



KEY ISSUES IN THE CHOICE OF AN APPROPRIATE MONETARY POLICY FRAMEWORK FOR GHANA

The Institute of Economic Affairs (IEA)

KEY ISSUES IN THE CHOICE OF AN APPROPRIATE MONETARY POLICY FRAMEWORK FOR GHANA

By

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Abstract

The paper reviews the frameworks used for monetary policy and inflation management in Ghana. The paper finds that inflation has generally been high and this is partly due to the fact that its management has been challenged by a supply-constrained economy, fiscal dominance, and an underdeveloped financial sector, among other factors. The paper argues that while monetary aggregates and the exchange rate remain important determinants of inflation, the strict forms of monetary targeting and exchange rate targeting do not appear to be viable options for monetary policy currently. The paper concludes that despite the teething problems of the inflation-targeting (IT) framework that has been in place since 2007, its effectiveness can be enhanced by overcoming the initial challenges. Important requirements for effective IT include: fiscal discipline, sufficient flexibility in the exchange rate, improved financial intermediation, increased transparency of the process, improvement in the forecasting framework, and an institutional commitment to and accountability for achieving inflation targets.

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Executive Summary

After achieving political independence in 1957, Ghana set up its own central bank to conduct independent monetary policy, among other functions. Since then, various frameworks have been adopted to deliver price stability as the principal goal of monetary policy.

Evidence shows that Ghana has had higher rates of inflation compared to most of its African peers during its history. This unenviable record can be attributed to both the causes and management of inflation. The causes have received considerable attention in the literature. High domestic demand fuelled by expansionary fiscal policies and accommodating monetary policies and the high proclivity of the economy to supply shocks—particularly with respect to food, which commands a large weight in the consumption basket—have been identified as the principal causes of the high rates of inflation. The effectiveness of monetary management, has, however, not been sufficiently investigated.

This paper fills this gap in the literature. The effectiveness of monetary policy depends to a large extent on the framework chosen to conduct it. From this standpoint, the paper undertakes a critical analysis of monetary policy frameworks used in Ghana and makes suggestions regarding the options going forward.

Ghana's system for delivering price stability has evolved from essentially a monetary-targeting approach to an inflation-targeting approach.

The monetary-targeting approach was in place up to 2006 and had two variants. The first was a credit-control approach, which was in place up to 1991. This approach targeted domestic credit directly in order to achieve money supply targets as an intermediate variable and finally inflation targets. The credit targets were mostly violated largely from higher budget financing, leading to breaches of the money supply and inflation targets. The second variant of monetary targeting, in place between 1992 and 2006, used open market operations (OMO)—involving the sale and purchase by the central bank of financial instruments—as the operating instrument and money supply as the intermediate target. Because of the persistence of excess liquidity in the economy, OMO was invariably unidirectional, involving the sale of instruments. OMO was, however, undermined by a lack of clear separation between the sale of instruments to mop up liquidity and the sale to raise money to finance the budget. OMO was further undermined by the fact that in order to reduce cost, there was some interference with the market process to set both quantity and price (interest rate) targets. Apart from these operational difficulties, the relationship between money supply and inflation supposedly became increasingly tenuous. This phenomenon usually occurs during financial and other structural changes in an economy. In fact, over the period, monetary growth rates have been much higher than inflation rates, presumably because of growing money demand amid the structural changes in the economy.

Against the backdrop of limited success in achieving inflation targets under the monetary targeting framework, including due to the apparent weakening of the link between monetary aggregates and inflation, in 2007, the monetary authorities decided to shift from monetary- to inflation-targeting (IT). Under IT, the central bank uses its Policy Rate (PR) to target inflation

directly without using monetary aggregates as a route. The PR is transmitted by banks through their own rates to the economy. In practice, the transmission of the PR has been tenuous and slow due to low competition in the banking industry, other structural weaknesses in the financial system, lack of safety nets in lending, and persistence of excess liquidity in the economy. This situation has somewhat undermined the IT process. Further, IT has been undermined by fiscal dominance, inadequate exchange rate flexibility, inadequate transparency and possible shortcomings with data and forecasting.

Monetary policy implementation in Ghana has faced major challenges. In general, inflation rates have been generally high and targets have more-often-than-not been missed. This has cast doubts on the effectiveness and credibility of monetary policy.

The empirical literature shows that inflation has had a close relationship with monetary aggregates. Large-scale deficit financing was a major source of monetary expansion and, consequently, inflation. As noted above, in the credit control era, ceilings on credit to government were invariably breached, which consequently affected money supply targets. Under the OMO era, the capacity to control liquidity was undermined by a lack of clear separation between OMO and government debt operations (GDO). Compounding this difficulty was the growing breakdown in the link between money supply and inflation in the face of structural changes in the economy.

Notably, inflation rates have been generally lower under the IT regime. This performance, however, cannot be attributed entirely to the effectiveness of IT, as several favorable factors have played a role. First, macroeconomic management has generally improved, including fiscal policy, although there is still scope for further consolidation. Second, food inflation has been much lower than in previous periods and has contributed to drive down headline inflation. In fact, the maintenance of single-digit inflation in the past two years or so has been made possible exclusively by food inflation, as nonfood inflation has remained at double digits for the entire period. Third, major items of the CPI, including fuel and utilities, have enjoyed subsidies, which have kept their prices below market prices. Fourth, close management of the exchange rate has also prevented it from time to time from exerting its full impact on prices. Finally, the inflation-targeting period has generally been one of subdued global inflation following the 2007-08 financial crisis and attendant recessionary conditions in major countries, from which Ghana has also benefited.

A rundown of monetary policy practices has revealed important lessons that can be taken forward.

The first lesson is the difficulty in managing inflation in a supply-constrained economy like Ghana's, where food alone commands 45 percent of the CPI basket. Food supply is subject to natural and man-made bottlenecks and, consequently, to shocks. Added to this is the effect on inflation of items like energy and utilities whose prices are subject to exogenous factors and government policies unrelated to normal demand and supply factors. In the circumstance, targeting headline inflation is like chasing a mirage. In other jurisdictions, the monetary authorities usually select the broadest measure of inflation, which they can effectively control. It is still necessary, however, to monitor the headline measure while the authorities indicate that they stand ready to take measures as needed to stem the second-round effects likely to

emanate from the influence of the exogenously-influenced items in the consumption basket.

The second lesson is the difficulty in managing inflation in the face of persisting fiscal dominance in the economy as Ghana has experienced in its history. Ghana's peers that opted for currency boards and monetary unions insulated from fiscal interference have been more successful in controlling inflation. Fiscal dominance that also spills over into central bank financing of the deficit renders monetary policy incapable of effectively controlling inflation. The solution is of course restoration of fiscal discipline that complements rather than opposes monetary policy. Further, the autonomy of the central bank needs to be strengthened such that it can use its instruments freely and also be able to resist arbitrary use of its funds to finance the budget.

The third lesson is the difficulty in managing inflation, especially using a market-based approach like inflation-targeting, in an environment of low final intermediation and shallow financial depth. In such an environment, the financial sector is incapable of transmitting monetary policy signals to the real economy. There is no easy solution to this problem, which requires time but also a little bit of push as necessary to transform the financial sector and orientate it more towards economic development.

On the question of choosing among the monetary policy frameworks, the country seems to have long moved away from the system of credit controls or fixed exchange rates, which were plagued by considerable operational difficulties. The pure forms of monetary- and exchange rate-targeting approaches to monetary policy do not, therefore, appear to be viable options currently. However, monetary aggregates and the exchange rate remain important determinants of inflation in Ghana and must be taken into account under any approach that is used.

Despite the teething problems of the current inflation-targeting (IT) framework, some of which have been enumerated above, the IT framework has potential and must be given the chance to work while overcoming the initial challenges. The importance of complementary fiscal discipline—anchored on prudent and sustainable financial management—for the effectiveness of IT cannot be overemphasized. Sufficient flexibility in the exchange rate is also a prerequisite as it helps to absorb shocks and take some of the pressure off monetary policy. The problem is that often we set multiple targets like inflation and the exchange rate and then run out of instruments to achieve them. Financial sector development and deepening should be a priority to enhance intermediation and transmission of monetary policy signals to the real economy. There is room to improve the transparency of the IT process by providing information on the setting of inflation targets and the decisions behind changes in the Policy Rate. The forecasting process can be enhanced by improving the timeliness and reliability of data as well as the information-content of the forecasting model. Finally, an institutional commitment to and accountability for achieving inflation targets would enhance the credibility and confidence in the IT process.

Some commentators, including the IMF, have suggested that the central bank should initially focus on “inflation forecast targeting” in which it seeks to make its inflation forecast equal to the inflation target. This is in view of the initial problems with IT when inflation targets may be difficult to achieve, thereby eroding policy credibility. The authorities could give consideration to this proposal as a transition arrangement while trying to institute firm targets as IT matures.

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1. Introduction

After achieving political independence in 1957, Ghana set up its own central bank to conduct independent monetary policy, among its other functions. Since then, various frameworks have been adopted to deliver price stability as the principal goal of monetary policy.

The evidence shows that Ghana has had higher rates of inflation compared to most of its African peers during its history. This unenviable record can be attributed to both the causes and management of inflation. The causes have received considerable attention in the literature. High domestic demand fuelled by expansionary fiscal policies and accommodating monetary policies and the high proclivity of the economy to supply shocks—particularly with respect to food, which commands a large weight in the consumption basket—have been identified as the principal causes of the high rates of inflation. The effectiveness of monetary management, has, however, not been sufficiently investigated.

The purpose of this paper is to fill this gap in the literature. The effectiveness of monetary policy depends to a large extent on the framework chosen to conduct it. From this standpoint, the paper undertakes a critical analysis of monetary policy frameworks used in Ghana and makes suggestions regarding the options going forward.

The paper is structured as follows: Following this introduction, Section 2 reviews the theoretical literature on monetary policy frameworks in terms of the monetary-, exchange rate-, and inflation-targeting approaches. This is followed in Section 3 with a historical overview of the monetary policy frameworks used in Ghana. Section 4 assesses monetary policy record in Ghana based on the key objective of achieving price stability. Section 5 assesses the relative merits of the monetary policy frameworks and posits on the appropriate approach for Ghana. Section 6 concludes the paper.

2. Literature review

Monetary policy is the process by which the monetary authority of a country controls the availability or cost of money to attain a set of objectives oriented towards price stability primarily but also growth of the economy.

Monetary policy rests on the relationship between the rates of interest in an economy, that is the price at which money can be borrowed, and the total supply of money. Monetary policy uses a variety of tools to control one or both of these, to influence outcomes like economic growth, inflation, exchange rates with other currencies and unemployment. Where currency is under a monopoly of issuance, or where there is a regulated system of issuing currency through banks which are tied to a central bank, the monetary authority has the ability to alter the money supply and thus influence the interest rate (to achieve policy goals).

A policy is referred to as contractionary if it reduces the size of the money supply or increases it only slowly, or if it raises the interest rate. An expansionary policy increases the size of the money supply more rapidly, or decreases the interest rate. Furthermore, monetary policies are described as follows: accommodative, if the interest rate set by the central monetary authority is intended to create economic growth; neutral, if it is intended neither to create growth nor combat inflation; or tight if it is intended to reduce inflation.

There are several monetary policy tools available to achieve these ends: increasing interest rates by fiat; reducing the monetary base; and increasing reserve requirements. All have the effect of contracting the money supply; and, if reversed, expand the money supply. Since the 1970s, monetary policy has generally been formed separately from fiscal policy. Even prior to the 1970s, the Bretton Woods system still ensured that most nations would form the two policies separately.

Within almost all modern nations, special institutions (such as the Federal Reserve System in the United States, the Bank of England, the European Central Bank, the People's Bank of China, and the Bank of Japan) exist which have the task of executing the monetary policy and often independently of the executive. In general, these institutions are called central banks and often have other responsibilities such as supervising the smooth operation of the financial system.

The primary tool of monetary policy is open market operations. This entails managing the quantity of money in circulation through the buying and selling of various financial instruments, such as treasury bills, company bonds, or foreign currencies. All of these purchases or sales result in more or less base currency entering or leaving market circulation.

Usually, the short term goal of open market operations is to achieve a specific short term interest rate target. In other instances, monetary policy might instead entail the targeting of a specific exchange rate relative to some foreign currency or else relative to gold. For example, in the case of the USA, the Federal Reserve targets the federal funds rate; the rate at which member banks lend to one another overnight. However, the monetary policy of China is to target the exchange rate between the Chinese renminbi and a basket of foreign currencies.

The other primary means of conducting monetary policy include: (i) Discount window lending (lender of last resort); (ii) Fractional deposit lending (changes in the reserve requirement); (iii) moral suasion (cajoling certain market players to achieve specified outcomes); (iv) “Open mouth operations” (talking monetary policy with the market).

2.1 Monetary targeting

In the 1980s, several countries used an approach based on a constant growth in the money supply. This approach was refined to include different classes of money and credit (M0, M1 etc.). This approach is also sometimes called “monetarism” to the extent that inflation was attributed almost entirely to excess money supply. While most monetary policy focuses on a price signal of one form or another, this approach focuses on monetary quantities.

The classical quantity theory of money provides the theoretical basis for targeting monetary aggregates in order to control inflation. The theory states that the quantity of money in the economy multiplied by the number of times the money is spent in a period must be equal to the value of all transactions in the economy (Tait, 1989).

The classical proposition of using money and monetary aggregates as a monetary policy tool was again made popular by McCallum (1988, 1993, 2000) in what has become known as the “McCallum Rule”. In the McCallum Rule, the policy objective is an inflation target, which may coexist with a concern to avoid volatility in the real economy. The intermediate target is the growth rate of nominal GDP. The policy instrument is the growth in reserve money, which is related to the intermediate target as in the financial programming approach, via assumptions about the path of velocity. The McCallum Rule determines the growth rate of reserve money as a function of program targets and observable variables.

Interest rates have largely replaced monetary aggregates as a monetary policy tool (See inflation targeting below). This new approach emanated largely from what has become popularly known as the “Taylor Rules.” Taylor Rules are simple monetary policy rules that prescribe how a central bank should adjust its interest rate policy instrument in a systematic manner in response to developments in inflation and macroeconomic activity. They provide a useful framework for the analysis of historical policy and for the econometric evaluation of specific alternative strategies that a central bank can use as the basis for its interest rate decisions.

The broad appeal of the Taylor Rules comes from its simplicity, intuitiveness and focus on short-term interest rate as an instrument of monetary policy. The rule is simple in that it relates the policy rate directly to the goal of monetary policy—minimizing fluctuations in inflation relative to its objective and output relative to potential output. In addition, the rule requires knowledge of only the current inflation rate and output gap.

2.2 Exchange rate targeting

Exchange rate targeting is based on maintaining a fixed exchange rate with a foreign currency. Targeting the exchange rate provides a vehicle to anchor domestic inflation. There are varying degrees of fixed exchange rates, which can be ranked in relation to how rigid the fixed exchange rate is with the anchor nation.

Under a system of fiat fixed rates, the local government or monetary authority declares a fixed exchange rate but does not actively buy or sell currency to maintain the rate. Instead, the rate is enforced by non-convertibility measures (e.g. capital controls, import/export licenses, etc.). In this case there is a black market exchange rate where the currency trades at its market/unofficial rate.

Under a system of fixed-convertibility, currency is bought and sold by the central bank or monetary authority on a daily basis to achieve the target exchange rate. This target rate may be a fixed level or a fixed band within which the exchange rate may fluctuate until the monetary authority intervenes to buy or sell as necessary to maintain the exchange rate within the band. In this case, the fixed exchange rate with a fixed level can be seen as a special case of the fixed exchange rate with bands where the bands are set to zero.

Under a system of fixed exchange rates maintained by a currency board, every unit of local currency must be backed by a unit of foreign currency (correcting for the exchange rate). This ensures that the local monetary base does not inflate without being backed by hard currency and eliminates any worries about a run on the local currency by those wishing to convert the local currency to the hard (anchor) currency.

Under dollarization, foreign currency (usually the US dollar, hence the term “dollarization”) is used freely as the medium of exchange either exclusively or in parallel with local currency. This outcome can come about because the local population has lost all faith in the local currency, or it may also be a policy of the government (usually to rein in inflation and import credible monetary policy).

These policies often abdicate monetary policy to the foreign monetary authority or government, as monetary policy in the pegging nation must align with monetary policy in the anchor nation to maintain the exchange rate. The degree to which local monetary policy becomes dependent on the anchor nation depends on factors such as capital mobility, openness, credit channels and other economic factors.

2.3 Inflation targeting

Under this policy approach, the target is to keep inflation within a desired range. The inflation target is achieved through periodic adjustments to the Central Bank’s interest rate target. The interest rate target is maintained for a specific duration using open market operations. This interest rate target is usually reviewed on a monthly or quarterly basis by a policy committee. Changes to the interest rate target are made in response to various market indicators in an attempt to forecast economic trends and in so doing keep the market on track towards achieving the defined inflation target. For example, one simple method of inflation targeting called the Taylor Rules adjusts the interest rate in response to changes in the inflation rate and the “output gap.” The rule was proposed by John B. Taylor of Stanford University.

The inflation targeting approach to monetary policy was pioneered in New Zealand. It is currently used in Australia, Brazil, Canada, Chile, Colombia, The Czech Republic, Hungary, New Zealand, Norway, Iceland, India, The Philippines, Poland, Sweden, South Africa, Turkey and the United Kingdom. In general, inflation targeting is deemed to enhance transparency and

accountability in inflation management.

According to Mishkin (2001), inflation targeting encompasses five main elements:

1. The public announcement of medium-term numerical targets for inflation;
2. An institutional commitment to price stability as the primary goal of monetary policy, to which other goals are subordinated;
3. An information-inclusive strategy in which many variables, and not just monetary aggregates or the exchange rate, are used for deciding the setting of policy instruments;
4. Increased transparency of the monetary policy strategy through communication with the public and the markets about the plans, objectives and decisions of the monetary authorities; and
5. Increased accountability of the central bank for attaining its inflation objectives.

Inflation targeting has several advantages as a medium-term strategy for monetary policy. In contrast to monetary targeting, inflation targeting has the advantage in that a stable relationship between money and inflation is not critical to its success. The strategy does not depend on such a relationship, but instead uses all available information to determine the best settings for the instruments of monetary policy. Also in contrast to exchange rate targeting, inflation targeting enables monetary policy to focus on domestic considerations and to respond to shocks to the domestic economy. Inflation targeting also has the key advantage of being easily understood by the public given its enhanced transparency.

Critics of inflation targeting have noted several major disadvantages of this monetary policy strategy. Some of those disadvantages—that inflation targeting is too rigid; that it allows too much discretion; that it has the potential to increase output instability; and that it will lower economic growth—have been discussed in Mishkin (1999) and in Bernanke et al. (1999), and are in reality not serious objections to a properly designed inflation targeting strategy, which is best characterized as a constrained discretion. Another proposed disadvantage—that inflation targeting can only produce weak central bank accountability because inflation is hard to control and because there are long lags from the monetary policy instruments to the inflation outcome—is an especially serious one for emerging market countries. Two other disadvantages—that inflation targeting cannot prevent fiscal dominance; and that the exchange rate flexibility required by inflation targeting might cause financial instability—are also very relevant in the emerging market country context.

In contrast to exchange rates and monetary aggregates, the inflation rate cannot be easily controlled by the central bank. Furthermore, inflation outcomes that incorporate the effects of changes in instrument settings are revealed only after a substantial lag. This requires that the central bank engage in what Svensson (1997) has described as “inflation forecast targeting”; in which the central bank seeks to make its inflation forecast equal to the inflation target over the relevant policy horizon. The difficulty of controlling inflation creates a particularly severe problem when inflation is being brought down from relatively high levels. In those circumstances, inflation forecast errors are likely to be large, inflation targets will tend to be missed, and it will be difficult for the central bank to gain credibility from an inflation targeting strategy, and for the public to ascertain the reasons for the deviations. This suggests that, as noted by Masson et al. (1997), Bernanke et. al. (1999) and Mishkin and Savastano (2001), inflation

targeting is likely to be a more effective strategy if it is phased in only after there has been some successful disinflation.

Yet another shortcoming of inflation targeting is that it may not be sufficient to ensure fiscal discipline or prevent fiscal dominance. Governments can still pursue irresponsible fiscal policy with an inflation targeting regime in place. In the long run, large fiscal deficits will cause an inflation targeting regime to break down: the fiscal deficits will eventually have to be monetized or the public debt eroded by a large devaluation, and high inflation will follow. Absence of outright fiscal dominance is therefore a key prerequisite for inflation targeting, and the setting up of institutions that help keep fiscal policy in check are crucial to the success of the strategy (Masson et al., 1997 and Mishkin and Savastano, 2001). Similarly, a sound financial system is another prerequisite for successful inflation targeting because when financial systems blow up, there is typically a surge in inflation in emerging market countries. However, as pointed out in Mishkin and Savastano (2001), a sound financial system and the absence of fiscal dominance are also crucial to the sustainability and success of any other monetary policy strategy, including a currency board or full dollarization. Indeed, inflation targeting may help constrain fiscal policy to the extent that the government is actively involved in setting the inflation target (including through the coordination of future adjustments to government-controlled prices).

Finally, a high degree of (partial) dollarization may create a potentially serious problem for inflation targeting. In fact, in many emerging market countries, the balance sheets of firms, households and banks are substantially dollarized on both sides, and the bulk of long-term debt is denominated in dollars (Guillermo Calvo, 1999). Because inflation targeting necessarily requires nominal exchange rate flexibility, exchange rate fluctuations are unavoidable. However, large and abrupt depreciations may increase the burden of dollar-denominated debt, produce a massive deterioration of balance sheets, and increase the risks of a financial crisis along the lines discussed in Mishkin (1996). This suggests that emerging market countries cannot afford to ignore the exchange rate when conducting monetary policy under inflation targeting, but the role they ascribe to it should be clearly subordinated to the inflation objective (See Mishkin and Savastano, 2001).

Table 1: Monetary policy framework of a sample of nations

1.	Australia – Inflation targeting
2.	Bangladesh - Inflation targeting
3.	Brazil – Inflation targeting
4.	Canada – Inflation targeting
5.	Chile – Inflation targeting
6.	China – Monetary targeting and targets a currency basket
7.	Colombia – Inflation targeting
8.	Czech Republic – Inflation targeting
9.	Hong Kong – Currency Board (fixed to US dollar)
10.	India – Multiple indicator approach
11.	New Zealand – Inflation targeting
12.	Norway – Inflation targeting
13.	Singapore – Exchange rate targeting
14.	South Africa – Inflation targeting
15.	Sri Lanka – Monetary targeting
16.	Switzerland – Inflation targeting
17.	Turkey – Inflation targeting
18.	United Kingdom – Inflation targeting, alongside secondary targets on 'output and employment'.
19.	United States – Mixed policy dedicated to maximum employment and stable prices (and since the 1980s it is well described by the "Taylor Rule," which maintains that the Fed funds rate responds to shocks in inflation and output)

3. Historical account of monetary policy implementation in Ghana

Implementation of monetary policy in Ghana can be divided into two main phases: the monetary-targeting phase and the inflation-targeting phase.

3.1 Monetary targeting era (up to 2006)

Up until 2006, Ghana's monetary policy implementation was based on the monetary-targeting framework. Under this framework, monetary aggregates were targeted in order to control the objective variable, inflation. Two variants of this approach were used in terms of the key operating instruments. Up to 1992, the key operating instrument was domestic credit whereas between 1992 and 2007, (quantitative) open market operations (OMO), was the key instrument.

3.1.1 Domestic credit control era (up to 1992)

Under the domestic credit control approach that was in place up to 1992, a target was set for money supply based on inflation as a primary goal (and growth as a secondary goal). The domestic source of the money supply was determined after estimating the external source based on the balance of payments. Aggregate domestic credit, which was the main domestic source, was then determined. The government portion of the aggregate domestic credit was determined from the public sector borrowing requirement (PSBR), while the remainder was allocated to the private sector. The latter component was shared among the banks based on their previous year's lending relativities. Aggregate and industry-specific (sectoral) lending ceilings were set for the banks.

The central bank monitored the banks' lending on a monthly basis. Often, however, it authorized requests by banks to vary their sectoral limits as necessary to meet lending deemed to be a priority. The ceiling set for government credit was also often violated as the budget did not perform as planned. Often the central bank had to provide additional accommodation for the PSBR. Altogether, the overall domestic credit ceiling was often exceeded. This in turn led to violation of the money supply targets. The money supply targets could also be affected by different outcomes in the external source or the balance of payments. With the money supply target subject to these unanticipated outcomes, the inflation targets were often compromised. Historically, larger domestic credit outcomes, emanating mostly from higher-than-projected PSBRs, formed the most common source of higher-than-targeted monetary growth and, consequently, inflation.

3.1.2 Open market operations era (1992-2006)

From 1992 to 2007, the monetary policy framework also targeted money supply as a path to achieving the inflation (and growth objectives). It was therefore, in principle, a monetary targeting framework. However, open market operations (OMO) replaced domestic credit as the operating instrument. OMO in principle involves the sale and purchase by the central bank of its own instruments and/or treasury securities. These operations aim directly at achieving a target for reserve money on the central bank's balance sheet. Reserve money is related to

money supply through the money multiplier. By making assumptions about the multiplier—such as assuming it to remain constant in the forecast period—the reserve money target that would ensure the attainment of the pre-determined money supply target, can be ascertained. Although in principle OMO can be used to decrease or increase liquidity in the economy as necessary, in the case of Ghana, the former was invariably the norm. This is because of the persistence of excess liquidity in the economy, which emanated mostly from large-scale deficit financing and occasional high levels of external inflows. In addition to conducting pure OMO for monetary policy purposes, the central bank also sold treasury securities to raise funds for the PSBR.

The capacity of OMO to contain liquidity in the economy was somewhat undermined by a lack of clear separation between these two activities. While OMO proceeds were in principle to be sterilized, in practice they often found their way into financing the budget, thereby defeating its monetary policy purpose. OMO was further undermined by the fact that in order to reduce cost—including the cost of budget financing—the authorities often intervened in the market process to set both quantity and price targets. As a result, the quantity (or liquidity-withdrawal) targets were often missed as the authorities-dictated prices. Moreover, the government often resorted to tapping into the pool of supposedly-sterilized OMO funds, or to direct financing from the central bank. The consequence was that money supply targets were almost invariably missed, which in turn caused inflation targets to be missed as well.

Apart from these operational difficulties with the conduct of OMO, the authorities contend that the relationship between money supply and inflation became increasingly tenuous. This phenomenon usually occurs during financial and other structural changes in an economy. In fact, over the years, monetary growth rates have been much higher than inflation rates, presumably due to growing money demand in the economy amid the structural changes taking place.

3.2 Inflation targeting era (2007--)

Against the backdrop of limited success in achieving inflation targets under the monetary targeting framework and the apparent weakening of the link between monetary aggregates and inflation, in 2007, the monetary authorities decided to shift from monetary- to inflation-targeting (IT). IT directly targets inflation without using monetary aggregates as a route. The key instrument used in IT is the interest rate, defined in one form or another. For Ghana, the central bank has used the Policy Rate (PR), which represents the base rate for lending to banks and thereby serves as the benchmark for other interest rates in the economy. Under the IT approach, the central bank determines its forecast of inflation based on a broader set of economic indicators, including real economic activity, business and consumer confidence, external factors, the fiscal stance and even money supply. Based on its forecast of the balance of risks between inflation and economic growth, the other objective of monetary policy, the central bank adjusts its PR as necessary.

The signal from the PR is, in principle, reflected in banks' interest rates, including the cost of credit, which influences borrowing, money supply and, eventually, inflation. In practice, however, transmission of the PR to banks' rates has been tenuous and slow. This is due to several factors, including low competition in the banking industry, other structural weaknesses

in the financial system, lack of safety nets in lending, and persistence of excess liquidity in the economy. In practice the central bank sets wide inflation targets, but these are invariably missed, often by wide margins.

4. Monetary policy record in Ghana

Monetary policy implementation in Ghana has faced challenges. In general, inflation rates have been relatively high for most of the review period, casting doubt on the effectiveness of monetary policy. As can be seen from Chart 1, inflation performance has been uneven during the period, with rates being generally lower in recent years, although other factors have contributed to this outcome.

Chart 1: Inflation

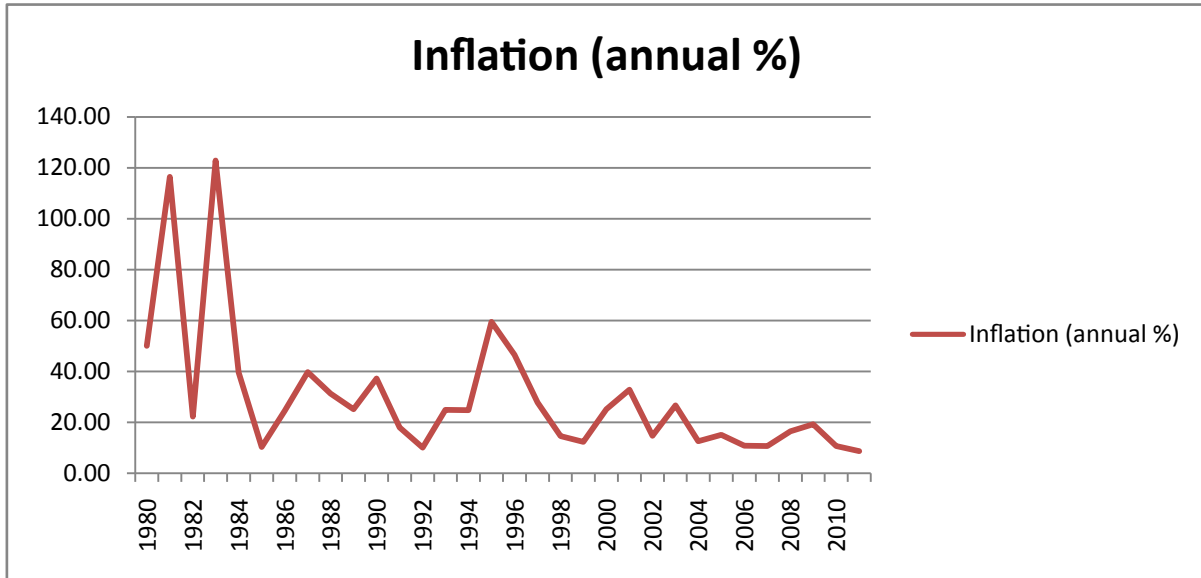


Chart 2: Inflation vs. Domestic Credit Growth

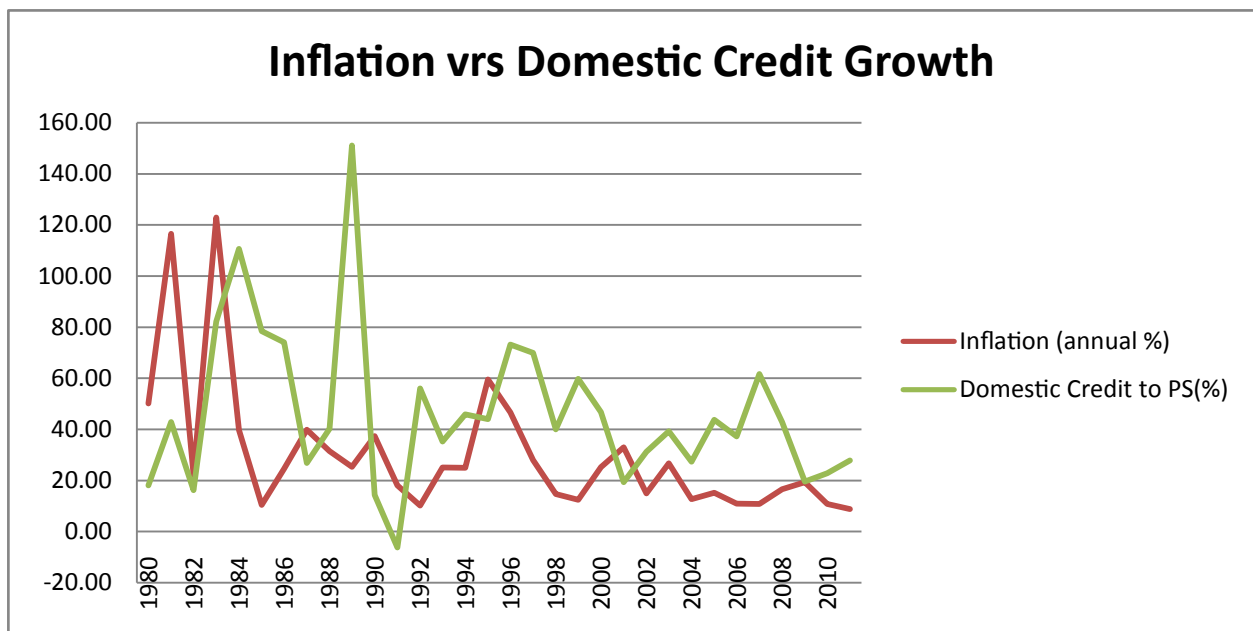
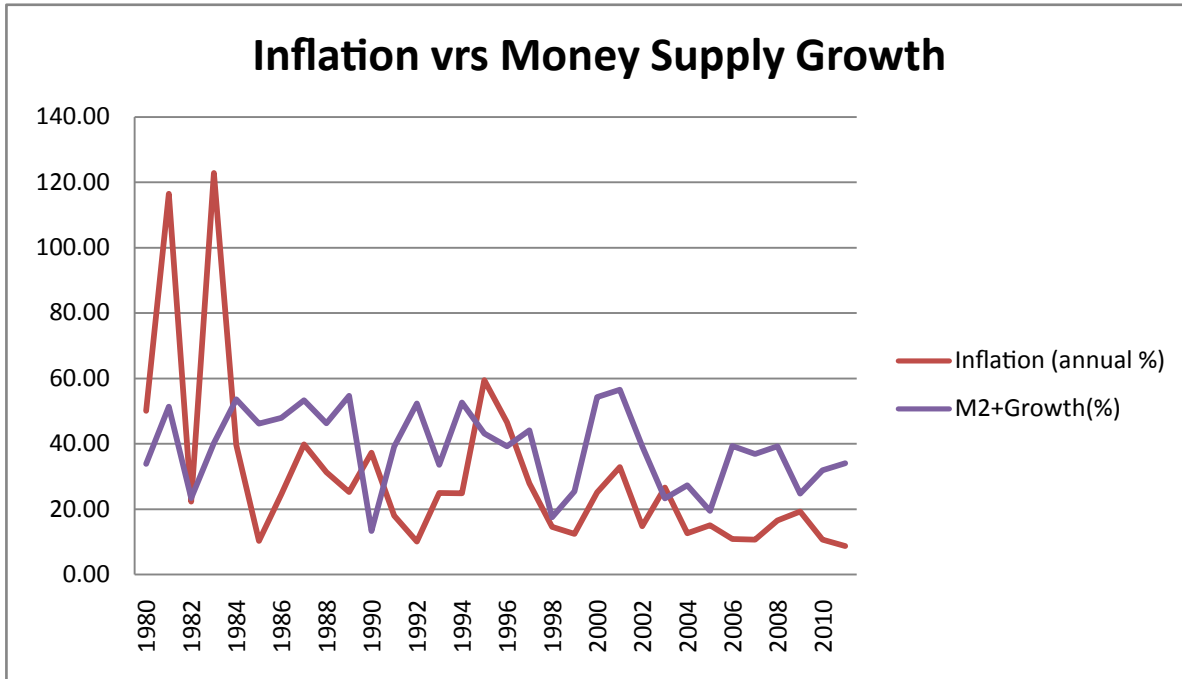


Chart 3: Inflation vs. Money Supply Growth



Inflation has had a close relationship with monetary aggregates, including domestic credit and money supply, which were used as operating instruments and/or intermediate targets under the monetary-targeting regime that was in place till 2006 (See Charts 2 and 3).² Money supply affects inflation with a lag, so one must take this into consideration in interrogating the plots. The plots are extended to the inflation-targeting (IT) period (2007) in recognition of the fact that even though monetary aggregates are not directly targeted under IT, they still form part of the operating framework, including the forecasting model, which uses varied information in the economy. As explained in the preceding sections, large-scale deficit financing was a major source of monetary expansion and, consequently, inflation. In the credit-control era (up to 1991), ceilings on credit to government were invariably breached, which consequently affected money supply targets. Under the open market operations (OMO) era, where money supply was an intermediate target, the capacity to control liquidity was undermined by a lack of clear separation between OMO and government debt operations (GDO). Compounding this difficulty was the growing breakdown in the link between money supply and inflation in the face of structural changes in the economy.

² During the earlier part of the period, 1980-86, inflation appeared to have much larger amplitudes than monetary growth rates. This suggests that other factors played a major role. According to the empirical literature, these factors were largely supply shocks, including food supply shocks.

Chart 4a: The Policy Rate vs. Banks' Lending Rates

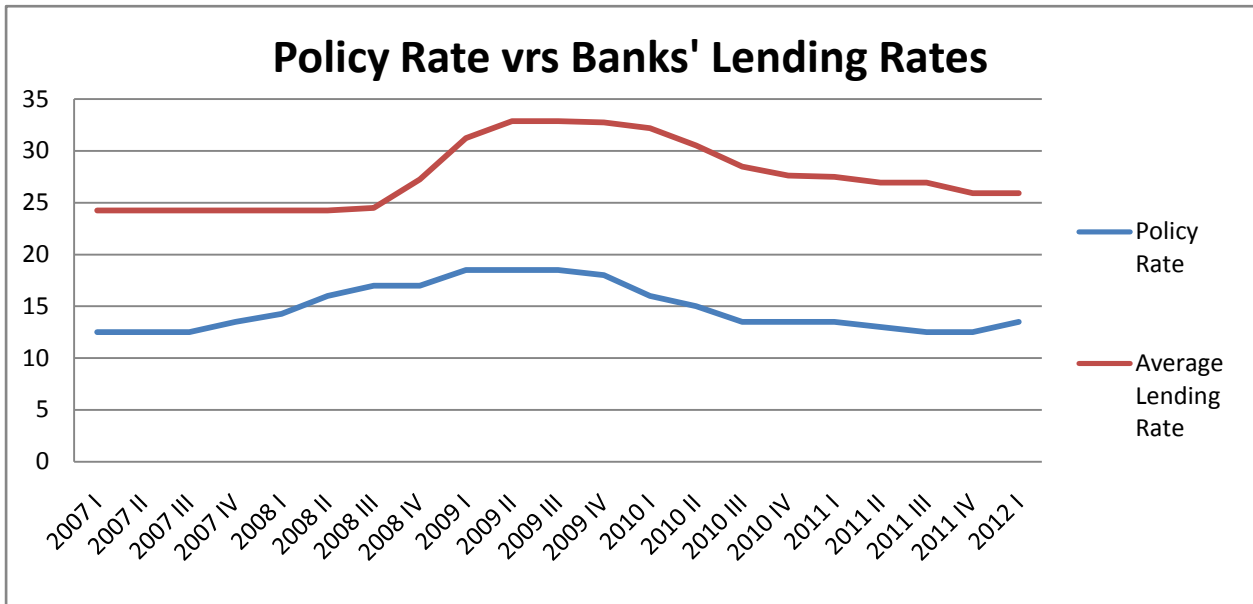
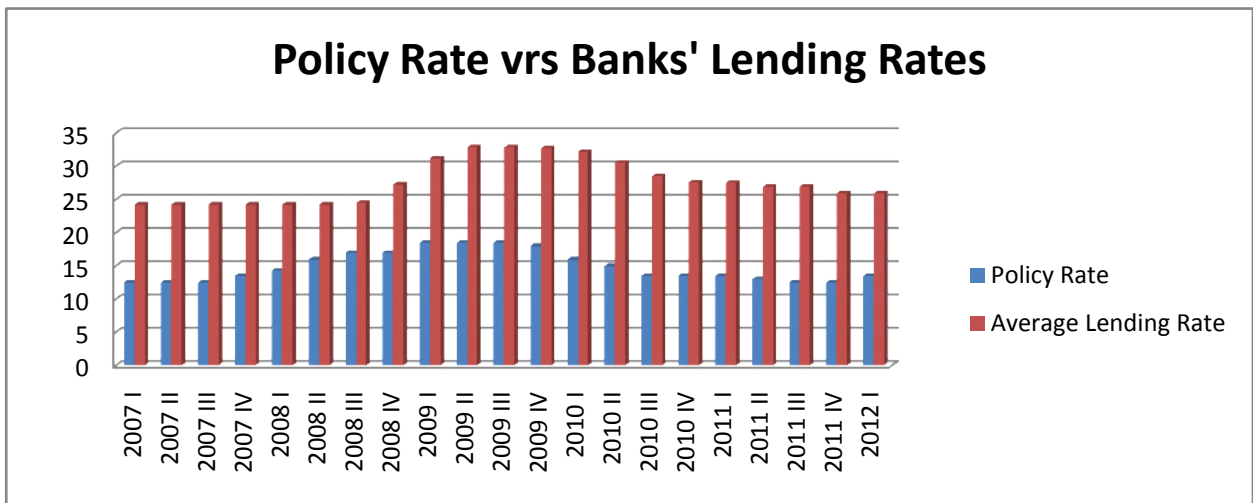


Chart 4b: Policy Rate vs. Banks' Lending Rates



Under the inflation-targeting framework adopted in 2007, the Policy Rate that became the key instrument of monetary policy is transmitted slowly through banks' lending rates as can be seen in Charts 4a and 4b. Banks' lending rates responded to the PR with some lag. It appears that when the PR was increased, banks increased their lending rates faster and reduced them more slowly when the PR was reduced. This somewhat increased the lending rate-PR spread.³ The slow response of banks' rates to PR changes would, of course, reduce the effectiveness of monetary policy.

³ It is known that banks also tended to increase their lending rates faster than their savings rates following PR increases, thereby also widening the lending-savings rate spreads.

The limited effectiveness of the Policy Rate as a monetary policy tool as a result of slow response of banks' rates is further depicted in Chart 6 which plots the PR against the final objective variable, inflation. One cannot discern any clear influence of the PR on inflation, even taking account of possible lags.

As noted in Section 3.2 above, under the inflation-targeting (IT) framework adopted since 2007, the transmission of the policy rate (PR) to banks' rates tends to be tenuous and slow due to the several factors enumerated. The transmission of monetary policy via the PR rate to inflation and the real economy is, therefore, somewhat inhibited. Given the transmission rigidities and other uncertainties associated with the conduct of IT, the central bank sets wide inflation-target ranges. In spite of this, the targets are invariably missed, often by wide margins.

Notably, inflation rates have been generally lower under the IT regime. This performance, however, cannot be attributed entirely to the effectiveness of IT as several favorable factors have played a role. First, macroeconomic management has generally improved, including, in particular, the maintenance of relatively lower fiscal deficits. Second, food inflation has been much lower than in previous periods and has contributed to drive down headline inflation. In fact, the maintenance of single-digit inflation in the past two years or so has been made possible exclusively by food inflation as nonfood inflation has remained in double digits for the entire period. Third, major items of the CPI, including fuel and utilities, have enjoyed subsidies which have kept their prices below market prices. Fourth, close management of the exchange rate has also prevented it from exerting its full impact on prices from time to time. Finally, the inflation-targeting period has generally been one of subdued global inflation following the 2007-08 financial crisis and attendant recessionary conditions in major countries, from which Ghana has also benefited.

5. The relative merits of the monetary policy frameworks as used in Ghana

Pooling together the mass of information gathered above on the various policy frameworks as they were implemented in Ghana, some inferences can be drawn regarding their relative merits and shortcomings. These should lead on to drawing some conclusions regarding the most appropriate regime (or regimes) for the country.

5.1 Monetary targeting

Inflation control was challenging under the monetary targeting framework (in place up to 2006), whether domestic credit or money supply was used as the operating or intermediate target. In theory, monetary aggregates should be relatively easy to control. In the case of Ghana however, fiscal dominance and lack of full autonomy for the central bank undermined the capacity of the monetary authorities to control monetary aggregates. In the later years of application of the monetary-targeting framework, control of the monetary aggregates and their link with inflation were allegedly complicated by the effects of structural changes in the real and financial sectors of the economy.

It must be said, however, that although the empirical literature on Ghana has found a strong link between inflation and money supply for the period in question, some evidence also points to the significant role played by structural factors, in particular food supply shocks, which were not under the direct influence of monetary policy. Because monetary policy cannot effectively control all the items in the consumer basket used to measure inflation, particularly those that are susceptible to supply shocks or other exogenous factors, some central banks choose to define various core measures of inflation that are more amenable to monetary policy. The Bank of Ghana, however, resisted this temptation and continued to target headline inflation, which remained an elusive target.

5.2 Exchange rate targeting

Exchange rate targeting has not been used as an official monetary policy tool. The Ghanaian currency was, however, pegged to the dollar through 1983 and has since been closely managed both for political and economic reasons. To that extent, the exchange rate has for long periods acted as a de facto nominal anchor for inflation, together with the officially-designate anchor. Like monetary aggregates, the exchange rate is relatively easy to control and, therefore, can be a potential instrument for monetary policy.

There is not enough empirical evidence on the pass-through of the exchange rate to domestic prices through import prices in Ghana. In reality, however, it is widely believed and known that the effect is substantial, and that any lags involved in the pass-through may be pretty short. In fact, it is typical for the prices of foreign items to be adjusted speedily in line with exchange rate movements, particularly in the upward direction. Many times, this spills over into local items as well. An exchange rate target may serve as a useful nominal anchor for inflation. However, a rigid peg could also have adverse effects on economic growth by eroding competitiveness.

Variants of pegged regimes are available for use as nominal anchors. Normally, adjustments can be made based on chosen economic criteria in order to minimize possible adverse consequences, particularly relating to competitiveness. Managing pegged regimes can, however, challenge the limited administrative and technical capacities of monetary authorities.

5.3 Inflation targeting

Under IT that has been in place since 2007, inflation rates have been lower and it may be tempting to credit the framework with this apparent success. However, as noted previously, other factors have played a role. In general, availability of information on the conduct of monetary policy has improved under IT, with the central bank providing period public briefings on the deliberations of the Monetary Policy Committee (MPC). There is, however, room for improvement in this regard.

Some conditions for effective IT may not be fully in place yet. These include fiscal discipline and a sufficiently-flexible exchange rate regime, conditions that do not fully prevail in Ghana. IT also thrives on a developed financial sector capable of transmitting interest rate pulses through the economy; here also, there may be shortcomings. Full central bank autonomy to conduct monetary policy is a pre-requisite for effective IT, a condition that may not be fully in place. Effective IT requires adequate and reliable data and a robust and comprehensive forecasting model; these conditions may not be fully satisfied. Thus, obviously, Ghana's IT faces teething challenges that need to be overcome to improve its effectiveness.

5.4 The options

The rundown of monetary policy practices has revealed important lessons that can be taken forward.

The first lesson is the difficulty in managing inflation in a supply-constrained economy like Ghana's, where food alone commands 45 percent of the CPI basket. Food supply is subject to natural and man-made bottlenecks and, consequently, to shocks. Added to this is the effect on inflation of items like energy and utilities whose prices are subject to exogenous conditions and government policies unrelated to normal demand and supply factors. In the circumstances, targeting headline inflation is like chasing a mirage. It would probably be best for the authorities to select the broadest measure of inflation which they can effectively control. They should however monitor the headline measure, and indicate that they stand ready to take measures as needed to stem the second-round effects likely to emanate from the influence of the exogenously-influenced items in the consumption basket.

The second lesson is the difficulty in managing inflation in the face of persisting fiscal dominance in the economy as Ghana has experienced in its history. Ghana's peers that opted for currency boards and monetary unions insulated from fiscal interference have been more successful at controlling inflation. Fiscal dominance that also spills over into central bank financing of the deficit renders monetary policy incapable of effectively controlling inflation. The solution is of course restoration of fiscal discipline that complements rather than opposes monetary policy. Further, central bank autonomy needs to be strengthened such that it can use its instruments freely and also be able to resist arbitrary use of its funds to finance the budget.

The third lesson is the difficulty in managing inflation, especially using a market-based approach like inflation-targeting, in an environment of low financial intermediation and shallow financial depth. In such an environment, the financial sector is incapable of transmitting monetary policy signals to the real economy. There is no easy solution to this problem, which requires time but also a little bit of push as necessary to transform the financial system and orientate it more towards economic development.

No monetary policy framework can be effective in the presence of the foregoing challenges. In terms of choosing among the monetary policy frameworks, it can be said that there is no appetite in the country currently to return to controlled regimes whether in terms of credit or the exchange rate, which caused considerable operational difficulties. The pure forms of monetary- and exchange rate-targeting approaches to monetary policy, do not, therefore, appear to be viable options currently. However, it has to be said that monetary aggregates and the exchange rate remain important determinants of inflation in Ghana and must be seriously considered in whatever approach is adopted.

Despite the teething problems of the current inflation-targeting (IT) framework, some of which have been enumerated above, the IT framework has potential and must be given the chance to work while overcoming the initial challenges. The importance of complementary fiscal discipline—anchored on prudent and sustainable financial management—for the effectiveness of IT cannot be overemphasized. Sufficient flexibility in the exchange rate is also a prerequisite as it helps to absorb shocks and takes some of the pressure off monetary policy. The problem is that often we set multiple targets like inflation and the exchange rate and then run out of instruments to achieve them. Financial sector development and deepening should be a priority to enhance financial intermediation and transmission of monetary policy signals to the real economy. There is room to improve the transparency of the IT process by providing information on the setting of inflation targets and the decisions behind changes in the Policy Rate. The forecasting process can be enhanced by improving the timeliness and reliability of data as well as the information-content of the forecasting model. Finally, an institutional commitment to and accountability for achieving inflation targets would enhance the credibility and confidence in the IT process.

Some commentators, including the IMF, have suggested that the central bank should initially focus on “inflation forecast targeting” in which it seeks to make its inflation forecast equal to the inflation target. This is in view of the initial problems with IT when inflation targets may be difficult to achieve, thereby eroding policy credibility. The authorities could give consideration to this proposal as a transition arrangement while trying to institute firm targets as IT matures.

6. Conclusion

Ghana has come a long way since independence in institutionalizing a system for delivering price stability to the economy. The system has evolved from a monetary-targeting framework, which involved first the use of credit controls and then quantitative open market operations as operating instruments, to the current inflation-targeting framework.

Inflation management has been challenged by a supply-constrained economy, fiscal dominance, and underdeveloped financial sector, among other factors. Thus on the whole, inflation rates have been historically high. They have come down in recent years, but other mitigating factors have helped this outcome. Without addressing the challenges, no one framework can be entirely successful.

There is no appetite currently for monetary targeting especially if this means returning to the use of rigid credit controls or fixed exchange rates, in view of the operational challenges associated with them, and in view of the fact that the country has long moved away from a controlled system. The pure forms of monetary- and exchange rate-targeting approaches to monetary policy, do not, therefore, appear to be viable options at this time. However, monetary aggregates and the exchange rate remain important determinants of inflation in Ghana and must be considered in whatever approach is adopted.

Despite the teething problems of the inflation-targeting (IT) framework that has been in place since 2007, it seems to have potential and must be given the chance to work while addressing the initial challenges. The importance of complementary fiscal policy for the effectiveness of IT cannot be stressed enough. Sufficient flexibility in the exchange rate is also helpful as it absorbs shocks and takes some of the pressure off monetary policy. The process of financial sector development and deepening should receive attention to enhance financial intermediation and transmission of monetary policy signals to the real economy. There is room to improve the transparency of the IT process by providing information on the setting of inflation targets and the decisions behind changes in the Policy Rate. The forecasting process can be enhanced by improving the timeliness and reliability of data as well as the information-content of the forecasting model. Finally, an institutional commitment to and accountability for achieving inflation targets would enhance the credibility and confidence in the IT process.

There may be merit in the central bank initially focusing on “inflation forecast targeting” in which case it makes its inflation forecast equal to the inflation target. This is in view of initial problems with IT when inflation targets may be difficult to achieve, thereby eroding policy credibility. The authorities could give consideration to this proposal as a transition arrangement while trying to institute firm targets as IT matures.

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Data set

Annual Data

Year	XRATE (LCU per US\$)	CP1 (200= 100)	Inflation (annual %)	GDP (constant LCU in millions)	GDP growth (%)	M2+ (current LCU in millions)	M2+ Growth (%)	Domestic credit to PS (LCU in millions)	REER (2005 =100)	91-Day TBR	Reserve Money (GHC m)
1980	0.0003	0.11	50.07	7,292.30	0.47	0.80	33.80	0.09	750.54	13.00	0.57
1981	0.0003	0.25	116.50	7,036.85	-3.50	1.20	51.32	0.13	1,669.30	13.00	0.89
1982	0.0003	0.30	22.30	6,549.64	-6.92	1.48	23.35	0.15	2,092.27	13.00	1.02
1983	0.0009	0.67	122.87	6,250.73	-4.56	2.08	40.21	0.28	3,578.94	13.00	1.46
1984	0.0036	0.94	39.67	6,791.27	8.65	3.20	53.62	0.60	545.97	14.20	2.18
1985	0.0054	1.04	10.31	7,137.05	5.09	4.67	46.17	1.07	397.58	17.10	2.96
1986	0.0089	1.29	24.57	7,508.12	5.20	6.91	47.94	1.86	251.51	18.50	4.72
1987	0.0154	1.81	39.82	7,868.13	4.79	10.60	53.33	2.35	188.29	21.70	6.70
1988	0.0202	2.38	31.36	8,310.96	5.63	15.50	46.28	3.30	169.76	19.80	10.30
1989	0.0270	2.97	25.22	8,733.64	5.09	23.98	54.67	8.28	158.56	19.80	12.65
1990	0.0326	4.08	37.26	9,024.37	3.33	27.16	13.30	9.47	157.50	21.80	13.00
1991	0.0368	4.82	18.03	9,501.02	5.28	37.78	39.08	8.88	160.78	29.20	13.00
1992	0.0437	5.30	10.06	9,869.61	3.88	57.53	52.28	13.85	141.83	19.40	24.60
1993	0.0649	6.63	24.96	10,348.28	4.85	76.80	33.50	18.73	123.92	31.00	25.80
1994	0.0956	8.28	24.87	10,689.78	3.30	117.18	52.57	27.33	100.38	27.70	46.10

Data set cont.

Year	XRATE (LCU per US\$)	CPI (2005 = 100)	Inflation (annual %)	GDP (constant LCU in millions)	GDP growth (%)	M2+ (current LCU in millions)	M2+ Growth (%)	Domestic Credit to PS (LCU in millions)	REER (2005=100)	91-Day TBR	Reserve Money (GHC' m)
1995	0.1199	13.20	59.46	11,129.38	4.11	167.77	43.17	39.33	115.95	35.40	62.30
1996	0.1635	19.34	46.56	11,641.61	4.60	233.53	39.20	68.09	125.99	41.60	90.20
1997	0.2048	24.74	27.89	12,130.13	4.20	336.49	44.09	115.66	133.3	42.80	120.30
1998	0.2312	28.35	14.62	12,700.30	4.70	395.34	17.49	161.87	142.25	34.30	140.40
1999	0.2666	31.87	12.41	13,259.11	4.40	495.83	25.42	258.53	140.49	26.40	201.80
2000	0.5449	39.90	25.19	13,749.70	3.70	764.78	54.24	379.36	91.94	36.30	308.00
2001	0.7163	53.03	32.91	14,299.69	4.00	1,197.15	56.53	452.45	92.95	41.00	404.40
2002	0.7924	60.89	14.82	14,943.17	4.50	1,666.60	39.21	593.65	92.55	25.10	576.70
2003	0.8668	77.13	26.67	15,720.22	5.20	2,053.93	23.24	826.51	92.79	27.30	769.30
2004	0.8995	86.87	12.62	16,600.55	5.60	2,614.14	27.28	1,052.32	91.49	16.60	911.80
2005	0.9063	100.00	15.12	17,579.98	5.90	3,123.05	19.47	1,511.83	100.00	14.90	1014.00
2006	0.9165	110.92	10.92	18,705.10	6.40	4,351.67	39.34	2,075.12	105.25	10.00	1341.30
2007	0.9352	122.82	10.73	19,913.40	6.46	5,954.59	36.83	3,354.72	104.54	10.60	1751.30
2008	1.0579	143.11	16.52	21,592.20	8.43	8,287.48	39.18	4,792.97	99.51	24.70	2224.60
2009	1.4088	170.66	19.25	22,454.05	3.99	10,337.73	24.74	5,730.46	91.55	22.50	3031.70
2010	1.4310	188.94	10.71	24,252.00	8.01	13,637.30	31.92	7,039.69	97.64	12.30	4413.70
2011	1.5119	205.42	8.73	27,742.00	14.39	18,280.00	34.04	9,002.44	92.73	10.30	5736.05

Note: XRATE=Exchange Rate in Ghana's Local Currency Units (LCU) per US\$

CPI= Consumer Price Index (2005 as the base year)

GDP=Gross Domestic Product

Domestic Credit to PS= Domestic Credit to Private Sector

REER= Real Effective Exchange Rate (2005 as the base year)

91-DTBR= 91-Day Treasury Bill Rate

Quarterly Data

Year	GDP (GHC'm)	CPI	M2+ (GHC'm)	M2+ Growth (q-o-q)	Policy Rate	91_DTBR	INFLATION (q-o-q)	XRATE (GHC per US\$)	GDP Growth (q-o-q)	Average Lending Rate	Base Rate
2007 I	4,544.00	211.30	4,282.40	1.23	12.50	9.61	3.68	0.93	-17.00	24.25	19.73
2007 II	4,361.20	220.00	4,524.80	5.66	12.50	9.63	4.12	0.93	-4.02	24.25	19.73
2007 III	5,362.90	222.50	5,000.00	10.50	12.50	9.82	1.14	0.94	22.97	24.25	19.73
2007 IV	5,645.40	229.80	5,593.00	11.86	13.50	10.61	3.28	0.97	5.27	24.25	19.73
2008 I	4,943.70	240.40	5,959.20	6.55	14.25	10.88	4.61	0.98	-12.43	24.25	19.62
2008 II	4,616.30	260.50	6,197.00	3.99	16.00	16.30	8.36	1.03	-6.62	24.25	21.45
2008 III	5,984.20	262.30	6,934.40	11.90	17.00	24.64	0.69	1.13	29.63	24.50	23.60
2008 IV	6,047.80	271.50	8,061.10	16.25	17.00	24.67	3.51	1.21	1.06	27.25	25.88
2009 I	5,073.40	289.80	8,211.90	1.87	18.50	25.29	6.74	1.38	-16.11	31.25	28.75
2009 II	4,856.30	314.60	8,659.70	5.45	18.50	25.82	8.56	1.47	-4.28	32.88	28.88
2009 III	6,114.30	310.50	8,728.80	0.80	18.50	25.89	-1.30	1.45	25.90	32.88	28.88
2009 IV	6,410.50	314.80	10,233.30	17.24	18.00	23.70	1.38	1.43	4.84	32.75	29.48
2010 I	5,507.40	328.35	10,538.02	2.98	16.00	16.16	4.30	1.42	-14.09	32.20	28.37
2010 II	5,124.30	344.52	10,846.04	2.92	15.00	15.84	4.92	1.43	-6.96	30.53	27.00
2010 III	6,767.70	339.66	11,170.80	2.99	13.50	12.74	-1.41	1.43	32.07	28.50	25.70
2010 IV	6,852.60	341.83	13,663.00	22.31	13.50	12.28	0.64	1.47	1.25	27.63	25.79
2011 I	5,691.50	358.34	14,334.48	4.91	13.50	12.11	4.83	1.50	-16.94	27.51	24.54
2011 II	6,179.10	374.13	15,202.10	6.05	13.00	10.58	4.41	1.51	8.57	26.95	23.95
2011 III	7,921.60	368.18	15,851.23	4.27	12.50	9.39	-1.59	1.52	28.20	26.95	23.26
2011 IV	7,950.20	371.16	18,194.82	14.78	12.50	10.30	0.81	1.55	0.36	25.93	22.47
2012 I	6,582.70	389.79	18,500.16	1.68	13.50	12.30	5.02	1.69	-17.20	25.93	21.45



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