NAME: UTLWANANG DIMPE

STUDENT NUMBER: SLBUTL001

COURSE: MASTER'S DEGREE IN ECONOMICS

SUBJECT: MINI DISSERTATION

TITLE: EXCHANGE RATE POLICY AND THE RESPONSES TO EXOGENOUS SHOCKS - THE CASE OF BOTSWANA: 1976 - 1994.

SUPERVISOR: PROFESSOR BRIAN KAHN

UNIVERSITY OF CAPE TOWN

MARCH 1996

DEDICATION

I dedicate this piece of work to my parents to whom I am fully indebted for all my achievements.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

Page

<u>**LIST OF CHARTS**</u>

<u>**LIST OF TABLES**</u>

ABSTRACT

The main objective of this paper is to discuss exchange rate policies in Botswana from 1976 to 1994. It is also an attempt to find out how Botswana has responded to exogenous shocks and whether such responses could be used in the future when shocks recur. The paper contends that Botswana's record in responding to shocks has been impressive. This is not to say that previous policy actions in response to shocks would be adequate when shocks occur again. Experience shows that it is difficult to respond to exogenous shocks when they take time to subside.

CHAPTER ONE

1   INTRODUCTION

Exchange rate policy remains a crucial component of macroeconomic policy in any country. Today it is one of the most widely debated economic policy subjects, and one in which a consensus is hard to achieve. This is an indication of the complex nature of the relationship between exchange rate management on the one hand, and other domestic policies on the other.

Exchange rate management has many dimensions and can be viewed from different perspectives. However, there are essentially two broad categories: one dealing with macroeconomic issues while the other put emphasis on microeconomic variables. The exponents of what Guitan (1994) calls the macroeconomic focus emphasise the importance of establishing a clear and credible anchor to achieve domestic price stability. They argue that it imposes a discipline on monetary authorities to implement appropriate financial policies so as to reduce inflation (see Kahn, 1992). In contrast, those who focus on the microeconomic dimension of the exchange rate stress the importance of maintaining international competitiveness of the economy. "The argument points accurately to the need in open economies to keep a viable, sound balance of payments position, a need to be and remain competitive or, in other words, to pursue an exchange rate policy geared to a real variable...these two different perspectives or angles are modern versions of the relative weight given in the classical potential conflict between domestic and foreign conditions..." (Guitan 1994:14).

However, in contrast to many developing countries (which frequently experienced balance of payments crises), policy makers in Botswana have had little need to use the exchange rate exclusively for balance of payments purposes given the record of impressive levels of foreign exchange reserves. However, this does not mean the exchange rate has no role to play. Botswana is a relatively small and open economy, with a high dependence on mineral exports which have been responsible for high rates

of economic growth for the past 25 years of independence. However, the dramatic slowdown of economic growth in the past two years as echoed by the Bank of Botswana in its 1993 Annual Report communicates the message that a clear and coherent strategy of diversification is now an urgent need. Obviously such a strategy would entail diversification away from mineral to non-traditional exports. Crucial to the success of any diversification strategy would invariably require the use of appropriate trade and exchange rate policies and the extent to which these two policies would influence international competitiveness of manufacturing exports in both regional and international markets. Therefore, the availability of massive foreign exchange reserves does not in anyway render exchange rate policy obsolete.

However, one major problem facing Botswana is inflation, with Botswana's rate of inflation exceeding that of South Africa for the first time in a decade. Under these circumstances, any attempt to devalue the domestic currency with the aim of increasing international competitiveness which will stimulate performance of exporting and import-substituting sectors will result in an increase in inflation. For a long time, the exchange rate has been used as an anti-inflation tool, considering the impotency of pure monetary policies, i.e., inflation in Botswana depends heavily on South Africa's inflation and Rand/Pula rate. We shall return to this important point later when we discuss the South African experience which bears a few similarities to our situation.

According to Atta **et al.**, "[e]xchange rate has been used to achieve both price stability and international competitiveness objectives, with the emphasis varying depending upon the prevailing economic circumstances and priorities at the time". (1993:4). As some of the literature will show, Botswana is not alone in trying to resolve the inherent conflict between achieving price stability and international competitiveness. Kiguel sums up the objectives of the exchange rate policy as, "Exchange rate policy is usually driven by two different, and many times conflicting objectives: first, to support a competitive real exchange rate, and second, to serve as nominal anchor for low inflation. The former objective is generally pursued to support the expansion of the exportable and import substituting sectors, and as a way

to ensure a strong position in the balance of payments. The latter objective is important to the extent that low inflation and macroeconomic stability create a favourable environment for long term growth" (Kiguel, 1992:1).

1.1   Objectives of the Study

This study aims:

i   to provide review of the theoretical background relating to the exchange rate policy,

ii   to briefly discuss different exchange rate policy options and their implications in developing countries in general and Botswana, in particular,

iii   to provide a detailed analysis of the exchange rate policy since 1976,

iv   to investigate how Botswana has responded to exogenous shocks experienced, and

vi   to draw conclusions for future exchange rate policy.

1.2   Structure of the Study

In order to meet the above objectives, the study is divided into five chapters. Chapter one is the introduction. Chapter two evaluates some of the alternative exchange rate policy choices in developing countries. Chapter three discusses the exchange rate policies in Botswana from 1976 to 1994. Exogenous shocks as well as policy responses to these shocks are examined in chapter four. Conclusions are in chapter five.

CHAPTER TWO

2   EXCHANGE RATE POLICY OPTIONS

2.1   Introduction

There is no single answer to the question of the appropriate exchange rate policy for developing countries. It will depend on the circumstances in which the country finds itself, the nature of the economy and the relative weights that policy makers assign to different objectives. However, the choice of a particular exchange rate regime is not free of any conflict especially in developing countries, where the two main objectives of achieving price stability and maintaining international competitiveness are not easily reconciled.

In the discussion that follows, we will look at the merits and some of the problems of an independent floating exchange rate regime and the alternative, fixed or "anchor" regimes, i.e., nominal fixed exchange rate rule or constant real exchange rate rule. Other exchange rate systems will be mentioned in passing. These are discussed in sections 2.1 to 2.5 while section 2.6 discusses the general experience of developing countries in their use of exchange rate regimes and section 2.7 concludes.

2.2   Nominal Fixed Exchange Rate Regime

A nominal fixed exchange rate rule entails the adoption of a single currency peg or multiple currency peg. In the former, the domestic currency (e.g. Pula) is pegged to that of its major trading partner (e.g. US$) but the US$ is floating against other currencies while the latter involves pegging the currency to a trade-weighted basket of currencies. The maintenance of a peg with trading partners restricts domestic monetary policy to be in line with trading partner monetary policies. If the objective is to control inflation, then a constant nominal exchange rate would reduce the imported inflation impact on the price index as long as the country's inflation is higher than that of its trading partners. This objective will not be met if inflation is

4

persistently higher in the domestic economy and instead this policy will result in an appreciation of the real exchange rate, which will impact negatively on the export and import-substituting sectors.

2.2.1 Financial Discipline

Advocates of a fixed exchange rate rule argue that one major advantage is that the rule imposes financial discipline on monetary authorities so as to restore price stability and reduce inflation (Aghevli et al., 1991).

However, financial discipline would not be binding in the circumstances where the Central Bank resorts to external borrowing in order to replenish reserves and support the exchange rate. Creditors will subsequently refuse to extend credit if they realise that authorities want to defend the exchange rate indefinitely. Once creditors perceive authorities as financially insolvent, then it is difficult to impose financial discipline.

Another important aspect of maintaining financial discipline is the extent to which the country will maintain the rate of inflation equal to its major trading partners. In this case, a fixed exchange rate would set a limit on the future expenditure available to the public sector. It is important to note that a fixed exchange rate will impose discipline on the authorities only if the exchange rate is not adjusted.

2.2.2 Credibility

Credibility can be built up by maintaining a fixed exchange rate permanently. This could be achieved by joining the currency union under which a group of countries adopts a common currency. However, establishing credibility can prove to be an enormous task especially in countries that have been plagued by a series of devaluations. Once markets realise that devaluation is an option, then there is a loss of credibility of the peg. Sometimes devaluation could be used in response to permanent shocks. Once this option is not available, authorities are forced to rely entirely on financial policy. To the extent that a fixed exchange rate may provide

certainty to producers of tradable goods, it may undermine the credibility of the government in its attempt to resort to restrictive demand policies, thus making it difficult to lower inflation without the risk of output loss. A country with a long record of financial stability could successfully implement a "once-and-for- all" devaluation. In a case where a country is struggling with inflation it is difficult to fix the exchange rate after an initial devaluation unless it is prepared to accept a period of recession.

2.2.3 Pegging to a Single Currency

An advantage of a single currency peg as opposed to a multi-currency peg is that a country may achieve low inflation if it pegs to a currency of major trading partner with a low inflation. Another advantage is since fluctuations of exchange rate are reduced between a developing country and a developed one, then trade is likely to increase between the two countries because of less uncertainties. This is important because uncertainties caused by frequent fluctuations of the exchange rate will damage the confidence of exporters.

However, the objective of low inflation may not be achieved if the major currency to which the domestic currency is pegged experiences large real exchange rate movements against other major currencies that are also important trading partners for this developing country.

Another disadvantage of a single currency peg is that while market participants dealing in dollars are exposed to risk, those dealing in other major currencies could cover themselves through forward transactions between the dollar and other major currencies. However, this can only be achieved in a situation where financial markets are developed--a situation which does not exist in many developing countries.

Another disadvantage is that movements of the exchange rate do not necessarily reflect the actual developments of balance of payments of the developing country but simply those of the partner country. However, the question as to whether there will

be a need for less or more reserves will depend on the nature of the relationship emanating from the equilibrium induced changes in the country's exchange rate against the rest of the world.

Related to this problem is that since fluctuations of the exchange rate are exogenous and independent of government policy, there is a possibility of a conflict between these fluctuations on one hand, and domestic policies on the other. An example is when a developing country chooses to simulate import-substituting and export sectors and employment. Any appreciation of the domestic currency will hurt the manufacturing sector leading to a loss in output and unemployment. Alternatively, while depreciation may result in an increase in exports, the high cost of imports may lead to further increases in inflation.

2.2.4 Pegging to a Basket

A trade-weighted basket entails pegging to a basket of currencies where the effective exchange rate is the average of market rates against currencies of trading partners. It is usually calculated using any of the three indices: export-weighted index, import-weighted and/or bilateral trade index. The export (import)-weighted index is the average of country's exchange rate against other currencies, relative to a base year, weighted by the share of each trading partner in exports (imports) of each country concerned. The bilateral trade index is the average of the two indices mentioned above, weighted by shares of exports and imports.

The reason why the import-weighted index is often used is that in developing countries exports are often homogeneous with their prices (normally quoted in US dollars) determined in international markets hence changes in exchange rates of major trading partners are not likely to affect those of a developing country that they are trading. However, the exchange rate affects the prices of imports hence the import price index is subject to changes in the source of supply of its imports or by changes of exchange rates which provide these imports.

Another advantage of an import-weighted basket peg is that it reduces price instability caused by changes in foreign exchange rates. This is in contrast to a single currency peg which often causes instability of import prices.

A trade-weighted basket has the advantage of offsetting fluctuations of domestic currency against other currencies. Therefore, a trade-weighted basket implies that all market participants would bear the same exchange rate risk.

However, a trade-weighted basket may be unattractive to investors if they feel that the value of the domestic currency is unpredictable owing to the manipulation of the basket. Owing to these problems, certain countries use Special Drawing Right (SDR)[1] as an external link. The rate is determined and published on a daily basis depending on the exchange rates. However, the SDR does not reflect movements in the effective exchange rate as closely as an import-weighted basket. Only when the divergence between the two is not too big, then it is beneficial to peg to SDR.

2.3   Flexible Exchange Rates

Although a trade-weighted basket could offset the impact of exchange rate fluctuations among major currencies or the effective rate of developing countries, its major limitation is that it does not counter other influences emanating from balance of payments shocks from these countries. Independent floating provides a mechanism for determining the equilibrium exchange rate and serve to insulate domestic monetary system from external shocks.

When large structural changes are occurring and desired, the collapse of exchange rate may limit the government in accommodating these changes. This situation would not occur if the authorities pursue fiscal and monetary policies taking into account their domestic policy objectives under flexible exchange rates.

---

[1]   *The Special Drawing Right is the unit of account of the IMF constituting of fixed proportions of five major currencies, viz. the US dollar, the deutschemark, the Japanese yen, the UK pound and the French franc.*

There is also a view that once the country adopts a flexible exchange rate policy then it will avoid distortions in trade and capital flows. The danger with this view is, however, the fact that exchange rate fluctuations are sensitive especially in respect of capital flows and hence exchange rates should adjust to these external shocks. In so far as foreign investors perceive exchange rate flexibility as reducing the willingness of a country to pursue restrained domestic monetary policies, there may be harmful effect on capital inflows. To the extent that there is a high international capital mobility and high substitutability, flexible exchange rates could be better insulators than fixed rates against other shocks. However, Goldstein (1980) has argued that the effectiveness of monetary policy may not be achieved if real wages are "sticky".

However, the performance of floating exchange rate regime has not been satisfactory. Contrary to the earlier view that the flexible exchange rate regime will solve problems of Bretton Woods as predicted, the experiences of the last decade have been disappointing. It caused disruptions and undesirable side-effects such as misalignments of the real exchange rates (see Dunn: 1983, Balassa: 1986 and Khan: 1986).

Another major problem facing countries with floating regimes is the choice of the appropriate intervention policies once a floating system is adopted. Intervention will involve the use of international reserves either by adding foreign exchange to reserves, selling from reserves to the market, or taking a position in the forward market with the principal objective of changing or defending the nominal exchange rate. It is suggested that intervention in the early stages of exchange rate reform should be discouraged. Sterilization may require intervention to prevent the exchange rate from appreciating thereby undermining competitiveness. However, Quirk has argued that it would be "...necessary to adjust fiscal policies by reducing credit to government in order to sterilize the threat that foreign exchange purchases for international reserves pose for domestic liquidity. Sterilization by contracting credit to the private sector not only raises interest rates but accelerates and perpetuates capital inflows; it therefore tends to be ineffective beyond the very short run" (Quirk, 1994:144)

2.4   Constant Real Exchange Rate Rule

A constant real exchange rate rule entails the frequent adjustment of the nominal exchange rate to offset inflation differentials. Such a rule, unlike fluctuating real exchange rate imparts certainty to manufacturing exporters so that they have some information on the movements of the relative prices thus avoiding production decisions based on incorrect expectations. One major problem of flexible exchange rate, as argued above, is the uncertainty faced by domestic producers when the exchange rate changes dramatically over time. As a result, these dramatic movements of exchange rates will damage the confidence of exporters.

The fact that developing countries are mostly exporting primary products like diamonds, gold, etc implies that any exchange rate policy that cushions the volatile prices of these commodities would mean that manufacturing exporters are faced with fluctuating real exchange rate and therefore changing international competitiveness. Studies by Balassa and Williamson (1987) have shown that the success of export-oriented growth strategies of Taiwan and Korea was aided by the maintenance of stable real exchange rates.

One major problem of a constant real exchange rate rule relates to the measurement of the equilibrium real exchange rate (ERER) (i.e., the relative price of tradable to non-tradable goods that is consistent with the simultaneous attainment of internal and external equilibrium for a long time). This rule is based on the assumption that the economy is not exposed to permanent shocks, i.e., the ERER is constant over time. Another problem of the purchasing power parity is the choice of a base year. If it is wrong, this will not allow for any changes once the ERER deviates from the actual rate. Therefore, the difficulty of estimation of the ERER may lead to a wrong estimation hence the target may not be a correct one.

Apart from the problem of identifying the appropriate real exchange rate, another problem has been posed by Edwards (1988). It is questioned why there are changes in international competitiveness over time yet there is no underlying overvaluation or

undervaluation. Edwards (1988) argues that there is a fundamental equilibrium real exchange rate in the economy and this rate is determined by the fundamentals[2] and these fundamentals can change. As long as fundamentals remain constant, the ERER will also remain constant. If there is a change in any of the fundamentals, the ERER will change too. It is also questioned how to respond when there is a change in the ERER as a result of a change in one of the fundamentals. A permanent change in one of the fundamentals could change the ERER hence a policy of maintaining the actual real exchange rate at a constant level could result in real exchange rate misalignment (i.e., departures of the actual real exchange rate from the equilibrium rate are sustained).

Related to the problem above is identifying whether shocks are temporary or permanent. It is argued that temporary fluctuations do not require any policy intervention while permanent fluctuations need adjustment. For example, any worsening of international prices (terms of trade) will lead to a change in the ERER because prices of tradable goods should change to maintain equilibrium. If the actual real exchange rate is not adjusted to reflect this change in the ERER, there will be misalignment of the real exchange rate. However, as Kahn has noted, "...to assess to what extent the real exchange rate will be affected is often impossible, particularly in the face of shocks" (Kahn, 1992:12).

One of the major costs of exchange rate misalignment is real appreciation will result in a loss of international competitiveness, i.e., a real appreciation is a misalignment. To restore exchange rate equilibrium will require a drop in the domestic prices of non-tradeables. This is unlikely to be the case if prices and wages as well as exchange rates are fixed. Any correction of this problem will therefore result in an output cut precipitating unemployment. However, a nominal devaluation can be used to restore real exchange rate equilibrium without incurring the costs just mentioned. In fact, to

---

[2] *These fundamentals can be divided into 2 groups: internal and external fundamentals. Internal fundamentals include international prices (i.e., terms of trade), international transfers (foreign aid) and world real interest rates. However, import tariffs, export taxes, exchange controls (capital account), composition of government expenditure (tradable & non-tradable goods) and technological changes are examples of external fundamentals.*

the extent a devaluation will improve both the international competitiveness of a country and its external position, this seems to be viable option. This will normally be the case when the devaluation takes place at a time when the real exchange rate is greatly overvalued and expansive monetary and fiscal policies are simultaneously discouraged.

It would appear that while a constant real exchange rate could be used to offset the impact of high inflation from interfering with external competitiveness, this may not be sufficient. As Dornbusch argues, maintaining a constant real exchange rate is only a "...partial assurance of good exchange rate policy. Thinking must go beyond offsetting inflation differentials to look at the level of the real exchange rate that assures a comfortable external position". (Dornbusch, 1988:103).

The crawling peg system resulted in many countries experiencing a vicious cycle of high inflation which would require another round depreciation (to counter real exchange rate appreciation due to a rise in domestic prices) which then feeds through inflation. High inflation would ultimately cause severe macroeconomic dislocations. As Aghevli et al have noted, "[r]ecent literature and experience suggest that real exchange rate rules may also have disquieting implications for macroeconomic stability, notwithstanding their favourable effect on the external position. The adoption of a real exchange rate target, entails the pursuit of a real target with a nominal instrument, may leave a small economy without a nominal anchor for domestic prices. Consequently, shocks to domestic inflation may acquire a permanent character and, under some circumstances, lead to hyperinflation" (Aghevli et al., 1991:10). Using various models Adams and Gros (1988) have found that the monetary authorities may no longer be able to control inflation if they set the nominal exchange rate according to a real exchange rule and that, if the authorities do try to control inflation, they will tend to lose control of another variable.

2.5 Exchange Rate Regimes in Developing Countries

Developing countries have over time implemented a variety of exchange rate regimes which include among others fixed, flexible and crawling peg. As already mentioned, a fixed exchange rate regime, whether against a single peg such as the Rand, or basket of currencies, indicates the weight attached to the anti-inflation strategy. The primary purpose is a commitment to achieve price stability within the framework of sound macroeconomic policies. By contrast, however, a more flexible regime would put more emphasis on achieving international competitiveness through depreciation of the nominal exchange rate. Whereas the nominal exchange rate responds to market forces in the case of flexible exchange rate regimes, frequent devaluations take place due to inappropriate macro policies in fixed exchange rate regimes.

The findings of the above studies were corroborated in a study by Edwards (1989) who carried out a systematic analysis of the effectiveness of nominal devaluation, focusing on the sustained impact on the real exchange rate as an important indicator of effectiveness. According to him, the effectiveness of a nominal devaluation is measured by:

$$\text{effectiveness index}_k = RER_k / E_k \text{ where}$$

RER_k the percentage change in the real exchange rate between the year prior to the devaluation and k years after devaluation (k = 1, 2, 3).

k the number of years of the devaluation in the observation period.

E_k the percentage change in the nominal exchange rate during the period.

"This elasticity...provides an index of the degree of erosion experienced by the real exchange rate during the three years after the devaluation. A value of one means that the nominal exchange rate adjustment has been fully transferred into one-to-one real devaluation..." (Edwards, 1989:255-259). The value of this ex post elasticity indicates at what percentage of the devaluation has been effective.

As Edwards has shown in the survey of 28 countries, "...in a number of countries nominal devaluation had successfully increased the level of the real exchange rate...hence countries are forced to devalue again" (Edwards, 1988:35). In the case where the exchange rate is overly-depreciated, prices of tradable goods start to rise and import prices will start to increase immediately. At the same time, wages start to rise on both tradable and non-tradable goods hence prices of domestic goods start rising rapidly. Under these circumstances, the real exchange rate will start to appreciate. Any attempt to devalue the currency will lead to the process repeating itself. In other words, there is an exchange rate spiral. The experience of Latin American countries that adopted a crawling peg system has shown that they failed consistently to implement appropriate policies to reduce inflation.

Policies such as wage indexation which require the government to increase wages every time there is an increase in inflation can only help to exacerbate inflation. Experiences of Brazil where wage indexation would occur after every week meant that any attempt to control inflation under these circumstances would be a difficult task. This is confirmed by Edwards who has observed in the survey that, "...countries that have a high (or complete) erosion of the effect of nominal devaluation within four years are those that accompanied the exchange rate adjustment with expansive domestic credit policies and large fiscal deficits or those that had wage indexation schemes in effect. The countries that experienced a small degree of erosion usually implemented consistent management policies to control the creation of domestic credit and greatly reduce the fiscal deficits" (Edwards, 1988:35).

While most developed countries and some developing countries have adopted floating or flexible exchange rate regimes, this has not always been the case in most of the developing countries due to the thinness of the financial markets and other institutional features. However, the share of countries pegging to a basket of currencies rose sharply between 1977 and 1990. In contrast, pegging to the SDR has diminished (Barth, 1992). What made flexible exchange rate regimes quite popular in recent years could be "...a response to accelerating domestic inflation rates, which made necessary continuing currency depreciation in order to avoid a deterioration in

14

external competitiveness, and the uncertainties associated with fluctuations in the exchange rates of the major currencies" (Barth, 1992:39).

2.6   Conclusion

The conduct of exchange rate policy in developing countries had over time required frequent adjustments owing to fluctuations in exchange rates of major currencies. Developing countries use different exchange rate policies depending on the prevailing circumstances and priorities at the time (see Table 2.1). For example, those who advocate nominal fixed exchange rate rule argue that it imposes financial discipline on monetary authorities by maintaining price stability and reducing inflation (i.e., if the country pegs to a currency of major trading partner with low inflation). It is also argued that a constant real exchange rate rule imparts certainty to manufacturing exporters about information on movements of relative prices so as to avoid production decisions based on false expectations. Again, if the monetary authorities feel that a country is exposed to capital flows of highest levels and want to protect the current account and domestic markets from these shocks, they may impose a dual exchange rate system. However, it can be effective if capital disturbances are transitory. This illustrates the difficulties in formulating a "one" exchange rate policy option throughout in the face of changing circumstances.

Table 2.1:   Exchange Rate Regimes - Advantages and Disadvantages

Regime	Advantages	Disadvantages
1. Nominal Fixed Exchange Rate		
i. Single Peg	a It imposes financial discipline on monetary authorities in order to restore price stability and reduce inflation.	a Achieving low inflation is difficult when fluctuations to which the domestic currency is pegged occur frequently.
	b Credibility easily built when there are less frequent devaluations.	b Since fluctuations are exogenous and therefore independent of government policy, the possibility of a conflict exists between those fluctuations on one hand and domestic policies, on the other.
	c Confidence in the developing country's currency may be enhanced if the country whose currency is being used for the peg is regarded as pursuing economic policies conducive to price stability.	
ii. Pegging to a Basket	a It reduces price instability caused by changes in foreign exchange rates.	a Investors may feel that the domestic currency is less predictable owing to manipulation of the basket.
	b It minimises fluctuations of domestic currency against other currencies.	

16

2.	Flexible Exchange Rates	a	It allows a more continuous adjustment of the exchange rate to shifts in the demand for and supply of foreign exchange hence the difficulty of determining the appropriate level of the rate under either a fixed regime or a basket peg is avoided.	a	High variability in the exchange rate due to the thinness of the market.
		b	External balances are reflected in the exchange rate movements instead of reserve movements since the monetary base is not affected by foreign exchange flows.	b	High variability in rates may affect capital inflows particularly if the investors associate exchange rate flexibility with the country's inability to follow restrained domestic monetary policies.
				c	Uncertainty faced by domestic producers when exchange rate changes dramatically ultimately damaging the confidence of exporters.
3.	Constant Real Exchange Rate Rule	a	It imparts certainty to manufacturing exporters so that they have some information on the movements of the relative prices thus avoiding production decisions based on incorrect expectations.	a	It is based on the assumption that the economy is not exposed to permanent shocks, i.e., the equilibrium exchange rate is constant over time.
				b	Existence of fundamentals can cause changes in international competitiveness over time yet there are no changes in the real exchange rate.
				c	The nominal exchange rate is depreciated (or appreciated) in line with inflation differentials between one country and its major trading partners thereby introducing an inflation bias in the economy.
4.	Dual Exchange Rates	a	It avoids transitory shocks in the capital account which would significantly affect the exchange rate.	a	Once they are prolonged, they reflect expectations about the viability of the commercial rate and distortions may result.
		b	It therefore insulates exporters from capital account based variations.	b	They are easily used for corrupt practices and their administration is cumbersome.

17

CHAPTER THREE

3   **EXCHANGE RATE POLICY IN BOTSWANA**

3.1   Introduction

Exchange rate policy in Botswana has been guided in the main by two objectives: firstly, to maintain macroeconomic stability given the country's vulnerability to external shocks notably, fluctuations on the diamond market and secondly, to support a competitive real exchange rate in order to expand the exportable and import substituting sectors. However, Botswana's high dependence on South Africa make it imperative to discuss South Africa's exchange rate policy. The chapter is divided into four sections. Section one gives a brief summary of South Africa's exchange rate policy from the early 1980's to 1994. Section two discusses the objectives of the exchange rate policy and some other important developments influencing the choice of these objectives. Section three looks at the measures implemented since Botswana attained its monetary independence to achieve the above objectives. The conclusion is in section four.

3.2   South Africa's Exchange Rate Policy

Before discussing Botswana's exchange rate policy it is necessary to look briefly at the South Africa's exchange rate policy because while it is the largest economy in Southern Africa, its conduct of the exchange rate regime is considered crucial because about 80% of Botswana's imports come from and/or through South Africa.

Following the recommendation of the De Kock Commission, the fixed exchange rate policies of the 1970s gave way to market-determined flexible exchange rates. However, the objectives included among other things; protection of gold mining, stable balance of payments' position, promotion of exports and maintenance of price stability (Kahn, 1992). As already argued, these objectives often conflict with each

18

other and this conflict is exacerbated by different exogenous shocks which the economy may be exposed to. However, there are two interesting periods of study of South African exchange rate policy namely, the period between 1983 and 1988, and the period after 1988 up to 1994. Changes of exchange rate policy during these periods were closely examined by Kahn (1992). The primary objective during the period 1983-1988 was to protect the gold mining industry considering its importance in terms of employment and its contribution to the Gross Domestic Product (GDP). Kahn has observed that, "this policy was characterised by a downward bias in that the rand was allowed to depreciate when the dollar gold price was declining, whereas appreciations were resisted during periods of gold price increases" (Kahn, 1992:6).

Similarly, Gidlow argued that "in recent years the prices of both platinum and gold have fallen in dollar terms, but the rand prices have increased...in other words, the floating rand has been helping to insulate these exporters from fluctuations in the dollar prices of these commodities...the volatility in the rand may well be detrimental to numerous exporters in the manufacturing sectors whose operations are somewhat marginal in nature...the onset of sanctions is likely to render the economy more dependent on fungible mineral exports like gold and platinum. The cushion provided to such industries by the floating rand could therefore assume even greater importance" (Gidlow, 1988:151).

According to Kahn (1992) since 1988 there was a shift of focus of the exchange rate policy away from the protection of the mining industry to the maintenance of stable real exchange rate which will assure the manufacturing sector of international competitiveness. As a result, the change in policy has affected employment levels in the gold mining industry. However, it would appear that the interest of mining and manufacturing sectors differ with respect to exchange rate policy. This situation is not only unique to South Africa but in Botswana as well where diamonds contribute the largest share of the country's exports. An increase in the price of diamonds will invariably led to an appreciation of the exchange rate which then impacts negatively on manufacturing. Apart from the objective of promoting export-oriented sectors, the exchange rate policy has important implications for the inflation. In this context, the

19

South African Reserve Bank (SARB) has openly stated that the primary objective is to protect the value of the rand. What is less clear is whether it is a real or nominal exchange rate.

However, from 1989 onwards there has never been any explicit rule but instead the SARB seems to try to maintain stable real exchange rate and avoid excessive nominal excessive nominal depreciations (conflict with inflation control) (Kahn, 1992).

3.3   Issues and Objectives of Exchange Rate Management in Botswana

The Bank of Botswana was established in 1976 and the Pula was introduced as a legal tender currency to replace the South African rand. Prior to this, Botswana was a member of the Rand Monetary Area (RMA) and this meant that Botswana did not have independent monetary and exchange rate policies. The attainment of independent monetary and exchange rate policies was important to the extent that South Africa's macroeconomic (including exchange rate) policy objectives were dominated by its own economic considerations, and not necessarily those of other members of the RMA, including Botswana.

Exchange rate management is primarily directed at achieving two objectives. One of the objectives is to maintain macroeconomic stability given the country's vulnerability to external shocks. Another objective is to balance a trade-off between a higher rate of inflation and improved short-run competitiveness. Since the introduction of the Pula in 1976, the exchange rate has been used as an anti-inflation tool, while on some occasions it has been used to improve competitiveness in order to promote economic diversification and create employment. It has also been used (in the early years) as a redistributive tool (Bank of Botswana Annual Report, 1985 and Gaolathe & Hudson, 1989). The exchange rate is fixed against a basket of foreign currencies, reflecting the weights of both exports and imports.

3.3.1 Maintaining Macroeconomic Stability in the Face of Shocks

Despite exposure to shocks, prudent fiscal policies and sound management have prevented Botswana from being burdened with persistent balance of payments problems. Since the early 1980s, Botswana has recorded surpluses on its balance of payments (see Table 3.1). As a result, in contrast to many developing countries, exchange rate policy in Botswana has not been driven by the need to reduce unsustainable balance of payments deficits and instead could be used to address economic management issues at a cautious pace. In addition, the build up of foreign exchange reserves meant that any balance of payments deficits could be absorbed with less economic dislocations in the long term.

As discussed below, Botswana has faced several adverse balance of payments shocks, notably in 1981 and 1992 when the diamond market weakened and quotas were imposed. However, as we have noted, although macroeconomic balance was threatened by these shocks, each time the economy was able to return to a stable development course. Both fiscal, monetary as well as exchange rate policies all contributed to restore this macroeconomic stability.

3.3.2 Balancing the Trade-off Between Inflation and Improved Short-run Competitiveness

One way of fostering international competitiveness is to contain price increases in order to control costs. In Botswana, import prices denominated in Pula coming from South Africa play a significant role in determining the price levels of both consumer and producer goods. Imports, of which 80% come from South Africa, have a strong influence on tradable goods prices. Tradeable goods make up a dominant share (75%) of the consumer basket that comprises the Consumer Price Index (CPI), while the basket that constitutes the Producer Price Index (PPI) consists largely of traded goods.

21

Table 3.1   Balance of Payments Summary
(P million)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Balance on visible trade (adjusted)	-45	-239	-123	28	122	445	459	1322	813	1186	328	200	395	646
Balance on services	-115	-48	-46	-163	-241	-364	-346	-501	-520	-742	-530	-512	-125	100
Balance on goods and services	-160	-287	-169	-135	-238	81	113	821	293	444	-202	-312	270	746
Net transfers	99	116	120	137	132	170	210	284	409	217	223	344	258	208
Balance on current account	-61	-171	-49	2	13	251	323	1105	702	661	21	32	528	954
Balance on capital account	120	91	94	105	144	239	207	-143	-67	356	434	676	599	223
Net errors and omissions	13	19	14	31	8	11	21	-26	62	146	123	56	-266	-196
Overall balance	72	-61	59	138	165	501	551	936	697	1163	578	766	861	980

Source: Bank of Botswana Annual Report, 1994, pp. s50.

Although the impact of import prices is very strong on Botswana prices, the exchange rate can not be the sole policy instrument for controlling inflation. Firstly, this is because the share of imported tradeables in the CPI is 48%. Secondly, because of lags in the price adjustment process and lack of competitiveness among producers, the inflation reducing effects of appreciating the Pula may not be fully passed on to Botswana consumers in the short to medium term.

However, exchange rate policy may be used to achieve short term competitiveness. A devaluation of the Pula will have the effect of raising proceeds from Botswana's exports and at the same time, raise the Pula cost of imports. Although devaluations can make exports more competitive, they can trigger higher inflation, particularly if the devaluation is undertaken when inflation in South Africa is rising and credit is expanding in Botswana. For example, the Pula was devalued by 15% in January 1985. During this time, the rate of inflation in Botswana had been declining from 13,4% in May 1983 to 5,4% in February 1985, mostly due to sustained Pula appreciation against the Rand. In contrast, South African rate of inflation had been rising from 9,8% in February 1984 to 14% when the Pula was devalued and rising even further to reach about 18% in December 1986 (see Chart III.3). The depreciation of the Pula against the Rand by 15% in January 1985 reversed the declining trend of the rate of inflation and by the end of the year, the rate had doubled. The drastic rise of inflation resulted in substantial real Pula appreciation wiping out international competitiveness that had been sought by the devaluation of the Pula previously (January 1985). Similarly, in 1991, a 5% devaluation of the Pula was undertaken when inflation was rising in both Botswana and South Africa, and credit was expanding rapidly in Botswana. As a result, there was an increase in the rate of inflation and subsequently, the Pula appreciated (in real terms).

As already mentioned, exchange rate policy management entails striking a balance between the objectives of price stability on the one hand, and achieving international competitiveness by giving assurance to import-substituting and export-oriented sectors, on the other. This is complicated by the fact that the export sector is not homogenous and subject to different shocks. However, policy makers in Botswana

23

have been faced with these options as well since then, with varying emphasis depending upon the prevailing economic circumstances and priorities at the time.

3.3.3 The Run on the Rand: 1981-1985

Rapid growth in 1980 had led to the overheating of the South Africa's economy due to the increase in gold price. This coincided with the second oil price shock and the onset of world recession. There was surge in imports associated with the boom, which coupled with the increased cost of oil imports, led to a sharp deterioration in the country's trade balance and a significant weakening of the value of the Rand. There was a significant depreciation of the Rand against the US dollar by 36% from 1981 to the first half of 1982. At the same time, South African inflation rose from single to double digits, reaching about 17% at the beginning of 1982 (Kahn, 1992 and Bank of Botswana Annual Report, 1994).

The unfavourable macroeconomic conditions prompted the authorities to adopt tight monetary policies resulting in Rand appreciation against the US dollar in the second half of 1982. However, this was short-lived. In 1983 the financial rand was abandoned and there was some appreciation of the Rand against the US dollar in the same year. In 1984, there was. a significant drop of 35% in the value of the Rand partly because of deteriorating balance of payments and the strengthening of the US dollar. The combined impact of the weakness in the gold market, drought, the debt standstill, sanctions and capital flight was borne mainly by the weakening Rand. The effect of these Rand movements on the Pula caused it to depreciate against the US dollar by 70% index points, or 56% in real terms (see Chart III.1).

US$/ PULA EXCHANGE RATE, CPI BASED
(JULY 1976 = 100)

JANUARY 1976-DECEMBER 1994
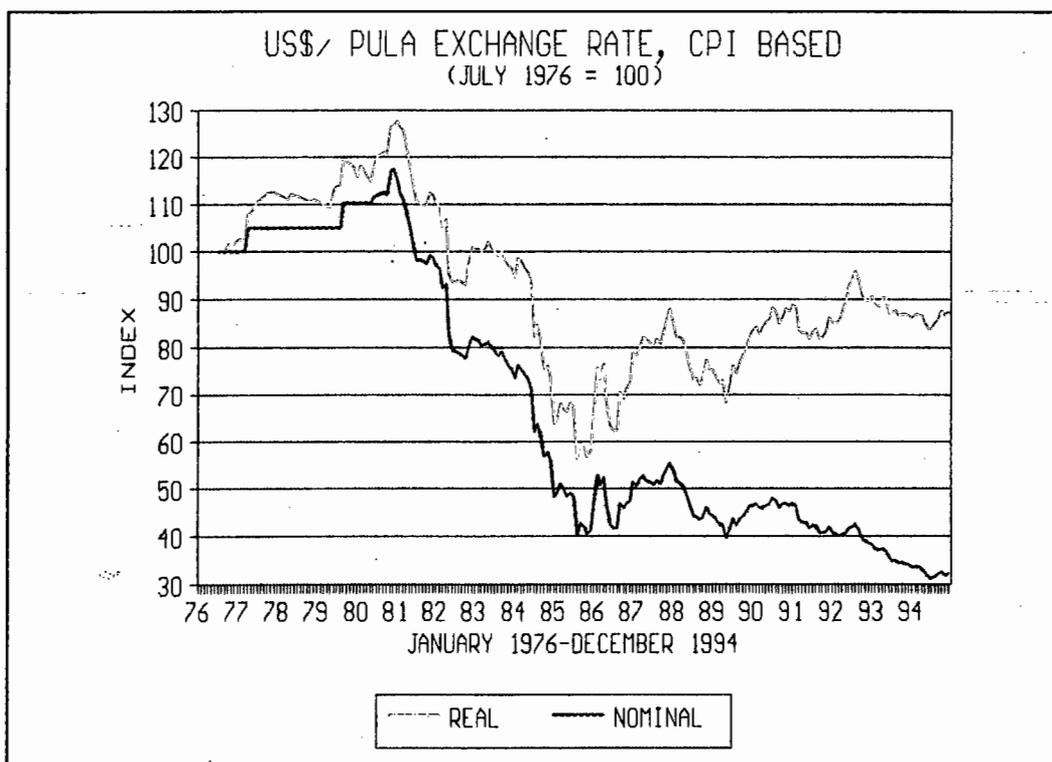
------ REAL   ——— NOMINAL

Chart III.1

Since the bulk of Botswana's export earnings are denominated in US dollar and other major international currencies, while imports are predominately denominated in Rand, the fall of the Rand relative to the US dollar meant that prices of imports fell relative to the prices of exports. This meant that Botswana's international competitiveness improved dramatically for quite sometime until South African inflation rose and caught up with the change in the exchange rate.

The improvement in exports would have caused Botswana to experience a significant real appreciation of the Pula making diversification outside minerals increasingly difficult to sustain, as the non-mineral sector became internationally uncompetitive. However, there was a conscious decision to maintain a competitive exchange rate in order to promote development of import-competing industries and exports. This decision was taken because it was realised that the highly capital intensive mining sector would not provide enough employment and therefore it was essential to develop non-mining sectors such as manufacturing, business services and tourism. As shown below, the graph shows **significant** exchange rate devaluations. It is also telling us that between 1985 and 1990 the Pula appreciated in nominal terms against the Rand but depreciated in real terms.

25

RAND/ PULA EXCHANGE RATE, CPI BASED
(JULY 1976 = 100)

JANUARY 1976-DECEMBER 1994

REAL   NOMINAL
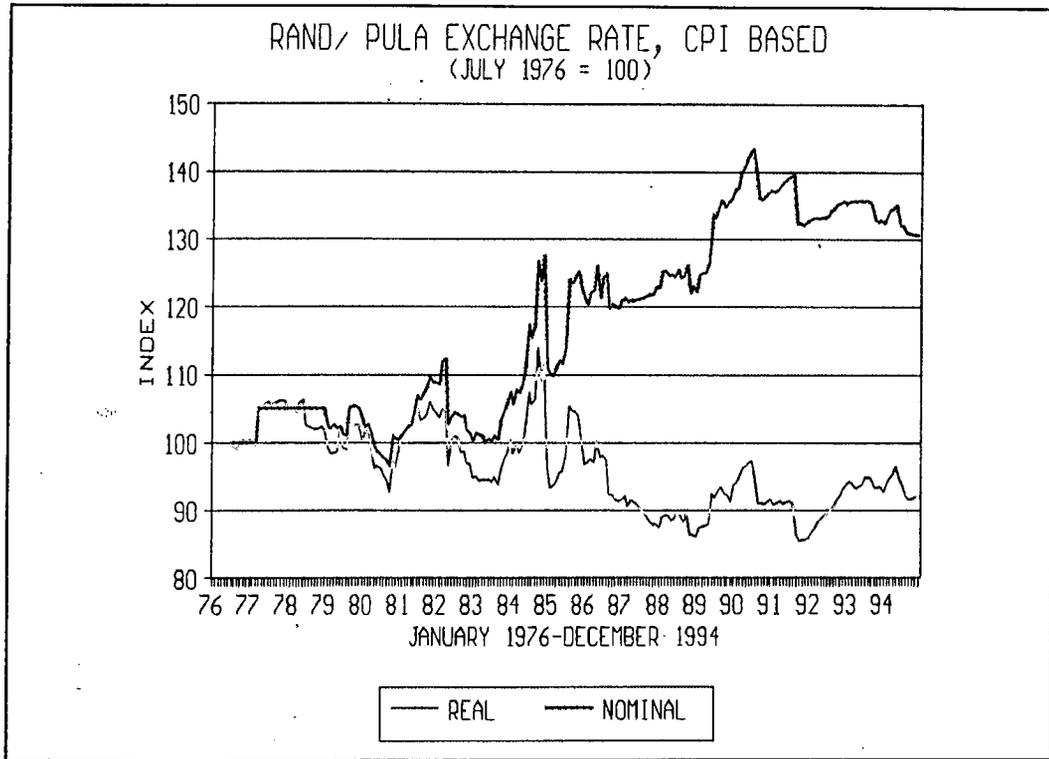
Chart III.2

A major concern, however, was not whether inflation in the two countries would rise, but rather, whether Botswana would manage to keep its rate of inflation below that of South Africa; thus maintaining Botswana's competitiveness relative to South Africa. However, Botswana was able to keep its rate of inflation lower than that of South Africa until 1992 (see Chart III.3).
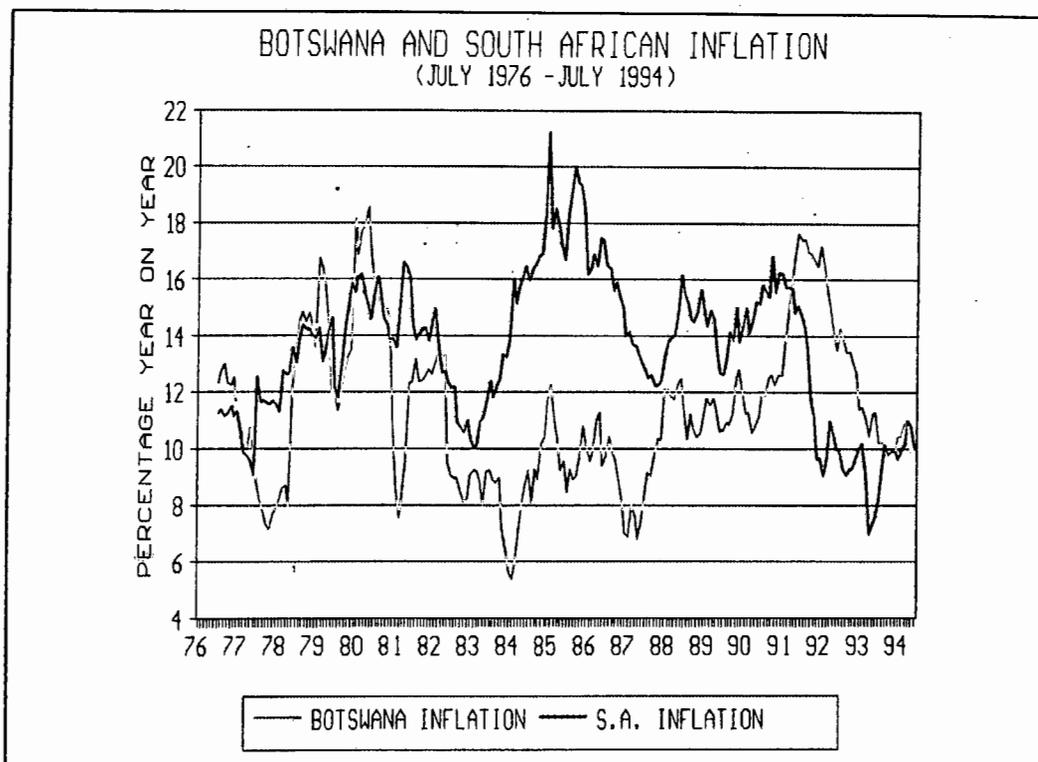
BOTSWANA AND SOUTH AFRICAN INFLATION
(JULY 1976 - JULY 1994)

― BOTSWANA INFLATION ― S.A. INFLATION

Chart III.3

3.3.4 Trade with Zimbabwe

While it is acknowledged that exchange rate policy support for non-traditional exports has been aimed primarily at maintaining stability in the Rand/Pula real exchange rate, the Zimbabwean market also became an important destination for non-traditional exports in the 1980s. Though the market was volatile, the real exchange rate against the Zimbabwean dollar remained reasonably stable until 1989, and Botswana producers were able to take advantage of the uncompetitive Zimbabwean situation by selling non-mineral products to that market.

However, this windfall was temporary as Zimbabwean authorities undertook a 50% devaluation of its currency in 1991 as part of the Structural Adjustment Programme. Cotton subsidies to textile producers were drastically cut in the same year. This put Botswana producers, whose growing exports were dependent on the Zimbabwean market, either for cheap cotton inputs or for a substantial share of their exports, at a disadvantage. As a result, several local firms were forced to reduce their production and/or close down altogether.

27

The large real appreciation of the Pula relative to the Zimbabwean dollar is an indication of the uncompetitive situation confronting Botswana producers in Zimbabwe after the latter undertook devaluation in 1991. It is noted that part of the devaluation was subsequently eroded by high inflation in that country. However, there were few discrete devaluations of the Zimbabwean dollar and as domestic inflationary pressures eased and domestic inflation slowed down, some real depreciation was sustained (see Chart III.4).
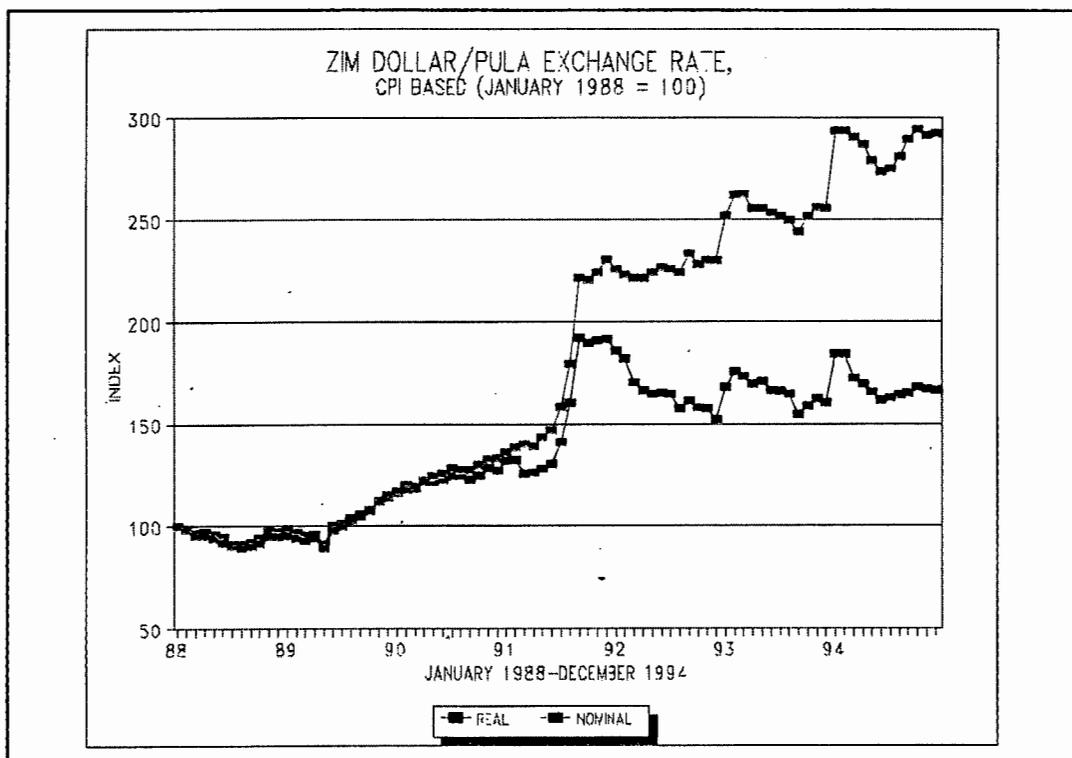

Chart III.4

28

3.4   Implementation of Policy Options

From 1976 onwards, a number of measures have been used to manage the exchange rate. The withdrawal from the RMA had increased the scope for pursuing independent macro-economic policies and exchange rate policy could now be geared towards the economic needs of Botswana rather than simply an extension of South Africa's economic performance, especially its balance of payments (see Box I). Initially both the Pula and the Rand were pegged to the US dollar. However, following the abandonment of the Rand/US dollar peg in January 1979 (when the Rand was allowed to float) on a managed basis and the continued pegging of the Pula to the US dollar, there was uncertainty for firms which continued to engage in trade denominated in Rand. In June 1980 the US dollar/Pula peg was abandoned and the Pula was pegged to a trade-weighted basket consisting of the SDR and Rand, in equal proportions, reflecting the proportion of Rand based-transactions in Botswana's international trade and moderating the effects of fluctuations in the cross exchange rates between other currencies on the value of the Pula.

Box I: Chronology of Exchange Rate Decisions: 1976-1994

Date	Action	Comments
1976 August	Introduction of the Pula. Pula pegged to US dollar at P1 = US$1.15	Rand pegged to US dollar at the same rate hence P1 = R1.
1977 April	5% Pula appreciation	Anti-inflation measure.
1979 January	Rand taken off US dollar and floated	Rand appreciation against the dollar as gold price rises
1980 June	Pula taken off US dollar peg. Introduction of Pula basket consisting of SDR and Rand	Reduction of volatility of Rand /Pula exchange rate.
1980 November	5% Pula appreciation	Anti-inflation measure as imported inflation rises following Pula depreciation against the Rand.
1981 January	Steep drop in world gold price	Rapid depreciation of theRand as RSA export earnings collapse.
1982 May	10% Pula devaluation	Part of stabilisation measures in response to 1981/82 balance of payments crisis.
1984 July	5% devaluation	Competitiveness measure following Rand collapse and rapid Pula appreciation against the Rand.
1984 August	Rand weight in Pula basket adjusted	To reduce drift of Pula from Rand.
1985 January	15% Pula devaluation	Additional competitiveness measure in response to rapid Pula appreciation against the Rand.
1985 Aug/September	Foreign debt standstill for South Africa and run on the Rand	Rapid depreciation of Pula against US dollar as Rand continues to deteriorate.
1986 January	New Pula basket introduced	Due to rapid Rand appreciation against US dollar with the re-introduction of financial Rand.
1989 June	5% Pula appreciation	Anti-inflation measure.
1990 August	5% Pula devaluation	Competitiveness measure.
1991 August	5% Pula devaluation	Competitiveness measure.
1994 June	Technical adjustment	

Source: Bank of Botswana Annual Report, 1994.

30

3.4.1 Choice of an Adjustable Peg System

Several reasons prompted Botswana to choose an adjustable peg system for its exchange rate rather than to float. Some of these were: the peg served to reduce fluctuations in the effective exchange rate, whereas a float would have made the exchange rate susceptible to swings, given the thinness of the Pula[3] market; owing to the size of the dividend that accrued from the diamond mines, a floating Pula would have had limited effectiveness in achieving equilibrium of supply and demand for foreign exchange at a level that could be considered consistent with Botswana's economic development and diversification objectives. Under these conditions, if all the foreign exchange earnings were supplied to the market, the Pula would have appreciated to levels that would have made non-diamond domestic production internationally uncompetitive (Gaolathe & Hudson, 1989 and Bank of Botswana Annual Report, 1994).

By adopting the exchange rate peg mechanism there was no need for a continuous flow equilibrium in the supply of, and demand for, foreign exchange. There was therefore a need to accumulate sufficient foreign exchange reserves to deal with the fluctuations that might arise in international trade and payments. The SDR was attractive because it enjoyed international status and was a relatively stable proxy for the major international currencies though its limitation was that it did not necessarily reflect Botswana's trade pattern. Since June 1980, the Pula has remained pegged to a basket of currencies whose composition has been changing over time, the most important being an increasing weight for the US dollar over and above its contribution to the SDR. However, the nominal external value of the Pula can change in two ways. Cross exchange rate movements involving other currencies will impact on the exchange rate of the Pula against those currencies. Another change could be changing the exchange rate of the Pula against all

---

[3] *On the one hand, Botswana's export earnings are dominated by minerals, some of which are subject to large price fluctuations. On the other hand, however, the country's development programme is largely dominated by discrete infrastructural projects. The combination involves sizeable shifts in the supply of foreign exchange confronting timed sizeable shifts in the demand for foreign exchange.*

of the currencies in the basket, or by changing the composition of the basket itself.

3.4.2 Price Stability and Income Equality

From 1976 until 1982 the objective of the exchange rate policy was to maintain price stability by reducing imported inflation hence a 5% appreciation of the Pula against the Rand took place three times during the period. The first 5% appreciation was in May 1977. The objective of this appreciation was to reduce the impact of sharp price increase of imports from South Africa, and also to instil confidence in the domestic currency. According to the Bank of Botswana, the objective was "...to stem the continued adverse effect of imported inflation especially among the low-income group, whose purchases include a high proportion of imported goods" (Bank of Botswana, Annual Report, 1980:15). Another 5% appreciation was effected on September 14th, 1979 and on September 7th, 1980, there was a further 5% appreciation. The main objective of these revaluations was to maintain price stability and address income inequalities.

However, it is doubtful whether these two objectives were met. For example, the Rand subsequently appreciated against the US dollar and the Pula by 2,5% rendering the first objective obsolete. Empirical studies by Huda (1987) and Ncube (1992) found high explanatory power for South Africa's producer price index in the equation explaining Botswana's Consumer Price Index, but found the coefficient of the exchange rate of the Pula in terms of the Rand insignificant. However, because of the importance of imported goods in the production price index, the exchange rate plays a critical role. Ncube (1992) in his simple model of price behaviour in Botswana found that the exchange rate was not significant in explaining price behaviour in Botswana. However, given South African producer prices and the relative exchange rate between the Rand and the Pula, it would appear that South African producer price index has a significant impact on the movement of prices in Botswana.

32

Therefore, Ncube (1992) concludes that contrary to the traditional view that exchange rate policy has been effective in mitigating the impact of imported inflation, this has not been the case. He argues that while, "...it is true that imported inflation from South Africa plays a significant role on the domestic inflation...it appears a puzzle that the exchange rate remains a blunt instrument in curbing that influence" (Ncube, 1992:18). It would appear that the reason for this is that retail and wholesale traders in Botswana tend to be oligopolistic and not competitive and are reluctant to pass exchange rate benefits to consumers. In other words, the market is imperfect. Under these circumstances, any attempt to target the exchange rate to minimise the effects of imported inflation is bound to fail.

The objective of anti-inflation policy was important given that South Africa's inflation was higher than that of Botswana for a decade until 1992. This is confirmed by the Bank of Botswana which has noted that, "the exchange rate management strategy has thus been, on the whole, supportive of the import-substitution sector and has also retained an anti-inflation bias all through..." (Bank of Botswana Annual Report, 1989:5). However, the Pula was devalued by 10% for the first time in May 1982 as part of a package of measures in response to what was perceived as a balance of payments crisis following the imposition of quotas on diamond exports in 1981 (diamond exports fell from P123 million in mid-1980 to P44 million a year later). There was also a need to change the focus of the exchange rate policy which had emphasised maintenance of price stability to that of stimulation of exports. The exchange rate policy was then used to encourage international competitiveness of import-substituting and export sectors. The exchange rate of the Pula continued to be determined in relation to a trade-weighted basket of currencies. In 1984, the Rand and the US dollar moved sharply. In the same year, the Rand depreciated by 40% and 25% against the US dollar and pound sterling, respectively. Meanwhile, the US dollar registered appreciations against both the deutschemark and the pound sterling by 15% and 25%, respectively.

However, the devaluation of 1982 was considered inadequate because of the failure of

33

domestic producers to engage in import-competing and non-traditional export activities. This resulted in a further 5% devaluation on July 7th, 1984. The Bank of Botswana has noted that the main objective of the devaluation was to promote competitiveness of domestic producers, especially in the manufacturing sector. The second half of the year experienced a further decline of the Rand precipitating a 15% devaluation on January 9th, 1985. However, the 1985 debt crisis shock in South Africa led to the total collapse of the exchange rate of the Rand resulting in an effective increase in the price of gold. In other words, the Rand continued to weaken severely against major international currencies. The Pula fell against major currencies as well but rose against the Rand from R1.07 to R1.27 in 1984. Although the Pula again appreciated against the Rand in 1985, the real exchange rate was held fairly constant thereafter[4].

3.4.3 Introduction of a new Basket

Following the highly unstable market conditions as evidenced by sharp fluctuations of the US dollar against major international currencies, the sharp decline in the value of the Rand and uncertainty in the future, a new basket[5] with a reduction in the weight of the Rand in the Pula basket was established. At this juncture, it was·imperative to take a major decision hence a decision was taken to weaken the link between the Pula and the Rand, so as to reduce the impact of the anticipated inflationary upsurge in South Africa (following debt crisis shock) and to distance the Pula from what was increasingly perceived as a weak currency, so as not to damage the investment climate in Botswana.

The US dollar continued to decline in 1986. The Rand benefitted significantly this time. However, there were no major changes between 1986 and 1988 with respect to the

---

[4]   *"In terms of competition with South Africa, for example, the Pula rose by 16% against the Rand end-1983 to end-1987; the ratio of price increases in South Africa to price increases in Botswana over the same period was 22 percent, giving a fall in bilateral real exchange rate of 5 percent" (Harvey & Lewis, 1990:245)*

[5]   *For a detailed account of the review of the Pula basket, see an article on the subject in Bank of Botswana Bulletin, December, 1985.*

exchange rate of the Pula against major currencies such as the US dollar and the deutschemark except modest appreciations and depreciations of 1% at different intervals. This led to a fairly stable exchange rate against the Rand, although it resulted in substantial fluctuations against other major international currencies; for example, in 1987 the Pula rose against the US dollar by 17% yet depreciated against the pound sterling by about 8%. However, due to high rising levels of inflation in South Africa (hence the fear that it will be exported to Botswana), the Pula was revalued by 5%. As Bank of Botswana has observed, "...the monetary authorities took the corrective measure of an upward adjustment of the Pula against the basket of currencies by 5 percent, with the basic objective of mitigating the impact of imported inflation" (Bank of Botswana Annual Report, 1989:38). Inflationary pressures remained strong throughout 1990, despite a decline in the rate of inflation in South Africa and some appreciation of the Pula against the Rand. However, inflation was lower at the time (in the 1980s) indicating that the exchange rate played a role to counter the impact of inflationary impact of South Africa.

However, as the Bank of Botswana has noted, "the rapid appreciation of the Pula observed since the beginning of the year (1990), especially against the South African rand, became a matter of concern mainly because of its impact on the competitiveness of domestic industry" (Bank of Botswana Annual Report, 1990:33). Furthermore, it was observed that the performance of export sector was quite disappointing, as total export earnings declined for the first time since 1981 by 3 percent. It would also appear that the view that inflation in Botswana was wholly imported seemed erroneous. Domestic pressures such as increasing government expenditure and high utility tariff charges were also contributing. As Ncube has found in his study, "...authorities have been invariably targeting exchange rate in an effort to minimise the effects of imported inflation in the economy. The results show that this has not been the case. Other factors have also been shown to influence inflation significantly and these are income (wages) and tariff charges" (Ncube, 1992:18). Consequently, the Pula was devalued by 5% in August 1990. This raised import prices, and shifted some of the excess demand that had been previously been absorbed by imports back into the domestic market; but, inflationary

35

impact was relatively mild. However, another devaluation was effected on September 7, 1991. This had the effect of accelerating imported inflation, consequently driving domestic inflation to reach its peak of 17,7% in June 1992, exceeding South African inflation for the first time in a decade.

High inflation in 1992 led to a rapid real appreciation of the Pula rendering any attempt to maintain international competitiveness as a result of two previous devaluations unsuccessful. The smaller devaluation in 1990 was, however, relatively successful, while the subsequent one in 1991 was not; any potential benefit from the devaluation in 1991 was immediately eroded by the rapid increase of prices in 1992. In 1993, the rate of inflation began to stabilise, partly due to a reduction in imported inflation. This helped to stabilise the real exchange rate, and by 1994 attempts to secure real Pula exchange rate depreciation against the Rand proved successful, as both non-tradable and imported inflation dropped. At the end of 1994, the rate of inflation in Botswana was 9,8%, which was below that of South Africa for the first time since 1992.

As noted earlier, exchange rate management in Botswana was initially weighed in favour of maintaining price stability by mitigating the effects of imported inflation from South Africa. Recently, however, there has been a shift to commit the exchange rate towards giving assurance to domestic manufacturers so that they could compete in regional markets. However, it is argued that the two devaluations of 1990 and 1991 seemed to have contributed to a dramatic rise in inflation from 10,6 % in June 1990 to 17% in 1991.

3.5   Conclusion

As argued earlier, exchange rate management has been influenced by two set of objectives: firstly, to maintain macroeconomic stability given the country's vulnerability to external shocks and secondly, to support a competitive real exchange rate in order to boost the import substituting sectors. The relative weight given to each objective

depended to a larger extent on the prevailing circumstances. Some important developments such as the run on the Rand between 1981 and 1985 caused the Pula to depreciate against the US dollar leading to an improvement in international competitiveness. Various measures such as the choice of an adjustable peg system in June 1980, were prompted mainly by the realisation that a peg would reduce fluctuations in the effective exchange rate and a need to accumulate enough foreign reserves to deal with these fluctuations.

CHAPTER FOUR

4   EXOGENOUS SHOCKS AND POLICY RESPONSES

4.1   Introduction

The late 1970's and early 1980's were painful years for non-oil exporting countries. A combination of exogenous shocks, such as balance of payments crisis, declining growth rates in developed countries, dramatic increases in world real interest rates on external borrowing and many more made management of these economies extremely difficult. Shocks are important because no developing country can isolate itself from the world economy. Therefore, developing countries are vulnerable to these shocks and coping with them can be an extremely painful process. The chapter is divided into five parts. The first part outlines the nature of the problem in reference to how adverse external shocks affect the developing countries. The second part discusses policy options available to a country that experiences adverse shocks and in particular, the real exchange rate policy response. The third part discusses the specific shocks experienced in Botswana and responses to these shocks. The fourth part mentions some of the lessons regarding policy responses to these shocks. The last part is the conclusion.

4.2   Nature of the Problem

At least four major changes have occurred in the world economy since 1970's. These were: the two major recessions in the late 1970s and early 1980s, a sharp rise in oil prices in 1973-74 and 1979-80, the decline of the US dollar against major currencies in the 1970's and the rise in inflation and interest rates (Krugman, 1988). All these sharp swings (sometimes happening simultaneously) made policy making in developing countries extremely difficult.

In an economy that is small and producing non-traded goods, manufactures and primary commodities, a decline in terms of trade lowers factor costs and increases production of domestic manufactures and non-traded goods (Khan, 1986). Real income as well as spending on these goods will fall. Consequently both prices of manufactures and non-traded goods fall in order to maintain equilibrium. Increasing foreign real interest rates reduces borrowing and spending. Investment is reduced and savings increase which implies that disposable income is reduced causing prices to fall, i.e., a real depreciation has occurred. In contrast, an inflow of capital from abroad would allow domestic residents to increase spending on all goods.

When there is a decline in a country's earnings, for example, due to a fall in prices of a particular export good, a country has to choose between either adjusting its spending to match the lower real incomes, or alternatively maintaining its spending by drawing down foreign reserves (and possibly incurring additional debt) in order to finance a standard of living beyond the means allowed by the lower income level. However, the latter option is risky. If it turns out that the shock is not temporary, and adjustment continues to be postponed, then eventually foreign reserves run out and a balance of payments crisis subsequently follows. The magnitude of the crisis will depend on the duration of the shock, how soon foreign reserves are depleted, and how much foreign debt has been incurred.

4.2.1 Export Shocks

According to this thesis, the major source of export shocks to developing countries is the international business cycle. This takes place through changes in commodity prices. In the case of commodity prices, when the economies of developed countries grow rapidly, the demand for raw materials also increases leading to a rise in commodity prices. In contrast, recessions reduce commodity prices. Therefore, since developing countries are mostly net exporters of raw materials, recessions in developed countries invariably constitute an adverse export shock.

39

4.2.2 Exchange Rates

Movements of exchange rates of developed countries can have adverse effects on the prices of exports and imports of developing countries. For example, if the US dollar appreciates against other major currencies, both the import and export prices of developing countries fall when measured in US dollars but rise when measured against major currencies. This situation arises when the US dollar rises resulting in the dollar import prices falling not as much as the dollar export prices. As a result, the terms of trade worsens in the developing countries.

4.2.3 Interest Rates

Interest rates constitute one of the major sources of shocks originating in the capital market. A rise in the interest rates raises the cost of the existing debt (if the cost is a floating rate which entails frequent adjustments taking into account recent world interest rates) through an increase in interest payments such as deterioration in terms of trade. The cost of increased interest payments could be met either by devaluation or increased borrowing.

4.2.4 Constraints on Borrowing

The increasing amount of foreign debt (as a result of increases in the cost of debt) has been a major source of adverse external shock to most developing countries. Some countries have found it increasingly difficult to access new loans as foreign banks or major international financiers refuse to re-new or issue new loans to them. As a result of this, some countries are forced to reduce imports or their budget expenditure which is again a painful process and often has severe implications for long-term growth.

4.3 Policy Response to Exogenous Shocks

Krugman (1988) identifies two reasons why exogenous shocks demand a policy response. Firstly, a fall in the receipts of domestic residents from abroad or an increase in their payments to foreigners leads to a drain on foreign exchange reserves. Since foreign reserves are limited, this requires some policy response to avoid an acceptably large depreciation of the currency. Secondly, an increase in interest payments on foreign debt will exacerbate government budget deficit if the government has borrowed internationally at flexible exchange rates.

Broadly, policy makers are faced with at least two options to respond to these shocks. One such option is by financing and\or adjustment. Financing the balance of payments deficit resulting from an external shock entails borrowing. This policy response is recommended if the shock is temporary. In contrast, if the shock is permanent it is advisable to resort to adjustment policies such as increasing exports and reducing imports. One major problem with regard to financing is that most developing countries have had difficulties to raise new loans due to the increasing burden of debt and commercial banks' refusal to lend them. Adjustment requires a set of packages, for example, a cut on the provision of social services and devaluation to be implemented by the borrowing country some of which lead to a lowering of standard of living. It is also difficult, however, to identify whether the shock is temporary or permanent.

4.3.1 Exchange Rate Policy Response

In recent years, a number of developing countries have experienced a series of external shocks that have had direct effects on their real exchange rates. Dramatic increases in world real interest rates on external borrowing made economic management in general and exchange rate management in particular, a daunting task for policy makers in these countries. Complicating these problems further were the inappropriate domestic policies such as expansionary demand policies together with fixed exchange rates resulting in

inflationary pressures and declining international competitiveness.

It is difficult to isolate exchange rate policy responses from other policies that are implemented simultaneously. Existing historical evidence seems to suggest that certain developing countries such as those in the southeast Asia, for example, Singapore and Taiwan did fairly well in adjusting to external shocks. The real exchange rates in these countries was depreciated which then expanded their export share in the world markets. Others, particularly African primary product exporters such as Zambia and Tanzania implemented exchange rate policies which resulted in real appreciation. Increased overappreciation was linked to external borrowing that obstructed adjustment in the exchange rate as the external financing of balance of payments deficit allowed maintenance of an overvalued currency (see Khan, 1986 and Balassa, 1986).

The question of how the real exchange rate responds to shocks, both domestic and external, in developing countries has received increasing attention in the last few years. Earlier studies, for example, Khan (1986) have tended to concentrate on movements in the equilibrium real exchange rate. However, a study by Khan and Montiel (1987) takes the debate further by incorporating a dynamic analysis. This study briefly discusses responses of the real exchange to a variety of exogenous and policy induced shocks in a small, primary-commodity-exporting country. The analysis shows that the real exchange rate will respond differently to different types of shocks, and in certain instances, the short run will not necessarily be the same as the long run response. In some instances, an external shock such as a debt crisis could result in real exchange rate overshooting, i.e., the real exchange rate depreciated beyond its long run equilibrium level.

The discovery of diamonds in the early 1980's caused the real exchange rate of the Pula to appreciate as the relative price of non-traded goods sectors rose. The government responded by devaluing the currency so as to remain competitive. This is in contrast to Nigeria which experienced a substantial appreciation following an oil boom and in

42

response imposed quantitative import controls. Similarly, in response to the oil boom in the late 1970's and 1980's Trinidad and Tobago resorted to a policy of protection by imposing high tariffs on imported goods in order to shield domestic import-competing industries from the effects of the appreciation of the real exchange rate induced by the rise in the price of oil.

Botswana authorities have always feared that the appreciation of the Pula will harm non-mining export sectors which were mostly labour intensive. Therefore, the government adopted a more conservative fiscal approach by saving a substantial amount of "diamond revenue" abroad. This strategy has helped Botswana authorities to avoid excessive government's spending and avoid real exchange rate misalignment. It is argued that the policy response (i.e., devaluation) by Botswana yielded positive results as the import-competing industries continued to sustain output and employment. This is in contrast to the policy response (i.e., the expansion of import protection) in the case of Trinidad and Tobago which "...further exacerbated the loss of competitiveness because protection causes an appreciation of the real exchange rate" (Tokarick, 1995:50).

In the face of balance of payments shocks, foreign exchange reserves can serve as a cushion or "shock absorber" to ease the transition and facilitate adjustment. This is true of both negative and positive shocks. As mentioned above, the reduction in exports is likely to cause overappreciation of the real exchange rate if there is no necessary adjustment of allowing the local currency to depreciate.

4.4   Shocks Experienced in Botswana since 1976

4.4.1 The 1981 External Shock, Balance of Payments Crisis and Response to the Shock

Following the end of the fixed exchange rate of the Pula to the US dollar and the subsequent pegging of the Pula to a basket of currencies that was half SDR in mid 1980,

43

a recession in developed countries owing to the second oil shock in the early 1980s led to a collapse of demand in world diamond markets and the imposition of a quota on Botswana's diamond sales by the Central Selling Organisation (CSO). This resulted in Botswana experiencing a balance of payments shock due to large declines in the value and volume of diamonds. However, the level of foreign reserves fell by 22% between April and December 1981, down to 4 months of import cover. By March 1982, there was a further decline of foreign exchange reserves to P198 million, or only 3,5 months of cover for that years's imports of P680 million.

Following the 1981 shock, adjustment measures were adopted including, inter alia: a 10% Pula devaluation in 1982; successive increases in the prime lending rate from 9% to 14,5%; imposition of a ceiling of 8%, subsequently raised to 15%, on commercial bank credit expansion to the private sector; and a public sector salary freeze. As a result, there was a sharp drop in liquidity in the banking sector. The Government also started to draw down P32 million on an Eurodollar loan in May 1982. However, the cushion provided by foreign exchange reserves and temporary support achieved through Government borrowing reduced the severity of the above adjustment measures.

In addition, the above measures were relaxed in 1983 due to the fact that the shock was temporary. This occurred as a result of a partial recovery in diamond exports as the world economy picked up and the easing of the quota. Botswana also benefitted as diamond production increased when the new Jwaneng diamond mine came into operation. However, since 1982 the balance of payments has been in surplus each year as a result of high mineral export earnings, which were not eroded by growth of imports, as well as increased earnings on foreign exchange reserves, and some capital flows.

4.4.2 The 1992 External Shock, Domestic Pressures and Response to the Shock

A decade after the 1981 crisis, a second demand shock threatened as the CSO imposed quotas in 1992. This time, however, foreign exchange reserves and government cash

balances were substantial, with the former representing over two years of import cover for imports. The shock was milder than the earlier one; the trade balance deteriorated, but not enough to cause a trade deficit as had been the case in 1981.

The adjustment measures adopted as part of the National Development Plan (NDP) included cutting subsidies and a broadening of tax and other sources of revenue in order to increase fiscal income. The monetary policy stance also shifted towards securing positive real interest rates in the early 1990s.

Between late 1988 and mid 1990, real Pula appreciation against the Rand allowed for some of the excess demand from the rapid growth in expenditure to be absorbed by cheaper imports. During this period there was an increase in imports partly due to major construction projects such as the railway and township construction for the soda ash.

4.5   Some of the Lessons Regarding Policy Responses to Shocks

4.5.1 Adjustment to Shocks

The experiences following the 1981 and 1992 balance of payments shocks do indicate that adjustment to shocks can be a painful process. It could even be more severe if the shock takes too much time to subside and/or is permanent. However, effecting these adjustment measures is a very vital process. It is this capacity to adjust exchange rate, monetary and fiscal policies in response to macroeconomic imbalances that has helped Botswana to avert chronic balance of payments difficulties that have hit many developing countries.

It is also noted that the occurrence of the second shock coincided with the existence of adequate foreign exchange reserves (20 months of import cover) which allowed authorities some flexibility in implementing adjustment packages and mitigating the painful effects of these adjustment packages. This is in contrast to the implementation of adjustment measures during the first shock which was not easy as there was not enough

45

foreign exchange reserves (only 4 months of import cover).

However, shocks are likely to occur again and Botswana's choice in restoring macroeconomic balance depends either on its ability to minimise instability against the Rand or against the major currencies, but not against both.

Adjusting to both adverse as well as positive shocks poses problems. Depreciation will result in build-up of foreign reserves which ultimately can be used to settle debt or act as a buffer against future adverse shocks. However, the real danger is that current account surpluses will undermine absorption of resources implying that consumption and investment are lower than they would otherwise be. This is a problem that is currently confronting Botswana. The massive current account surpluses have not in anyway led to investment but in fact, the opposite has been the case. Balassa and Williamson warn that, "this policy (massive current account surpluses) may well prove unsustainable because of the build-up of inflationary pressures, but, even if these are contained, it does not constitute an efficient allocation of resources" (Balassa & Williamson, 1987:69). This point is also raised by Dornbusch (1988) who argues that it is a very poor development strategy to run current account surpluses in order to finance private capital abroad. Instead, the focus of development policy should be to promote investment locally than investment abroad. What is critical here is why use devaluation when an economy already has an undervalued exchange rate?

4.5.2 Productive Investment

Like other developing countries, channelling funds into productive investment has proved difficult in Botswana. This scenario is put succinctly by the Bank of Botswana when it says "[s]ince the early 1980s, too little of the annual drawdown on mineral revenues has been translated into productive investment in either human or physical capital: a significant portion was spent on consumption rather than on investment activities, reducing annual capital formation below the level that could have occurred" (Bank of

Botswana Annual Report, 1994:45).

The message of this is that the development challenge facing policy makers in Botswana is to identify the country's investible resources and those it can attract from abroad and commit these same resources to productive investment. The need for other sources of economic growth outside minerals would require a high rate of private investment both local and foreign and ensure that such production will be sustainable. It could be argued that given the large balance of payments surpluses, the current exchange rate is undervalued.

4.5.3 The Dutch Disease

A conscious development strategy with the primary aim to diversify the economy and supported by an appropriate exchange rate policy was decisive in preventing the occurrence of the Dutch Disease. Most mineral rich economies experiencing a boom tend to succumb to the Dutch Disease. The Dutch Disease manifests itself in the following way: "[a]s the boom proceeds, the booming sector expands and draws away resources from other sectors of the economy, usually other traded, import-competing sectors and some nontraded sectors, as these sectors must contract to free inputs to the booming sector...The newfound wealth translates into increased spending on all goods, and this spending effect will increase the prices of nontraded goods, introducing an appreciation of the real exchange rate and a loss of competitiveness..." (Tokarick, 1995:49). However, the NDP provided a good guidance as to how resources could be utilised to meet pressing needs as well as the objectives while accumulating enough foreign reserves and Government cash balances so as to minimise disruptions when shocks occurred.

4.5.4 The Role of Supportive Policies

Policy measures such as real devaluation can only be effective in improving competitiveness of domestic export sector if it is not offset by upward domestic price and

cost pressures. Therefore, there is a need for a complementary role for both fiscal and monetary policies if real devaluation is to be successful.

Notwithstanding the above, the exchange rate can influence competitiveness only in the short run. In the long run, competitiveness of Botswana's traditional exports will be determined by the magnitude of the changes in the fundamental factors such as real wage levels, the productivity of labour and capital and the availability and prices of inputs.

4.6   Conclusion

Responding to shocks can be a painful process especially if the shock takes time to subside. Adjustment to these shocks require fiscal and monetary restraint to control both public and private consumption. Countries should choose whether to borrow abroad or to seek to increase exports and cut imports. However, if the shock is permanent and adjustment continues to be postponed, eventually the foreign reserves run out precipitating current account deficits, growing foreign debt and a loss in international competitiveness (due to real exchange rate appreciation). As we have argued earlier, some countries especially in Asia were successful in adjusting to shocks than most African countries. In the latter, these adjustments which were implemented together with bad macroeconomic policies worsened the situation like real exchange rate appreciation leading to a loss in international competitiveness.

Two major shocks occurred since 1976 one was in 1981 due to balance of payments crisis and another one in 1992 as a result of the imposition of quotas by the CSO. In the former, the cushion provided by foreign exchange reserves reduced the severity of the shock while in the latter case the Government resorted to cutting subsidies and a broadening of tax and other sources of revenue.

The experiences following the 1981 and 1992 balance of payments shocks do indicate that adjustment to shocks can be a painful process. The process is even more severe if the

48

shock is permanent. In the case of Botswana, due to prudent monetary and fiscal policies, adjusting to shocks has helped to avert chronic balance of payments difficulties like unsustainable balance of payments deficit commonly found in other developing countries.

CHAPTER FIVE

5   CONCLUSIONS

The exchange rate performs a dual role in small open economies. These objectives are to support a competitive real exchange rate and to serve as nominal anchor for low inflation. Therefore, the conduct of an exchange rate policy is determined to a larger extent by the relative weight attached to each objective depending on the prevailing circumstances.

In contrast to many developing countries, authorities in Botswana have had little need to use exchange rate exclusively for balance of payments purposes given the impressive level of foreign exchange reserves. However, the slow growth of the economy in the past two years require more emphasis on a coherent strategy of diversification than ever before. Such a strategy would require the use of appropriate trade and competitive exchange rate policies in order to stimulate the exporting and import substituting sectors. The major problem is that inflation in Botswana continues to exceed that of South Africa. Therefore, any attempt to devalue the domestic currency in order to boost exporting and import substituting sectors will result in an increase in inflation. In this regard therefore, it is not surprising that for a long time the exchange rate policy has been used to achieve price stability because inflation in Botswana is dominated by South Africa's inflation and Rand/Pula rate. It was also noted that notwithstanding the strong import prices and hence the exchange rate on Botswana prices, the exchange rate could not be a sole policy instrument for controlling inflation. Other domestic pressures, for example, an increasing cost of utilities also contribute to rising inflation.

From 1976 until 1982 the objective of the exchange rate policy was to maintain price stability by reducing imported inflation as indicated by a 5% level of appreciation three times during the period. Following a balance of payments crisis in 1982, there was a

shift of policy as the emphasis was now on the stimulation of exporting and import substituting sectors as opposed to maintaining price stability. Therefore, there was a 10% devaluation in May 1982. Four years later, a new basket with a reduction in the weight of a Rand in the Pula basket was introduced following an appreciation of the US dollar to counter anticipated inflationary upsurge in South Africa. However, the Pula continued to appreciate precipitating a 5% level of devaluation three times between 1989 and 1991. In 1993, the rate of inflation began to stabilise and the real exchange rate stabilised too. By the end of 1994, the rate of inflation was below that of South Africa for the first time in a decade. Initially the exchange rate policy was weighed in favour of maintaining price stability. Recently, there has been a shift of policy to support a competitive real exchange rate in order that domestic manufacturers are able to compete in regional markets.

In Botswana, in particular, owing to the small size of the market, concentration of the retail and wholesale trade in a few hands and overdependence on imports, it is very difficult to manipulate nominal exchange rate as a policy instrument. It is also important to note that until inflation is reduced to levels of that of its trading partners, the distinction between real and nominal exchange rate is crucial. However, a stable real exchange rate does not mean that an export-oriented strategy will succeed. It simply contributes to a more stable and predictable environment for exporters about movements of relative prices so as to avoid production decisions based on false expectations. A successful export-oriented strategy will be determined jointly by appropriate industrial and trade policies.

Responding to shocks can be a painful process especially if the shock is permanent. Adjustment to these shocks require prudent fiscal and monetary policies. If the shock is permanent and adjustment continues to be postponed, eventually the foreign reserves run out which result in current account deficits. Botswana experienced two major shocks all relating to balance of payments crisis. The first shock occurred in 1981 and was due to a recession owing to the oil shock in the early 1980's leading to depressed diamond markets. Following the imposition of the quota by the CSO, the second shock occurred

51

in 1992.

The analysis shows that Botswana has been quite successful in responding to exogenous shocks. Botswana's strong foreign exchange reserve position as well as prudent monetary and fiscal policies have enabled it to respond quite effectively to the two past shocks. However, it would be erroneous to think that these responses would be adequate when new and even more adverse shocks strike again in the future. Policy makers should always develop new ideas and set up techniques to insulate the economy against potential shocks.

BIBLIOGRAPHY

Adams, C and D Gros (1986), "The Consequences of Real Exchange Rate Rules for Inflation: Some Illustrative Examples", **IMF Staff Papers**, Vol. 33, No. 3, 439-476.

Aghevli, B, Khan, M and P Montiel (1991), "Exchange Rate Policy in Developing Countries: Some Analytical Issues", **Occasional Paper No 78**, International Monetary Fund.

Atta, J.K. Jefferis, K.R, Mannnathoko, I and P Siwawa-Ndai (1994), Exchange Rate Policy and Price Determination in Botswana, a paper submitted to **African Economic Research Consortium Research Workshop**, Nairobi.

Balassa, B., "Policy Responses to Exogenous Shocks in Developing Countries, **American Economic Review, Papers and Proceedings**, Vol. 76, May 1986, 75-83.

Balassa, B. and J. Williamson, (1987), "Adjusting to Success: Balance of Payments Policy in East Asian NICs", Institute for International Economics, Washington.

Bank of Botswana: **Annual Reports**, various issues (Gaborone: Bank of Botswana).

Bank of Botswana: **Bulletin**, December 1985 (Gaborone: Bank of Botswana), 10-20.

Barth, R., "Exchange Rate Policy", in Macroeconomic Adjustment: Policy Instruments and Issues, IMF Institute, Davis, J.M. (eds.), August 1992.

Corden, M., "Exchange Rate Policy in Developing Countries", in Approaches to Exchange Rate Policy, Choices for Developing and Transition Economies, IMF, Barth, C.R. and Wong Chorng-Huey (eds.), 1994.

Crockett, A.D. and S.M. Nsouli, "Exchange Rate Policies for Developing Countries", **Journal of Development Studies**, Jan. 1977.

Dornbusch, R., (1974), "Tariffs and Nontraded Goods", **Journal of International Economics**, Vol. 4, 177-185.

Dornbusch, R., (1988), "Overvaluation and Trade Balance", in R Dornbusch and F Helmers (eds.), **The Open Economy**, Oxford University Press.

Dornbusch, R and Kuenzler, L.T. (1993), "Exchange Rate Policy: Options and Issues", in R Dornbusch (ed.), **Policy Making in the Open Economy: Concepts and Case Studies in Economic Performance**, Oxford University Press.

Dornbusch, R., "Exchange Rate Policies in Economies in Transition", in Approaches to Exchange Rate Policy, Choices for Developing and Transition Economies, IMF, Barth, C.R. and Wong Chorng-Huey (eds.), 1994.

Dunn, R.M., "The Many Disappointments of Flexible Exchange Rates" **Essays in International Finance,** Princeton University, New Jersey, No. 154, Dec. 1983.

Edwards, S., "Exchange Rate Misalignment in Developing Countries", **World Bank Occasional Paper**, Washington, No.2, 1988.

Edwards, S., "Real Exchange Rates, Devaluation, and Adjustment, Exchange Rate Policy in Developing Countries", The MIT Press, Massachussets, 2ed. 1989.

Gaolathe, B. and Hudson, D., (1989), "Exchange Rate Policy in Botswana", paper presented to the **Symposium on Trade Policy and Exchange Rate Management**, Nairobi.

Gildow, R.M., (1988), "Workings of a Managed Floating Exchange Rate System for the Rand", **South African Journal of Economics**, Vol. 56.

Goldstein, M., "Have Flexible Exchange Rates Handicapped Macroeconomic Policy" **Essays in International Finance,** Princeton University, New Jersey, No. 14, June 1980.

Guitan, M., "The Choice of an Exchange Rate Regime", in Approaches to Exchange Rate Policy, Choices for Developing and Transition Economies, IMF, Barth, C.R. and Wong Chorng-Huey (eds.), 1994.

Harvey, C. and Lewis, S., (1990), Policy Choice and Development Performance in Botswana, London: Macmillian.

Huda, S., (1987), "A Note on Inflation in Botswana", Bank of Botswana **Selected Papers on the Botswana Economy**, Gaborone: Bank of Botswana, 209-222.

Kahn, B., (1992), "South African Exchange Rate Policy, 1979-1991", Centre for the Study of the South African Economy and International Finance, **Research Paper No 5**, London School of Economics.

Kiguel, M.A., (1992), "Exchange Rate Policy, The Real Exchange Rate and Inflation", **World Bank Working Papers** WPS880.

Krugman, P., (1988), "External Shocks and Domestic Policy Responses", in R Dornbusch and F Helmers (eds.), **The Open Economy**, Oxford University Press.

Krugman, P., (1989), "Exchange Rate Instability, The Lionel Robbins Lectures, Cambridge, MA:MIT Press.

Khan, M.S., "Developing Country Exchange Rate Policy Responses to Exogenous Shocks", **American Economic Review, Papers and Proceedings**, Vol. 76, May 1986, 84-7.

Khan, M.S. and Peter Montiel (1987), "Real Exchange Rate Dynamics in a Small Primary-Exporting Country", **IMF Staff Papers**, Vol. 34, 681-710.

Ncube, A., (1992), "A Study of Inflation in Botswana", **Bank of Botswana Bulletin** 10(1), 6-21.

Quirk, P.J., "Recent Experience with Floating Exchange Rates in Developing Countries", Approaches to Exchange Rate Policy, Choices for Developing and Transition Economies, IMF, Barth, C.R. and Wong Chorng-Huey (eds.), 1994.

Tokarick, S., "External Shocks, the Real Exchange Rate, and Tax Policy", **IMF Staff Papers**, Vol. 42, 49-79.

Williamson, J., "A Survey of the Literature on the Optimal Peg", **Journal of Development Economics**, August 1982, 39-61.