and more competitive financial markets. Consequently reforms to monetary policy frameworks need to be accompanied by measures to promote financial market development. For example, measures to strengthen the legal rights of creditors to foreclose on defaulters and to set up credit reference bureau to pool information on borrowers can help to reduce credit rationing, expand the supply of credit and hence make loan demand more sensitive to the interest rate charged. Measures to promote the secondary market trading of securities could enhance the integration of financial markets and create stronger links between interest rates in the money market and longer-term interest rates.

5. Conclusions

The monetary policy frameworks of most central banks in SSA which employ a domestic anchor for monetary policy are still based on quantitative monetary intermediate and operating targets. These frameworks proved useful in pulling down inflation from the double digits levels which were commonplace in the 1990s, but for at least the frontier markets in SSA, they are becoming increasingly less useful for guiding monetary policy. Monetary targeting frameworks are rigidly rules based and provide little scope for using monetary policy to fine tune aggregate demand. Monetary targets are usually formulated on an annual basis, without taking into consideration the possibility that real output might deviate from potential output, and the implementation of monetary policy is focused on ensuring that money supply grows in line with the predetermined target.

In the post-crisis macroeconomic environment, it is likely that aggregate demand driven business cycles will become more pronounced in the economies of SSA, particularly the frontier markets, than has hitherto been the case, as these economies grow, become more formalized and urbanized and their financial sectors become more complex and globally integrated. As such it will be optimal to formulate macroeconomic policies within a more explicit business cycle framework, with an important role for the discretionary fine tuning of aggregate demand. Monetary policy, because it is much more flexible than fiscal policy, should be the primary tool of demand management.

Post-crisis monetary policy frameworks in SSA should evolve into some version of inflation targeting lite, with a broader set of policy objectives and more frequent adjustments of monetary policy. Instead of adhering to rigid predetermined monetary targets, monetary policy needs to become more flexible so that discretionary adjustments to operating targets can be made based on current and forecasted macroeconomic variables. Broad money should be replaced as the sole intermediate target of monetary policy by a more sophisticated set of variables, including the output gap and forecasts for inflation.

The reform of the monetary policy frameworks alone may not lead to more effective monetary policies because the transmission mechanism is weak in most SSA economies. This is the consequence of structural features of the economies and financial markets in SSA: shallow and poorly integrated financial markets, low levels of intermediation, and an interest inelastic demand for credit. Hence a prerequisite for effective countercyclical monetary policies is a stronger transmission mechanism. In particular central banks have to strengthen the links between their policy instruments and the quantity and cost of bank lending. This will require structural changes in financial markets to reduce their segmentation and to promote more competitive credit markets.

One of the arguments in favour of monetary targeting frameworks is that they are more appropriate for countries with weak institutions. In some respects this is valid. Monetary targeting frameworks are much less technically demanding to implement than inflation targeting frameworks. However, the technical capacities of many central banks in SSA have improved substantially over the last two decades to the extent that the technical demands of inflation targeting should not be an insurmountable obstacle to its adoption. Central banks in many countries on the continent are still subject to political pressures which circumscribes their operational independence. This is an impediment to the successful implementation of inflation targeting, but it also undermines the efficacy of a monetary targeting framework, and hence does not provide compelling grounds for retaining monetary targeting frameworks.

Notes

1. Honohan and O'Connell (2008) provide a historical review of the evolution of monetary regimes in Africa since independence, stressing the crucial role of fiscal deficit financing by the central bank.
2. The CFA is pegged to the euro. For open economies, pegging the exchange rate to a currency of a low inflation country (or group of countries such as the Eurozone countries) may provide the best option for controlling domestic inflation, because the peg will ensure that traded goods price inflation remains low.
3. Recent econometric estimates of money demand equations for countries in SSA include Sriram (2009) for The Gambia and Adam *et al.* (2010b) for Tanzania. Sriram found that the long-run money demand function in The Gambia was not stable. Adam *et al*., however, were able to identify a well-behaved broad money demand function which can be used to strengthen the forecasting of the velocity of broad money.
4. For countries with IMF programmes, quarterly monetary targets are included in the quantitative performance criteria by which performance is evaluated by the IMF.
5. One of the most widely used methodologies to estimate equilibrium output (and when combined with actual output, the output gap) is by estimating a trend in output using time series data (e.g. with a Hodrik-Prescott filter). However, this methodology will not pick up any shift in equilibrium output caused by an exogenous shock.
6. The credit boom in SSA during 2003–2007 is analysed in Iossifov and Khamis (2009).
7. It is not a perfect indicator of central bank monetary policy actions because the central bank controls reserve money, not broad money. Changes in the money multiplier could impede the transmission of monetary policy from reserve money to broad money.
8. Although some of these countries also implemented a fiscal stimulus, it is not likely that bank lending to the private sector was crowded out by higher government domestic borrowing, because if this had been the case interest rates on government securities would not have fallen so sharply.
9. For example, actual output may fall because of a supply side shock which reduces equilibrium output. If the central bank fails to identify the cause of the observed fall in output as a shock to equilibrium output and eases monetary policy, there is likely to be a conflict with the inflation objective.

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