MONETARY POLICY STATEMENT 2009

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1. INTRODUCTION

1.1 The publication of the annual Monetary Policy Statement (MPS) is the means through which the Bank apprises stakeholders about the policy framework that guides the formulation and implementation of monetary policy. In so doing, the Bank seeks to engender and maintain policy credibility, in order to anchor expectations of low, predictable and sustainable inflation. The Statement also provides a forum for evaluation of monetary policy and informs the public about any changes to the framework, which at various times may be necessitated by economic developments, technical and operational advances, as well as policy innovations.

1.2 In reviewing trends in 2008, the MPS evaluates the extent to which inflation deviated from the Bank's medium-term inflation objective range of 3 – 6 percent, and the main determinants of the price developments. The assessment of the outlook examines influences on inflation over the medium term and the risks to price developments over the period. In turn, the outlook informs the expected policy response that would help maintain inflation and expectations around the price stability objective in support of sustainable long-term growth of the economy.

1.3 With respect to developments in 2008, inflation increased significantly for most of the year, reflecting the impact of higher international food and oil prices. The second half of the year saw a global economic downturn and weak demand as triggered by the financial crisis that commenced with the collapse of the US sub-prime mortgage market, and this led to a sharp fall in international oil prices. The resultant decrease in domestic fuel prices led to the decline in inflation in September and October. While there was a temporary increase in November following the introduction of the additional tax on alcoholic beverages, inflation subsequently fell in December, thus beginning a trend that is expected to continue throughout 2009. While the trajectory for inflation in 2008 was anticipated, the periodic evaluation of trends was characterised by a significant adjustment of the forecast with respect to the level, turning point (peak) and the anticipated lag to achieving the inflation objective. The forecasting challenges, which were a global phenomenon, and particularly acute in 2008, were mostly due to unanticipated large increases in oil prices in the first half of the year and, towards the end of the year, difficulties in assessing the scale of the impact of the financial crisis on growth prospects and their geographical reach (Appendix Chart A).[1] *Overall, the net 50 basis points increase in the Bank Rate during 2008 underscored the need to restrain aggregate demand, given the acceleration in credit growth and faster expansion of government expenditure, as well as the need to counteract second-round effects and rein in inflation expectations.*

[1] The review and revision of forecasts is normal in monetary policy formulation, as economic conditions and underlying assumptions are subject to periodic change. However, in 2008 there were more frequent and large revisions. In general, prospective inflation was underestimated in the earlier part of 2008 and overestimated in the latter half of the year.

1.4 *Going forward, inflation is expected to decline in 2009 and to be close to the 3 – 6 percent medium-term inflation objective by the fourth quarter. It is anticipated that price pressures from foreign inflation will be low in the context of subdued global output growth, while domestic demand pressures are similarly expected to ease as a result of forecast weaker economic activity in Botswana. There is, nevertheless, the risk of an inflationary increase in administered prices, in particular, electricity tariffs and housing rentals.*

2. *MONETARY POLICY FRAMEWORK*

2.1 *The Bank's monetary policy objective is to achieve a sustainable, low and predictable level of inflation. It is considered that achieving and maintaining inflation within a range of 3 – 6 percent will contribute towards the broader national objectives of sustainable economic growth and development through promoting savings mobilisation and productive investment. This will also support international competitiveness of domestic producers.*

2.2 *In order to achieve the objective of price stability, the Bank uses interest rates and open market operations to affect demand conditions in the economy and ultimately the rate of price changes. In this regard, changes in interest rates and the availability of loanable funds influence choices with respect to credit demand and saving and, in turn, the determination of aggregate demand. Domestic demand conditions,[2] along with other factors such as foreign inflation, the exchange rate, changes in administered prices and taxes, contribute to the level of inflation. In addition, public expectations with respect to the level of inflation influence price increases by firms and wage adjustments. An assessment of prospective developments for the various determinants of inflation allows the Bank to generate an inclusive and broad-based forecast for inflation over the medium term that, in turn, informs the monetary policy response (Appendix - Box A).*

2.3 *It is recognised that as economic circumstances change (even within the forecast horizon), the outlook for the determinants of inflation and, therefore, the path and level of the inflation forecast changes, with the likelihood of a change in the monetary policy stance. For this reason, the policy framework involves policy meetings which review the inflation forecast and monetary policy stance. In the circumstances, the Bank responds to a forecast of medium-term inflation that is either higher or lower than the price stability objective. Apart from the adverse effects of high inflation, the price stability objective takes account of the fact that*

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[2] *In this instance, the rate of change in prices is associated with the variation in the demand/supply conditions in the economy influenced by movements in interest rates and the exchange rate. Technically, this relates to the net impact of changes in real interest rates and real exchange rates, which is referred to as "real monetary conditions", on the availability of credit and domestic industry competitiveness.*

sustained periods of low or rapidly falling inflation could be indicative of subdued economic activity, which could require policy easing to stimulate growth.

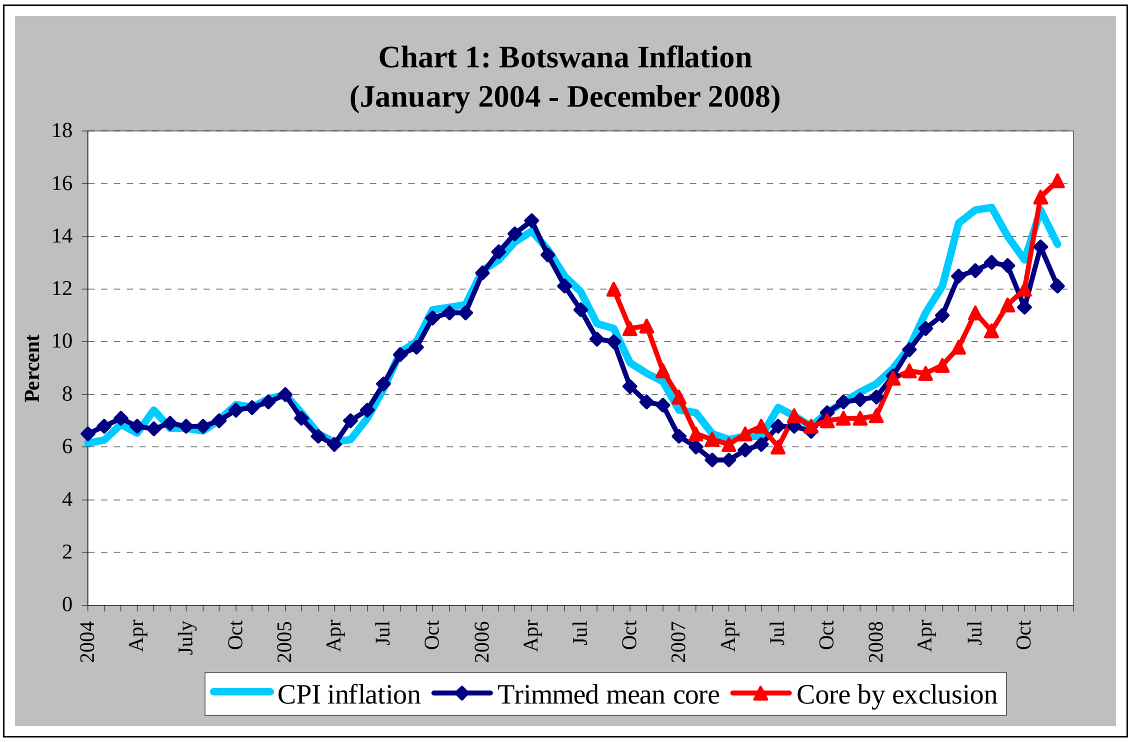
2.4 *The forecast-based and forward-looking medium-term approach to policy formulation also facilitates a considered differentiation between factors that are likely to lead to a longer lasting deviation of inflation from the objective range and those that have a transitory impact, as indicated by the duration of their disaggregated effect on the inflation forecast. In addition, an analysis of alternative measures of inflation, viz, headline, 16 percent trimmed mean and inflation excluding administered prices, continues to be useful in showing sources of price changes and in explaining inflation developments. This assessment, together with an evaluation of the likelihood of any second-round effects and the influence of past and current price developments on expectations, determines the nature of the monetary policy response. Meanwhile, the medium term, defined as a three-year rolling period, satisfies three conditions for the effectiveness of monetary policy. First, it anchors the setting of the inflation objective; second, it is a period over which inflation is forecast; and third, it is considered a reasonable period for policy action to take effect.*

2.5 *Since 2005, the Bank has been implementing the crawling band exchange rate mechanism that is aimed at maintaining international competitiveness of domestic producers. In the short term, this is achieved through stabilising the real effective exchange rate (REER). In this arrangement, the annual rate of crawl for the nominal effective exchange rate (NEER) is determined on the basis of the differential between Botswana's inflation objective and the forecast inflation for trading partner countries. Attaining inflation equal to that prevailing in trading partner countries would indicate that the country would maintain price competitiveness at a given level of the exchange rate. However, in the event that the inflation objective is higher than the forecast inflation in trading partner countries, a downward crawl of the NEER would be required to maintain international competitiveness of the domestic industry. Conversely, an upward crawl would be implemented in the event of a lower domestic inflation than forecast inflation for trading partner countries.*

2.6 *The Bank has a policy of communicating its monetary policy framework and the factors underpinning the monetary policy stance. On a continuous basis, the Bank makes an assessment of the economic and inflation outlook and the likely implications for policy direction. This dissemination of information is intended to improve public understanding of the policy framework and should contribute to engendering policy credibility and the degree to which the Bank will be successful in influencing inflation expectations and attaining price stability.*

3. *INFLATION TRENDS AND OTHER ECONOMIC DEVELOPMENTS IN 2008*

3.1 *Inflation trended upwards for most of 2008 and remained well above the 3 – 6 percent objective range. Headline inflation rose from 8.1 percent in December 2007 and peaked at 15.1 percent in August 2008, before declining to 13.7 percent in December 2008 (Chart 1). The 16 percent trimmed mean measure of core inflation also rose from 7.8 percent in December 2007 to 12.1 percent in December 2008. Core inflation (excluding administered prices) accelerated sharply from 7.1 percent to 16.1 percent in the same period, which reflects the absence of the effect of the decrease in fuel prices in this inflation measure and the continuing effect of high food prices, as well as the impact of the additional levy on alcoholic beverages.*



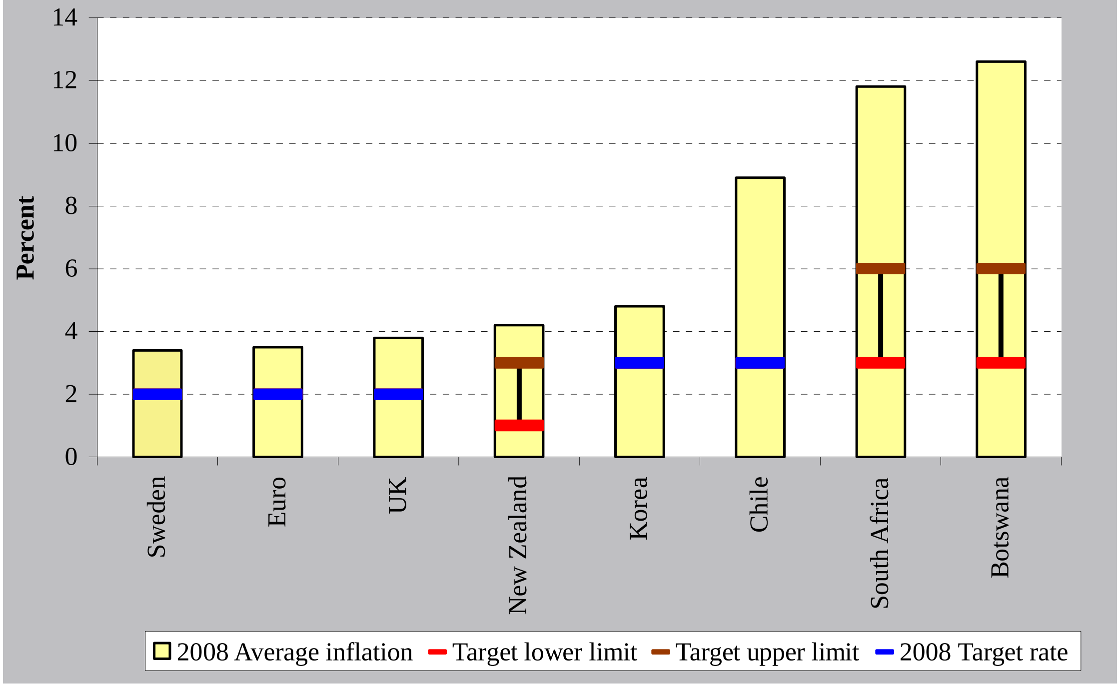
Source: Central Statistics Office

3.2 *Globally, the major influences on inflation during 2008 were developments in international food and oil prices. Earlier in the year, large increases in the cost of these commodities contributed to much higher inflation than desirable or targeted across most countries (Chart 2). Overall, world inflation increased from 4.3 percent in 2007 to 6.4 percent in 2008, but this was against the background of the decline in global output growth, which slowed from 5.2 percent to 3.4 percent.*[3] *However, international oil prices, as well as domestic fuel prices, fell*

[3] *World Economic Outlook published by the International Monetary Fund (January 2009).*

sharply in the latter half of the year as demand and prospects for output expansion deteriorated in many countries, following an escalation of the financial turmoil in major economies in September 2008. [4]

Chart 2: Target Rates, Target/Objective Ranges and Average Annual Inflation in 2008



Source: Central Statistics Office, Bank of Botswana and World Economic Outlook published by the International Monetary Fund (November 2008).

Note: Botswana is not an inflation targeter; the limits represent the policy objective range.

3.3 *In SDR countries,*[5] *average inflation rose from 2.5 percent in 2007 to 3.4 percent in 2008, although on a monthly basis inflation was declining towards the end of the year, partly due to the effect of lower oil prices. In South Africa, inflation increased from an average of 6.5 percent in 2007 to 11.3 percent in 2008 and was above that country's target range of 3 – 6 percent. Overall, the trade-weighted average inflation of Botswana's trading partner countries was at the same level of 6.5 percent in 2007 and in 2008. Chart 3 shows a comparison of inflation trends for Botswana and its trading partner countries.*

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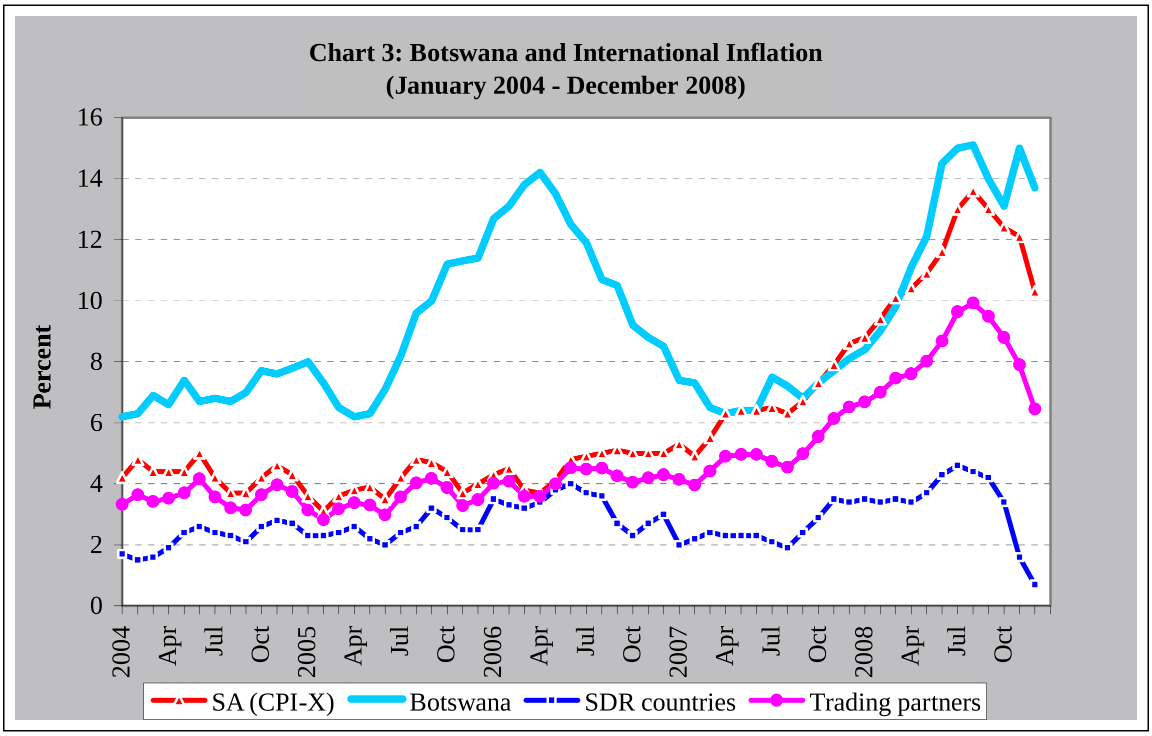
4 *The collapse of Lehman Brothers on September 15, 2008 is widely regarded as the start of the latest, increasingly severe, phase of the global economic crisis, following the initial financial turmoil that started in mid-2007 with the rising incidence of defaults in the US sub-prime mortgage lending market and the related fall in house prices.*

5 *USA, UK, Japan and Euro zone.*



Source: Bank of Botswana

3.4 *In the case of Botswana, the successive increase in fuel prices between February and June 2008 contributed about 4.4 percentage points directly to domestic inflation, before subsequent reductions in the second half of the year lowered this effect by 4.2 percentage points.*[6] *Meanwhile, the annual rate of increase in the cost of food accelerated sharply at the beginning of 2008 and towards the end of the year, thus continuing to exert upward pressure on domestic inflation (Chart 4). It is estimated that the increase in electricity tariffs, public transport fares, as well as the additional tax on alcoholic beverages, contributed 2.93 percentage points to inflation during the year.*

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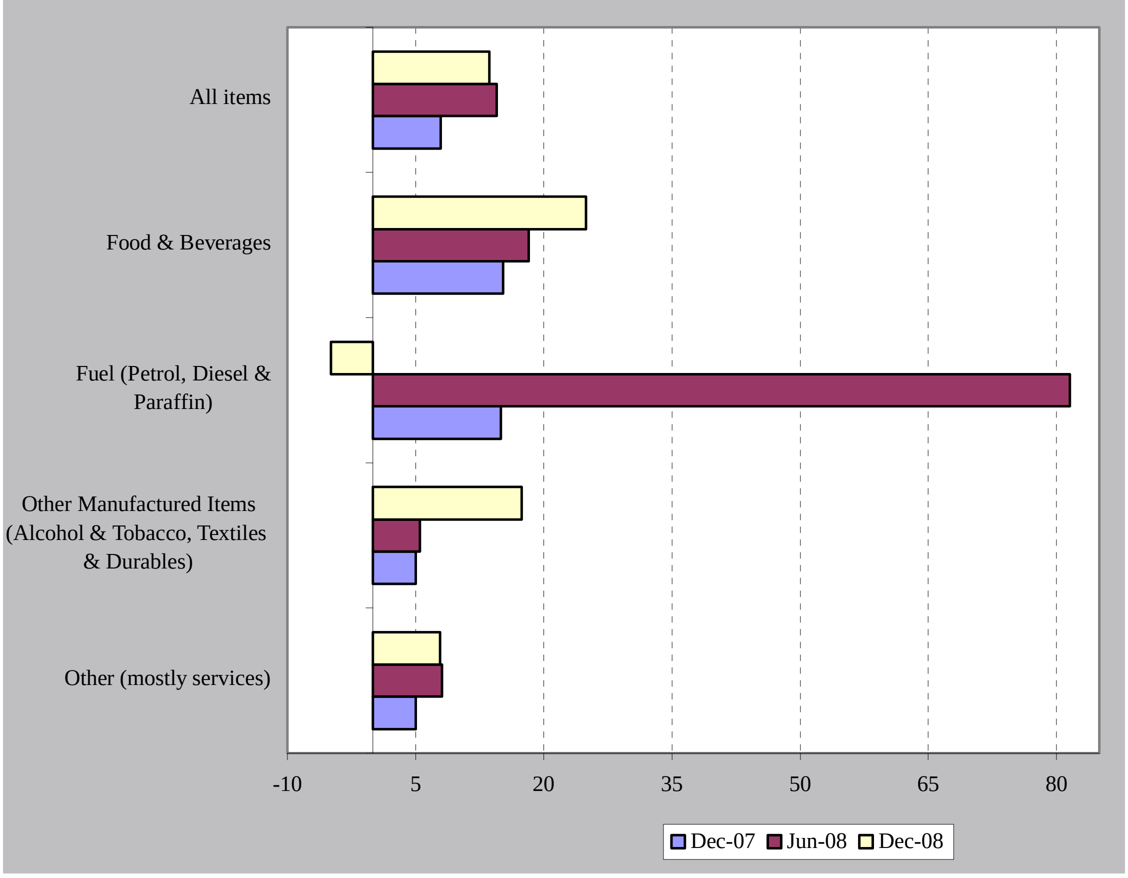
6 *Petrol, diesel and paraffin prices were increased in February, April, May and June 2008. In July, only petrol and diesel prices were increased, while paraffin prices were reduced. However, fuel prices were reduced in August, September, October, November and December 2008, as international oil prices continued to fall sharply from the record high of slightly above USD147 per barrel in July to around USD40 in December.*

Chart 4: Decomposition of the CPI Inflation: Year-on-Year Change in Price (Percent)



Source: Central Statistics Office and Bank of Botswana calculations

3.5 *By tradeability, the impact of the 30 percent tax on alcoholic beverages, which was introduced at the beginning of November, is shown in the considerable increase in domestic tradeables inflation from 14.9 percent in October to 26.8 percent in November 2008 (26.4 percent in December). The yearly change in prices of domestic tradeables was 15.2 percent in December 2007. On the other hand, oil price developments were the main influence on price changes for imported tradeables during 2008. Reflecting developments in international oil prices, imported tradeables inflation rose from 7.7 percent in December 2007 and peaked at 20.9 percent in July 2008, before falling to 11.9 percent in December. The exchange rate influence in this regard was moderate as the trade-weighted nominal effective exchange rate depreciated by 2.3 percent over the year to December 2008 (Chart 5). Bilaterally, the Pula depreciated by 18.2 percent against the SDR and appreciated by 10 percent against the rand.*[7] *Inflation for non-tradeables also went up from 3.4 percent in December 2007 to 6.4 percent in December 2008, mostly reflecting the upward adjustment of administered prices.*

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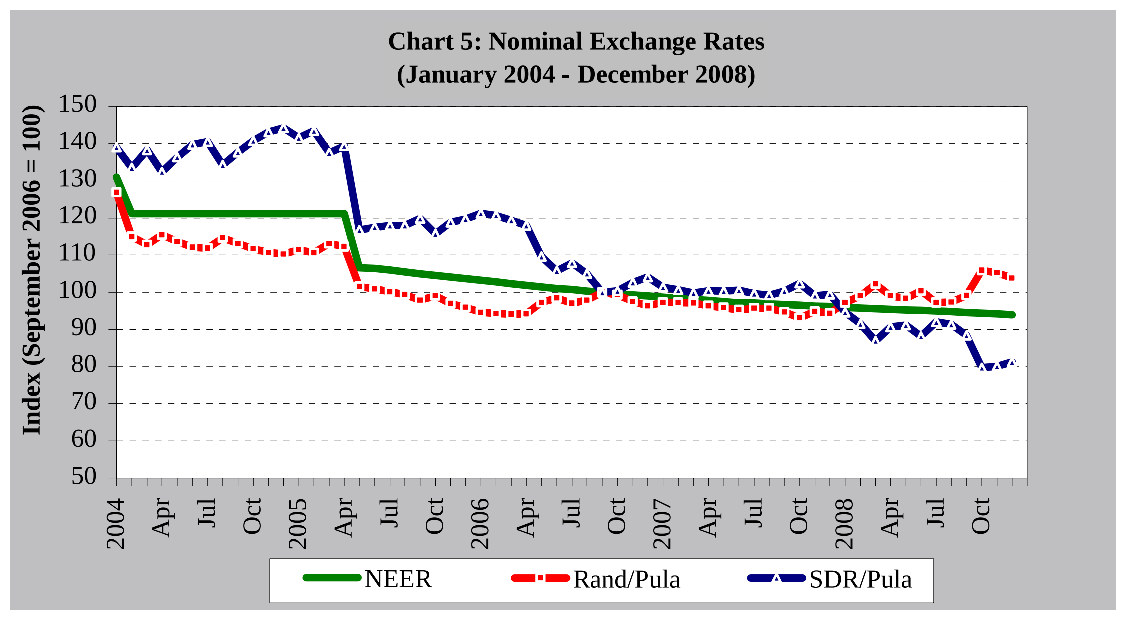
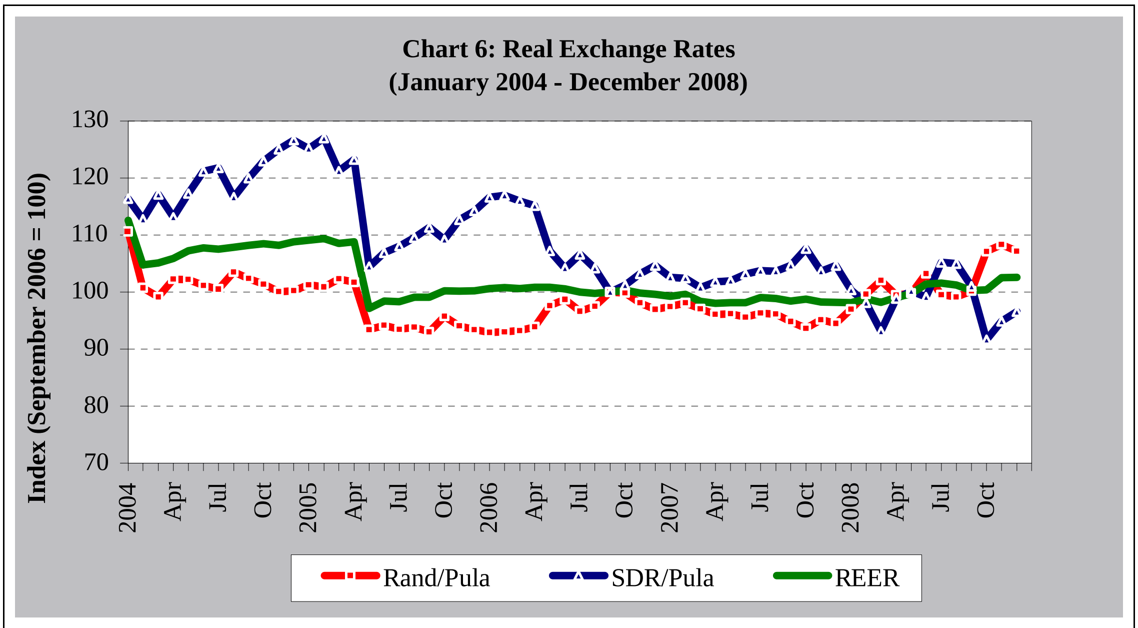
7 *The rand has a larger influence on domestic price developments as it is the principal source of imports and is more heavily weighted in the Pula basket.*

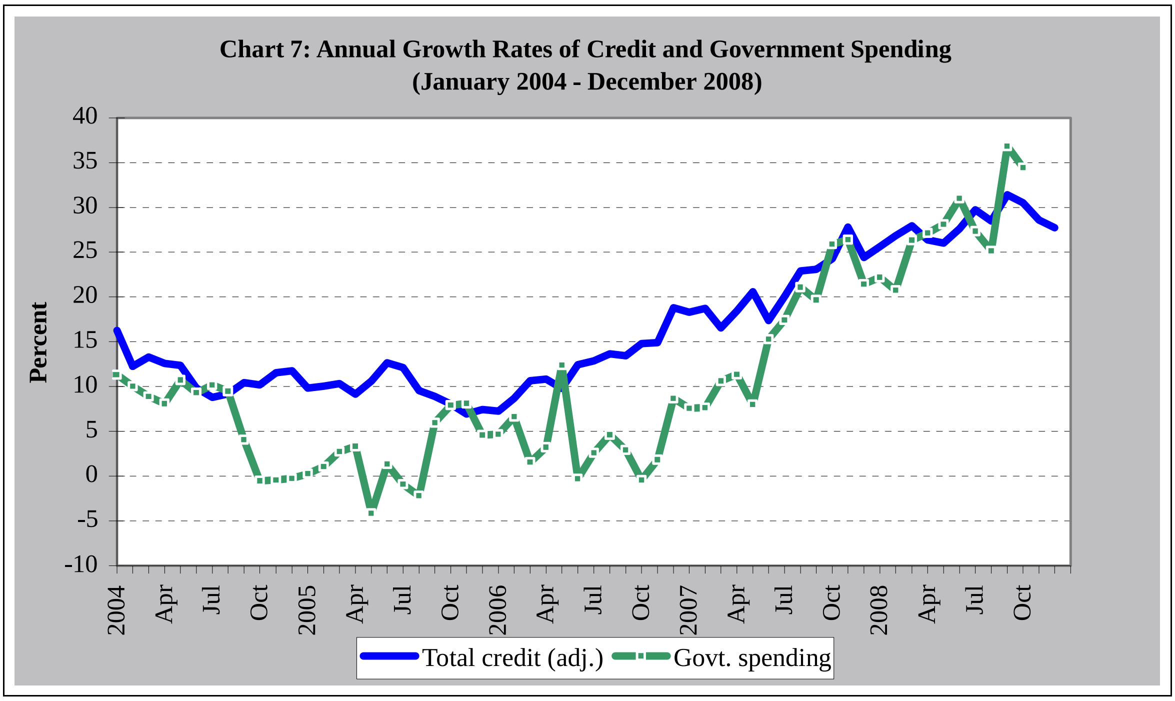


Source: Bank of Botswana



Source: Bank of Botswana

3.6 The relatively high inflation in Botswana occurred against the background of significant monetary expansion, thus largely accommodating the sharp increase in prices. Two factors signify the Government's contribution to growth in money supply and aggregate demand. First, government expenditure in calendar year 2008 increased considerably by 38.3 percent over the level of spending in 2007 *and was much higher than the budgeted growth of 14.7 percent for fiscal year 2008/09, as announced in the 2008 Budget Speech.*[8] *This development possibly signals improvements in the implementation of government projects, procurement and service provision, particularly in the light of additional responsibilities associated with new policy measures and initiatives that were not in the original budget. Development expenditure increased substantially by 69.8 percent while recurrent spending grew by 27.9 percent. Second, an across-the-board increase in civil service salaries and subsequent payment of scarce skills allowances for some professions could have contributed to a more widespread increase in personal incomes, involving other parts of the economy.*



Source: Bank of Botswana

3.7 *In general, growth in government expenditure and personal incomes allows for enhanced access to credit and greater demand for credit. Hence, annual credit expansion accelerated in 2008, from 24.4 percent in December 2007 to 31.5 percent in September 2008, before falling back to 27.7 percent in December 2008. Growth in household borrowing in 2008 was lower at 21.5 percent, from 29.4 percent the previous year, while lending to business accelerated to 36.9 percent compared to 17.6 percent in 2007.*

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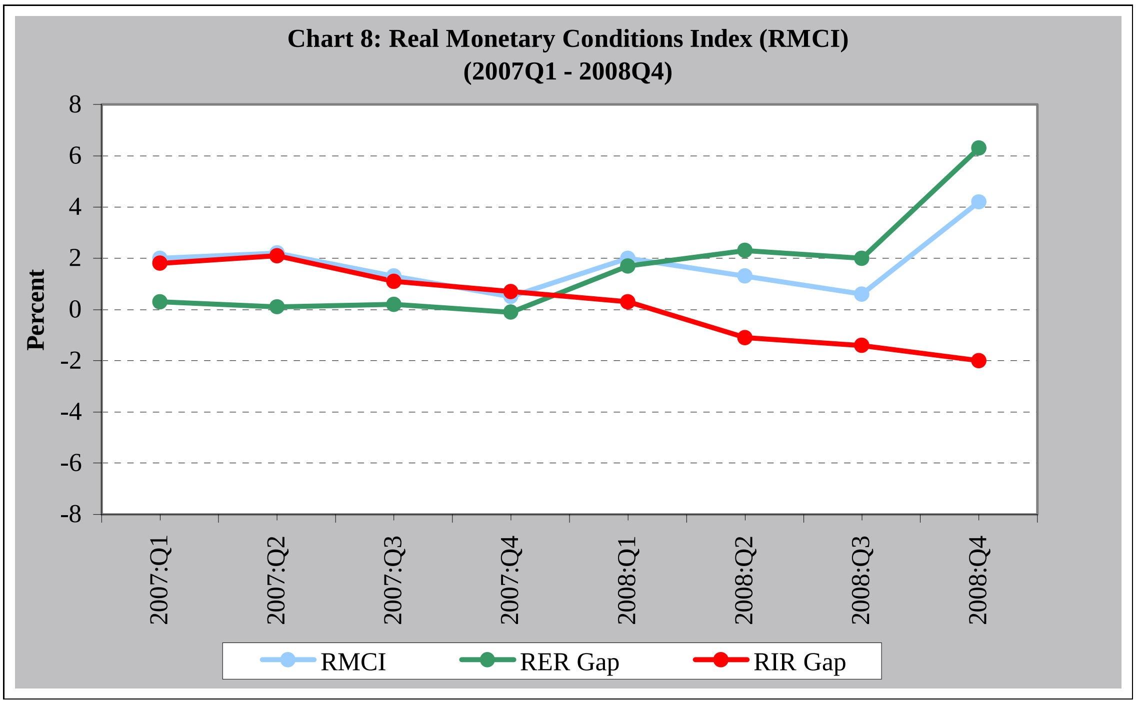
[8] *The Government fiscal year runs from April to March. For the fiscal year to March 2009, government expenditure is projected to grow by 43.2 percent over spending in 2007/08. The higher annual growth rate mostly reflects the impact of supplementary ministerial allocations that were made in December 2008. Development expenditure is estimated to expand by 90.8 percent on an annual basis, while recurrent spending is expected to increase by 26.5 percent.*

3.8 *While overall output growth slowed in 2007/08, strong monetary expansion benefited private non-mining sector performance. Excluding government and the mining sector, output growth was 9.7 percent in 2007/08, an increase from 7.1 percent of the previous year. Most of the growth in the non-mining sectors was due to strong performance of the transport and communication, construction and, financial and business services sectors, which expanded by 12.7 percent, 11.6 percent and 11.1 percent, respectively. Overall GDP growth is estimated at 3.3 percent for 2007/08, a significant reduction from 5.3 percent in 2006/07, mainly reflecting the contraction in mining sector output. Mining sector output decreased by 3.5 percent in 2007/08 compared to a 4.7 percent expansion in 2006/07. Growth in the non-mining sectors (including government) accelerated to 8 percent from 5.7 percent over the same period.*

4. MONETARY POLICY IMPLEMENTATION IN 2008

4.1 *In 2008, monetary policy was conducted in the context of significant volatility and associated uncertainty with respect to oil prices and a persistence of high food price inflation. In the circumstances, inflation rose mostly due to external influences on which monetary policy would not have much immediate effect. Moreover, the outlook was such that oil prices were expected to peak in the short term and then fall, leading to a subsequent decline in inflation. Given a forward looking monetary policy framework that responds to the forecast for inflation in the medium term, the challenge and intent was to minimise second-round effects and maintain expectations anchored on the price stability objective to ensure that inflation does not diverge from the projected trajectory. The Bank responded to the impending inflationary pressures arising from the secondary effects and expectations of high inflation by raising the Bank Rate and through an enhanced communication effort involving, among others, a publication of decisions of the Monetary Policy Committee and the assessment of the inflation outlook.*

4.2 *Furthermore, it is notable that an increase in inflation, from whatever source, that is greater than the rise in nominal interest rates reduces real interest rates and, in the case of Botswana, it resulted in money market interest rates becoming negative in real terms in 2008. Negative real interest rates suggested that monetary policy was loose and, therefore, accommodative of possible excessive borrowing, the proceeds of which are likely to be put to less productive use. The Bank's policy analysis also entails a consideration of developments with respect to the real exchange rate, which is another important influence on investment and spending decisions. In 2008, the real exchange rate exhibited an appreciating trend, a development that dominated the accommodative negative real interest rates. Overall, therefore, the real monetary conditions that reflect the net effect of movements in real interest rates and the real exchange rate were restrictive (i.e., tight real monetary conditions, Chart 8).*



Source: Bank of Botswana

Notes:

(1) RER Gap is a measure of the deviation of the real rand/Pula exchange rate from its trend value.

(2) RIR Gap is a measure of the deviation of the real interest rate (i.e., 3-month real BoBC's rate) from its trend value.

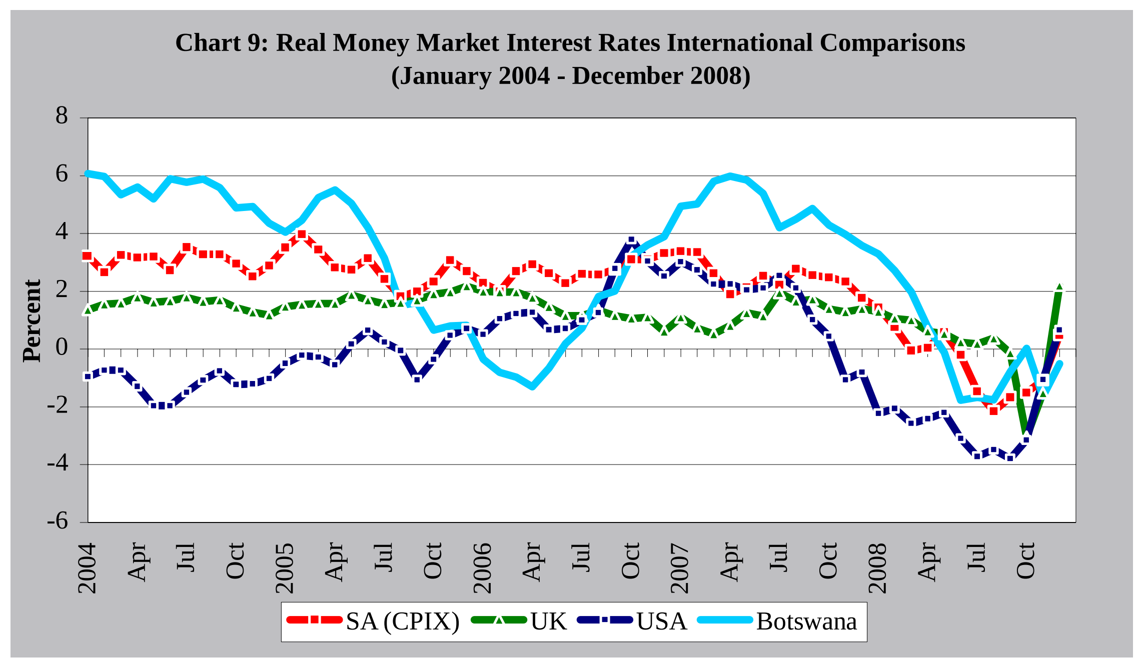
(3) RMCI is a weighted average of RER Gap and RIR Gap.

4.3 *The Bank Rate was increased by 50 basis points each in May and June 2008 to 15.5 percent. In response to a more positive inflation outlook towards the end of the year, the Bank Rate was reduced by 50 basis points to 15 percent in December 2008. Open market operations were supportive of monetary policy by absorbing excess liquidity in the banking system and maintaining the desired level of interest rates. The yield on both the 3-month and 14-day Bank of Botswana Certificates (BoBCs) ranged between 11.97 percent and 13.13 percent in 2008. The average prime lending rate rose from 16 percent in December 2007 to 16.5 percent in December 2008, while the average 88-day deposit rate was 8.53 percent in December 2008, slightly higher than 8.51 percent in December 2007.*

4.4 *Given a larger increase in inflation, real interest rates generally fell during 2008, from 3.58 percent in December 2007 to -0.5 percent in December 2008 for the 3-month BoBC,[9] and to -1.01 percent for the 14-day BoBC. Meanwhile, the real prime lending rate declined from 7.3 percent in December 2007 to 2.5 percent in December 2008. While the NEER depreciated in line with the crawling band arrangement of a downward adjustment when domestic inflation is higher than*

9 *Real 3-month money market interest rates were 0.49 percent, 2.2 percent, 0.66 percent and -0.73 percent in December 2008 for South Africa, UK, USA and the Euro zone, respectively.*

that of trading partner countries, the magnitude of the crawl was less than the actual inflation differential; hence the REER appreciated by 4.4 percent year-on-year to December (Chart 6).



Source: Bank of Botswana

5. OUTLOOK FOR INFLATION

5.1 *World economic performance is projected to deteriorate significantly in the short to medium term, due to the ongoing financial crisis (and the associated constraints to financing of economic activity), which has now worsened into an economic recession in some of the major economies. The stronger effect of the economic turmoil has been on major economies, particularly the USA, UK and the large continental European economies, where there are prospects for a deeper and longer lasting recession in some instances. In the circumstances, subdued demand in these countries results in lower exports for many other economies, with a considerable negative impact on growth. World GDP growth is, therefore, expected to decelerate sharply from an estimated 3.4 percent in 2008 to a forecast 0.5 percent in 2009. Inflationary pressures are expected to ease as a result of lower economic activity and subdued demand. In addition, the decline in commodity prices, including the cost of oil, will exert downward pressure on inflation; hence, world inflation is forecast to decrease from 6.4 percent in 2008 to 3.1 percent in 2009.*

5.2 *In SDR countries, average inflation is forecast to fall from 3.7 percent in 2008 to 2 percent in 2009. Similarly, South Africa's CPIX inflation is expected to decrease from 11.5 percent in 2008 to 5.5 percent in 2009, thus falling within the* *country's 3 - 6 percent target range.*[10] *It is, therefore, anticipated that foreign price developments will have a downward effect on domestic inflation, through lower imported inflation. Given an inflation objective of 3 - 6 percent and forecast trading partner inflation in the range of 3 - 5 percent, only a marginal downward crawl of the NEER will be necessary in 2009. The exchange rate influence on import prices is, therefore, expected to be neutral.*

5.3 *In line with the global deceleration in economic performance, GDP growth in Botswana is expected to weaken. It is anticipated that the global economic slowdown and decline in commodity prices will initially have more impact on the mining sector. However, lower foreign demand is also expected to adversely affect other export industries such as tourism and textiles. Given the economic linkages, subdued mining activity and, therefore, reduced demand for inputs by this dominant sector, activity in the broader economy will ultimately be affected. In addition, lower exports and the resultant decline in mining revenue are expected to undermine growth in government expenditure and its influence on economic performance. Therefore, it is estimated that output will be below trend, particularly in the short term, thus exerting downward pressure on inflation.*

5.4 *In the absence of an across-the-board wage increase*[11] *or tax reduction, as announced in the 2009 government budget, demand pressures on inflation will be low in the short term. However, any large increase in administered prices during 2009, such as electricity tariffs and Botswana Housing Corporation rentals, would exert upward pressure on inflation. Nevertheless, the balance of risks for the rate of price increases is predominantly downwards. Inflation is, therefore, forecast to decline steadily in 2009, and it is anticipated that by the end of the year it will be much closer to the upper end of the medium-term objective range of 3 - 6 percent (Chart 10).*

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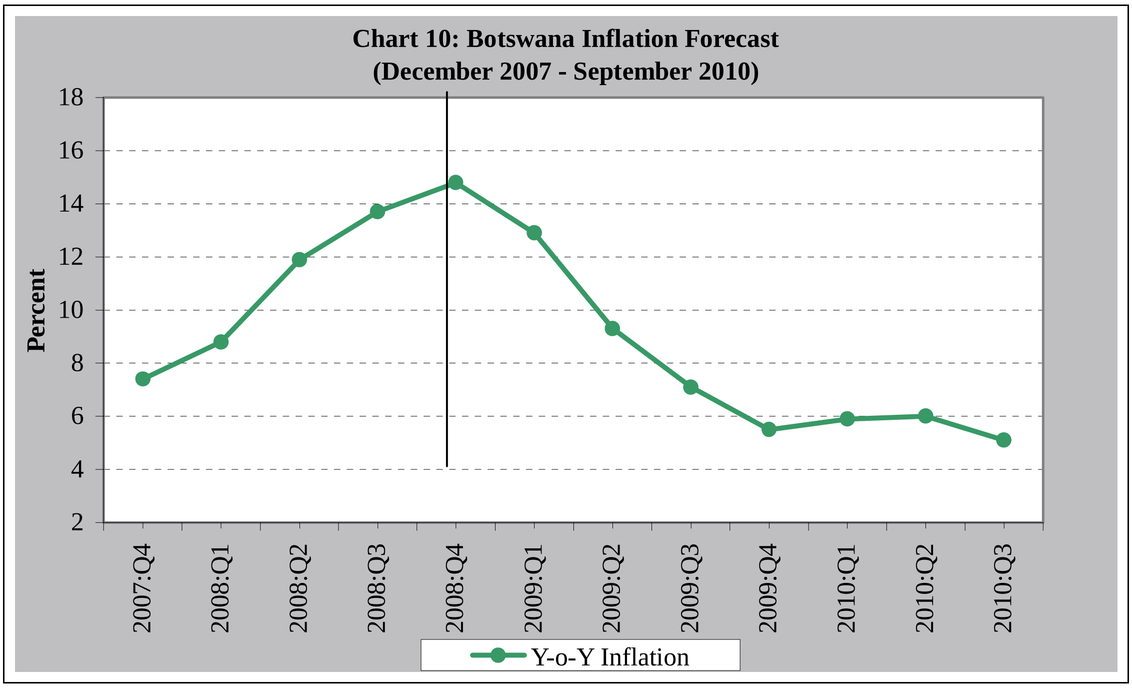
10 *CPI for all urban areas (headline inflation) replaced CPIX (CPI excluding interest rates on mortgage bonds) as the target measure of inflation for South Africa effective January 2009.*

11 *It should be noted that although it was announced in the Budget Speech that there will be no across-the-board cost of living adjustment for civil servants in 2009/10, salaries generally increase annually in line with annual movements to higher notches and the performance based rewards. However, economy-wide, wage increases are likely to be restrained in the context of significant cut-backs in production and employment as well as possible business failures.*



Source: Bank of Botswana

6. 2009 MONETARY POLICY STANCE

6.1 A decrease in inflation with unchanged interest rates (i.e., an increase in real interest rates) would imply a tightening of monetary policy at a time when there are challenges to economic growth prospects, and expansionary fiscal policy is constrained by a decline in government revenue. However, lower domestic inflation that is closer to that prevailing in trading partner countries should also ease upward pressure on the real exchange rate, and thus contribute to an easing of real monetary conditions. Overall, the anticipated decline in inflation in the medium term, together with the prospect of subdued economic performance, provides scope for easier monetary policy. In particular, as a contribution to counter-cyclical measures to address the imminent decline in economic performance, it is important to avoid a sharp increase in real interest rates as inflation declines.

6.2 There is, nevertheless, a continuing challenge for monetary policy to entrench expectations of low and sustainable inflation. It is also important that the Bank continues to act in a timely manner to minimise secondary effects of any transitory shocks. Thus, the Bank will respond timely to any significant deviations of the medium-term inflation forecast from the 3 - 6 percent inflation objective, on the one hand, to mitigate inflationary pressures in the event of a threat of high inflation and, on the other hand, to ease financing constraints in the event of a downside risk to output growth. The Bank will also implement an appropriate rate of crawl for the NEER consistent with the crawling band *exchange rate mechanism, with the objective of ensuring that the REER remains supportive of international competitiveness of the domestic industry and prospects for sustainable economic diversification.*

7. CONCLUSION

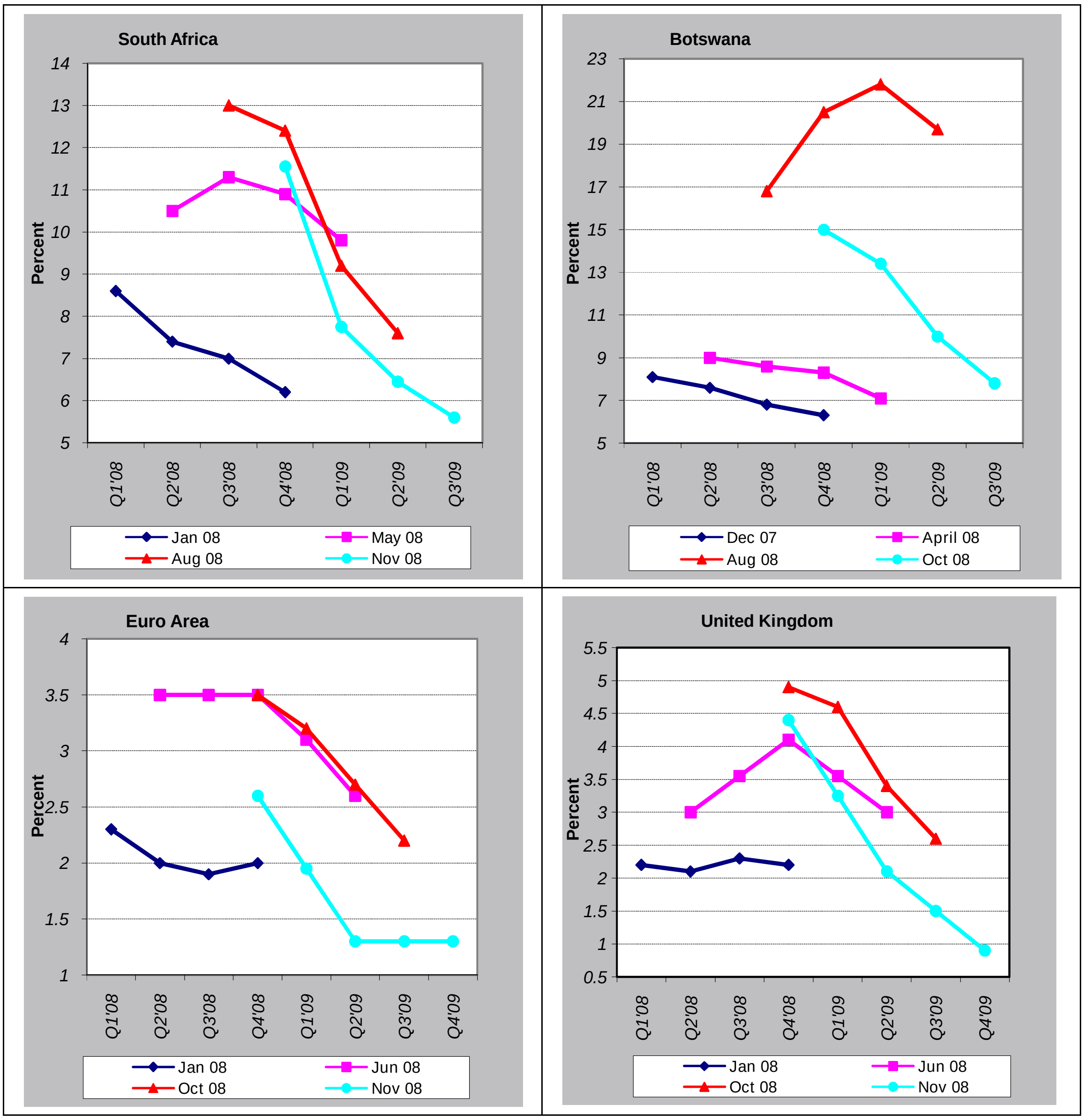
7.1 Inflation maintained an upward trend during most of 2008, thus reflecting a faster increase in the cost of food and the upward adjustment of administered prices, including fuel prices, domestic and business electricity tariffs, public transport fares and tax on alcoholic beverages; it ended the year at 13.7 percent.

7.2 Global economic expansion is forecast to decelerate in 2009, mainly reflecting the credit-crunch-induced recession in major economies. Meanwhile, world inflation is also expected to ease, consistent with lower economic activity and to the extent that international oil prices remain relatively low and stable.

7.3 A decline in inflation is similarly forecast for Botswana and, in the context of projected reduction in output expansion, there is scope for a counter-cyclical easing of monetary policy. Overall, the Bank remains committed to responding appropriately to all economic and financial developments to attain price stability over the medium term without undermining sustainable economic growth.

Appendix I

Chart A: Inflation Forecast for Select Countries – 2008



Source: Bank of Botswana and JP Morgan Chase

Notes:

(1) *In general, prospective inflation was underestimated in the earlier part of 2008, and was overestimated in the latter half of the year.*

(2) *For Botswana, the much higher forecast in August 2008 reflects the anticipated effect of 70 percent additional tax on alcoholic beverages that was subsequently reduced to 30 percent.*

Appendix II

Box A: Key Characteristics of the Bank's Forecasting and Policy Analysis

The Bank's inflation forecasting framework has two complementary elements, namely, the Near-Term Forecasting and the Core Model for Medium-Term Forecasting that, in addition to expert analysis and judgement, are used to support monetary policy formulation. These are based on assumptions and research on the policy and price transmission process. Figure A shows, in broad terms, the transmission process. The Near-Term Forecasting projects inflation for four quarters ahead and incorporates the influence of South Africa's inflation, rand/Pula exchange rate, inflation persistence (represented by past inflation – a quarter earlier) and known/projected adjustments to administered prices (e.g., fuel prices and utility tariffs), government levies and consumption taxes. Prospective developments with respect to these factors, therefore, determine the forecast path for inflation over the next four quarters.

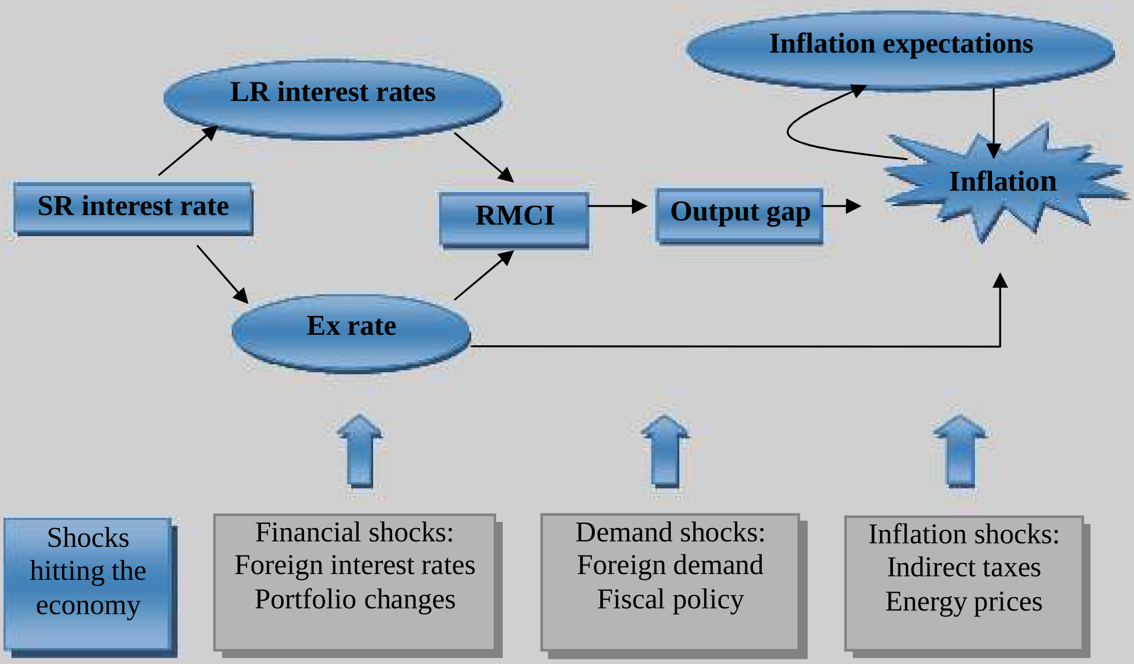
The Core Model for Medium-Term Forecasting is a structural representation that captures key relationships (the transmission process) in the Botswana economy. The model allows for consistent projections of up to 12 quarters ahead for key macroeconomic variables such as GDP, inflation, interest rates and exchange rates. In this formulation, the real variables are expressed in terms of the deviation from their trend values. An important feature of the model is the built-in policy response, in terms of: (a) adjustment to the policy interest rate (Bank Rate) to bring inflation to the target range, and (b) adjustment of the nominal effective exchange rate (through adjustment to the rate of crawl) in line with the inflation objective and underlying real trends.

The influences on the key variables are specified as follows:

(a) the output gap is determined by its past level, real monetary conditions index, South Africa's output gap and any aggregate demand shocks (e.g., increase in incomes, taxes, etc.);
(b) inflation is explained by its past level, inflation expectations, import prices, output gap and shocks to aggregate supply;
(c) real marginal cost influences are in the form of imported inflation and domestic demand pressures arising from the output gap;
(d) exchange rate changes are consistent with the crawling band arrangement; and
(e) adjustment of the policy rate (Bank Rate) to stabilise inflation around the objective and maintain trend output growth.

The output gap estimates the extent to which actual GDP is either above or below the long-run trend that is consistent with price stability. Excessively high output compared to trend is inflationary, while much lower output compared to trend is disinflationary. Real monetary conditions refer to the combination of the level of real interest rates and real exchange rates that define the extent to which monetary policy is restrictive or accommodative of output expansion in terms of financing and demand.

Figure A: Botswana's Monetary Policy Transmission Mechanism



Notes:
(1) SR = short run
(2) LR = long run
(3) Ex rate = exchange rate
(4) RMCI = real monetary conditions index

The process for generating price increases and inflation is based on three key assumptions:

(a) *Monopolistic competition: a market structure that has many producers/sellers of similar, but slightly differentiated products (e.g., Nike versus Adidas; Mercedes versus BMW; Sony versus LG). Each producer/seller can set its price without affecting the market.*

(b) *Imperfect substitution between factor inputs: faced with an increase in demand, suppliers would need to increase production and supply. However, while adjusting they cannot, in the short term, maintain the long term optimal relative proportions of the factors of production. For example, land and capital cannot be readily adjusted, but labour can be more quickly adjusted. Hence, workers are required to work more hours and/or there is an increase in the number of workers for the same amount of land and capital to meet an increase in demand. Therefore, initially labour productivity tends to decline and marginal costs of additional production increase. Hence, in addition to increasing supply, firms respond to an increase in demand by raising prices.*

(c) *The magnitude of the price increase would, however, reflect both backward-looking (inflation persistence) and forward-looking inflation expectations.*

***Demand, output gap and real monetary conditions**: All things equal, an increase in the Bank Rate results in an increase in other market interest rates and adjustment of the exchange rate, to the extent it is flexible. These developments change the real monetary conditions and, consequently, the desire for borrowing, which affects aggregate demand. The response of firms to the lower demand determines the margin of the output gap and the rate of increase of prices.*

***Foreign price increases:** Other things remaining the same, local vendors would tend to pass on to consumers price increases of foreign-sourced goods and services.*

***Exchange rate developments:** A change in the exchange rate will affect the import price of foreign sourced goods and services. The exchange rate, on the other hand, can be affected by capital flows (cross-border financial transactions) that respond to the variation in interest rate differentials. This channel is, however, weak in Botswana given that the exchange rate is not fully flexible and, therefore, does not respond to changes in interest rates. Nevertheless, a change in the Pula exchange rate from any source will be transmitted through this channel.*

***Other price shocks:** For Botswana, these would include an increase in administered prices (mostly the cost of utilities and government services and others, such as fuel prices and transport fares). To the extent that these are artificially held below market levels for a long time, subsequent adjustments tend to be much larger than the general price trends and the inflation objective.*

***Expectations:** Among other considerations, suppliers of goods and services and workers base their decisions on price increases and wage adjustments on what they expect inflation to be. Expectations can be both backward and forward looking. Those with backward looking expectations see inflation persisting at past levels and will be slow to respond to changes in policy actions that affect inflation. On the other hand, setting the inflation objective and entrenching the credibility of the policy framework can have a significant influence in encouraging forward looking expectations, which take account of the current and prospective conditions in determining expectations of future inflation.*

While there are significant foreign influences and other occasional shocks to domestic inflation (as shown in the bottom part of Figure A), the monetary policy framework is premised on an understanding that the rate of domestic price increases reflects, in the main, local demand conditions and the policy environment. Monetary policy, therefore, has an impact on expectations and other second-round effects. First, the extent to which local vendors pass on foreign price increases to consumers will depend on local conditions with respect to competitiveness and demand for their goods and services. In turn, demand is influenced by the monetary policy stance and its effect on real monetary conditions. Second, a well articulated and credible policy influences expectations as a source of inflation; thus, generally, price increases and demand for wage adjustments would be related to the monetary policy stance and the extent to which the public believes the inflation objective to be achievable on a sustained basis. Third, a widely accepted price stability objective can influence the rate of increase in administered prices to be consistent with the inflation objective. In the circumstances, there is scope for policy coordination and a measured approach to such cost increases.